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Checklist of the parasites of fishes of Viet Nam

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PREPARATION OF THIS DOCUMENT

This checklist is part of the continuing effort of the Food and Agriculture Organization of the United Nations to address the need for information on the occurrence of diseases and pathogens of aquatic animals in the Asia-Pacific Region. Two previous checklists, published as FAO Fisheries Technical Papers Nos. 369 and 369/1, have summarized the parasites of fishes of the Philippines and Bangladesh. These documents support the FAO/NACA regional strategy for the Development of Health Certification and Quarantine Guidelines for the Responsible Movement of Live Aquatic Animals in Asia, a programme involving 21 Asian nations, FAO, the Network of Aquaculture Centres in Asia-Pacific (NACA), the World Organisation for Animal Health (OIE [former denomination: Office international des épizooties]) and regional and international specialists. One of the goals identified under this strategy is the development of a comprehensive information database on aquatic animal health, the Aquatic Animal Pathogen and Quarantine Information System (AAPQIS; www.aapqis.org). Information provided via AAPQIS and through these checklists is intended to assist aquatic animal health workers, quarantine officers and policy-makers in developing national strategies to minimize the risks associated with the movement of pathogens of aquatic animals, and to make informed assessments on the possible threats presented by proposed movements of individual species of live fish and shellfish between countries. Further information on the regional programme is found in the "Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy" (FAO Fisheries Technical Paper No. 402).

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ABSTRACT

This publication is a checklist summarizing information on the parasites of Vietnamese fishes contained in world literature dating from the earliest known record (Billet 1898) to the end of 2003. Information is presented in the form of parasite-host and host-parasite lists and contains 453 named species of parasites (not including 4 *nomina nuda*), distributed among the higher taxa as follows: Protozoa - 48, Myxozoa - 33, Digenea - 151, Monogenoidea - 112, Cestoda - 16, Nematoda - 53, Acanthocephala - 21, Hirudinea - 2, Branchiura - 3, Copepoda - 12 and Isopoda - 2. Many records of parasites not identified to species level are also included. The Parasite-Host List is organized on a taxonomic basis and provides information for each parasite species on the environment (freshwater, brackish water, marine), the location (site of infection) in or on its host(s), the species of host(s) infected, the known geographic distribution (by administrative division) in Viet Nam, and the published sources for each host and locality record. The Host-Parasite List is organized according to the taxonomy of the hosts, and includes, for each host, the English language and local (Vietnamese) common names, environment (freshwater, brackish water, marine), status in Viet Nam (native or exotic), and information on the known distribution in Viet Nam of the parasites. Both lists are accompanied by remarks and footnotes, as warranted, giving specific information on points of systematics, nomenclature, possible misidentifications, introductions, etc. Citations are included for all references, as well as parasite and host indices. The following new taxonomic combinations are made: *Elongoparorchis siamensis* (Oshmarin, 1965) n. comb.; *Capillaria ariusi* (Parukhin, 1989) n. comb., *Falcaustra babei* (Ky, 1971) n. comb. and *Neocamallanus trichogasterae* (Pearse, 1933) n. comb.

The parasite fauna of fishes of Viet Nam has received considerable attention, particularly by scientists of the former Soviet Union, in the marine environment, and by Vietnamese and Czech freshwater scientists. Nevertheless, parasites have been recorded from only about ten percent of the more than 1 300 species of marine and freshwater fish occurring in the waters of Viet Nam. Knowledge of freshwater fauna is hampered by a lack of descriptive work and by many probable misidentifications of parasites, due to the tendency of Vietnamese workers to report European species from the local fish fauna.

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The authors would like to thank a number of colleagues who kindly provided critical comments on sections of the manuscript. These include J. Lom (Protozoa), D.C. Kritsky (Monogenoidea), D.I. Gibson and R.A. Bray (Trematoda), J.S. Mackiewicz (Caryophyllidea), T. Scholz (other Cestoda), F. Moravec (Nematoda), Z. Kabata (Copepoda), W.J. Poly (Branchiura) and E.M. Burreson (Hirudinea). M. Kottelat kindly reviewed the list of host species and provided valuable comments on host taxonomy, distribution and possible misidentifications. The assistance of Phan Thi Van, R.P. Subasinghe, S.E. McGladdery, T.E. McDonald, D.J. Marcogliese, M. Bondad-Reantaso, D.I. Gibson and R.A. Bray in obtaining essential literature is gratefully acknowledged. Z. Kabata assisted with translation of some difficult passages in the Russian language. We especially thank Phan Thi Van for answering many questions, Dao Huy Giap for translating Vietnamese literature, and R.P. Subasinghe for arranging publication of this volume.

English translations of all Vietnamese literature cited in this checklist were prepared by Mr Dao Huy Giap, through a contract provided by the Food and Agriculture Organization of the United Nations (FAO). Edited copies of working translations are available on-line from the Network of Aquaculture Centres in Asia-Pacific (NACA), through the Aquatic Animal Pathogen and Quarantine System (AAPQIS) Web site: http://www.enaca.org/Health/AAPQIS.htm.

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CONTENTS

Abbreviations

AAPQIS	Aquatic Animal Pathogen and Quarantine Information System
AG	An Giang Province
B	brackish water
BD	Binh Duong Province
BK	Bac Kan Province
BN	Bac Ninh Province
CB	Cao Bang Province
CT	Can Tho Province
Dist.	distribution
DT	Dong Thap Province
F	freshwater
FAO	Food and Agriculture Organization of the United Nations
GTA	Gulf of Thailand
GTO	Gulf of Tonkin
HB	Ha Bac Province
HCM	Thanh Pho Ho Chih Minh Municipality
HG	Ha Giang Province
HH	Hai Hung Province
HN	Ha Noi Municipality
HNA	Ha Nam Province
HP	Hai Phong Municipality
HTA	Ha Tav Province
HTI	Ha Tinh Province
KG	Kien Giang Province
KH	Khanh Hoa Province
LA	Long An Province
LC	Lao Chai Province
M	marine
MH	Minh Hai Province
MRD	Mekong River Delta
NACA	Network of Aquaculture Centres in Asia-Pacific
NB	Ninh Binh Province
NV	northern Viet Nam
PH	Phu Tho Province
QN	Quang Ninh Province
RRD	Red River Delta
SCS	South China Sea
SV	southern Viet Nam
TG	Tien Giang Province
VP	Vinh Phu Province

INTRODUCTION

The first study of fish parasites in the territory of what is now known as Viet Nam dates back to the late nineteenth century, when Dr Albert Billet (1856–1915), a medical doctor and parasitologist in the French army, described *Distomum hypselobagri*, a new species of digenean that he found in the swimbladder of a silurid fish (Billet 1898).

However, the systematic study of Vietnamese fish parasites began only in the 1960s, when an intensive survey of the helminths of marine fishes was undertaken by the Vietnam Expeditions of the Pacific Ocean Scientific-Research Institute for Fisheries Economics and Oceanography. This joint Soviet-Vietnamese effort examined some 6 000 animals (Parukhin 1964e). The marine fishes, collected mainly in the Gulf of Tonkin, numbered some 4 000 specimens, and included representatives of over 90 families. Particular attention was paid to the parasites of commercially important species. The results of these studies were published in Russian between 1961 and 1989 in a series of more than 20 papers written by P.G. Oshmarin, A.M. Parukhin, Yu.L. Mamaev, B.I. Lebedev and other Soviet helminthologists. They include descriptions of a large number of new genera and species and constitute much of the basis of our knowledge of the parasite fauna of marine fishes in Southeast Asia.

Beginning in the late 1960s, Vietnamese scientists began to study the parasites of freshwater fishes. Most important is the work of Ha Ky between 1968 and 1971 on protozoans and helminths, and the studies on nematode taxonomy written by Le-Van-Hoa, Pham-Ngoc-Khue and colleagues between 1967 and 1972. More recently, this work has been continued by the extensive surveys of Dr Bui Quang Te and colleagues at the Reseach Institute for Aquaculture No. 1, near Hanoi, and by foreign scientists, such as Drs Francik Moravec and Otto Sey of the Czech Republic. As a result of these efforts, the parasite fauna of Vietnamese fishes is perhaps better known than that of any other country in the Southeast Asian region.

In compiling this checklist, we have attempted to list only original reports appearing in the literature for each species.

In reviewing the literature for Viet Nam, it was apparent that occasional misidentifications have been made. Although a detailed review of each species was beyond the scope of this checklist, we have noted those taxa that we believe are unlikely to occur in the waters of Viet Nam, in the hope that future workers will examine these taxonomic problems more closely. Also, a few of the parasite taxa reported in the literature for Viet Nam were determined to be species inquirendae or *nomina nuda*.

In the literature dealing with the parasites of fishes of Viet Nam, there are many incorrect spellings of parasite names, host names and species authors' names, and incorrect attributions of dates of species authorship. Footnotes have been used when erroneous spellings of parasite names have been consistently applied. Occasional typographical errors, misspellings of species' authors' names, incorrect species attributions and incorrect dates are not noted. Similarly, misspellings of host specific names, with the few exceptions where these have been widely applied, have been corrected without comment using information obtained primarily from *FishBase* (Froese and Pauly 2003).

The **Parasite-Host List** is a taxonomically arranged listing of all parasites reported from the fishes of Viet Nam. The higher classification used is as follows: for the Protista and Myxozoa, that of Lom and Dyková (1992); for the Trematoda, that of Gibson (1996) and Gibson, Jones and Bray (2002); for the Monogenoidea, that of Boeger and Kritsky (1993); for the Cestoidea, that of Khalil, Jones and Bray (1994); for the Nematoda, that of Anderson, Chabaud and Willmot (1974–1983) and Moravec (1998); for the Acanthocephala, that of Amin (1985, 1987); for the Copepoda and Branchiura, that of Kabata (1979, 1988); for the Isopoda, that of Rafi (1988); and for the Mollusca and Hirudinea, that used by McDonald and Margolis (1995).[1]

The **Parasite-Host List** contains

[1] The six-kingdom classification of life provided by Cavalier-Smith (1998) which incorporates much recent molecular data presents a much different higher classification than that used in this checklist.

information for all parasite species reported from Vietnamese fishes. For each parasite, the currently recognized **scientific name**, including author(s) and date(s), and any synonyms under which original records appeared, are given. This is followed by the **environment** in which the parasite normally completes its life cycle, indicated as freshwater (F), brackish water (B) or marine (M). As the life cycles of many Vietnamese fish parasites are unknown, this information is drawn primarily from non-Vietnamese sources or from information on collection locality and/or host biology. The **Location** gives the site of infection where the parasite is normally found in or on the host. Under **Hosts**, the hosts are listed alphabetically by their currently recognized scientific names. In parentheses, following each host name, the numbers for the references (**Records**) reporting the parasite from the host in question are given. The distribution **(Dist.)** provides a summary of the reported distribution of the parasite in Viet Nam.

Politically, Viet Nam is divided into 57 provinces and four municipalities (see Figure 1). The following abbreviations are used to indicate the administrative divisions for which parasites of fishes collected in fresh or brackish waters have been reported: for muncipalities – Hai Phong (HP), Ha Noi (HN) and Thanh Pho Ho Chih Minh (HCM); for provinces – Ang Giang (AG), Bac Kan (BK), Bac Ninh (BN), Binh Duong (BD), Can Tho (CT), Cao Bang (CB), Dong Thap (DT), Ha Bac (HB), Ha Giang (HG), Ha Nam (HNA), Ha Tay (HTA), Ha Tinh (HTI), Hai Hung (HH), Khanh Hoa (KH), Kien Giang (KG), Lao Chai (LC), Long An (LA), Minh Hai (MH), Ninh Binh (NB), Phu Tho (PH), Quang Ninh (QN), Tien Giang (TG) and Vinh Phu (VP).[2] Unfortunately, Vietnamese authors have often not provided precise details of collection localities for individual parasite/host records. Thus in many cases, this has necessitated that the geographical distributions for parasites of freshwater fishes be given as simply the Mekong River Delta (MRD)[3], the Red River Delta (RRD), northern Viet Nam (NV) or southern Viet Nam (SV). Similarly, records for parasites of marine fishes appearing in the Russian literature are typically given only as the Gulf of Tonkin (often given as North Vietnam Bay), the Gulf of Thailand (often given as the Gulf of Siam) or only as the South China Sea.[4] Although some of the latter records may involve fish collected outside the territorial waters of Viet Nam (e.g., in the waters off southwestern China), this is impossible to determine and they are thus included in this checklist. For marine waters, the following abbreviations are used: Gulf of Tonkin (GTO), Gulf of Thailand (GTH) and more broadly, the South China Sea (SCS).

Records include the numbered individual references containing the parasite records, each followed by detailed information on the locality (ies) (administrative divisions) to which they pertain. Under **Remarks** comments on various aspects, such as synonymies, pathogenicity, life cycles, zoonotic importance and introductions are given. More specific notations on individual records are provided as **footnotes**.

The **Host-Parasite List** is organized phylogenetically following the higher classification of fishes given in the on-line *Catalog of Fishes* by W.N. Eschmeyer (Eschmeyer 2003), with the genera and species within individual families arranged alphabetically. Information on the scientific and common names, status and environment of fishes was obtained mainly from the species database of *FishBase* (Froese and Pauly 2003). For each host, the following information is given: the currently recognized **scientific name**, including species author(s), followed by any synonyms under which original parasite

[2] Readers should note that since 1994 Ha Bac (HB) was split into Bac Giang and Bac Ninh provinces, Hai Hung was split into Hai Duong and Hung Yen provinces, Minh Hai (MH) was split into Bac Lieu and Ca Mau provinces; Nam Ha was split into Ha Nam and Nam Dinh provinces; Bac Thai was split into Bac Kan and Thai Nguyen provinces; Quang Nam-Da Nang was split into Da Nang municipality and Quang Nam Province; Song Be was split into Binh Duong and Binh Phuoc provinces and Vinh Phu was split into Phu Tho and Vinh Phuc provinces.

[3] The Mekong River is often referred to as the Cuulong River by Vietnamese authors.

[4] For example, Parukhin (1966a, 1967a) examined fish from the Gulf of Tonkin and the Gulf of Thailand, but did not indicate the locality(ies) for individual parasite species; thus these records are listed only as pertaining to the South China Sea.

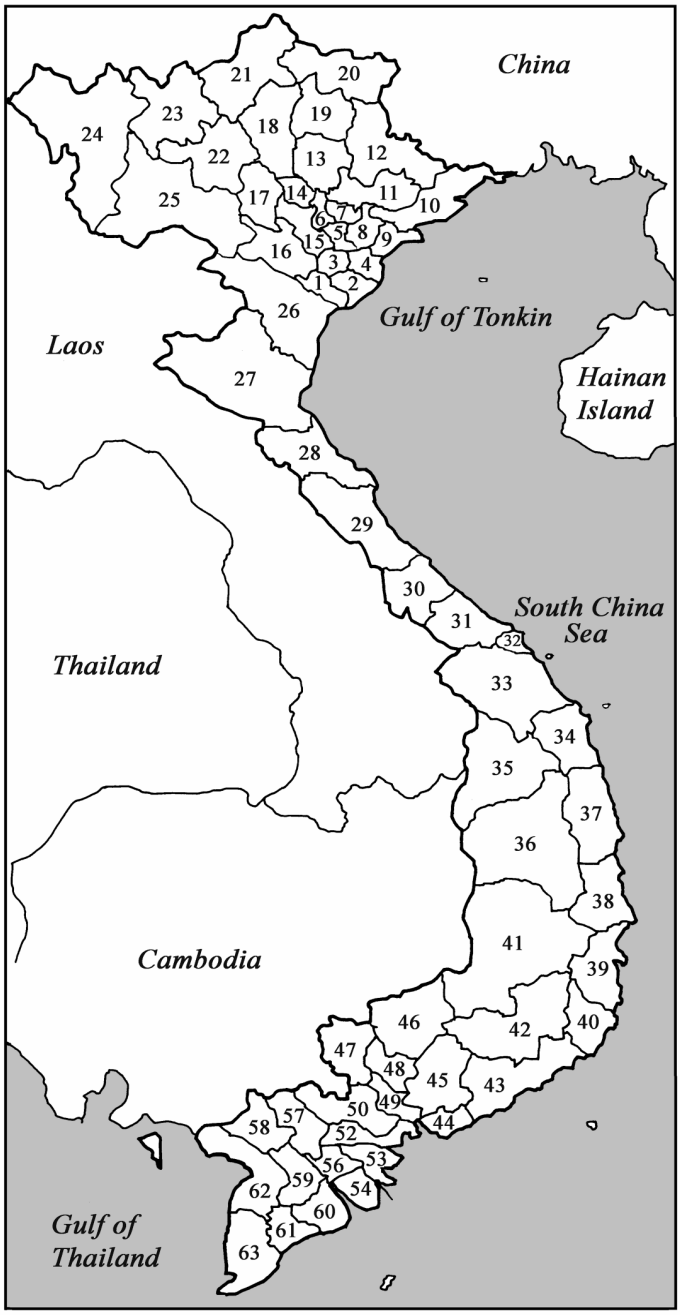

Figure 1. Administrative divisions of Viet Nam, grouped by region: **North East** - Bac Giang (11), Bac Kan (19), Bac Ninh (7), Cao Bang (20), Ha Giang (21), Lang Son (12), Lao Cai (23), Phu Tho (17), Quang Ninh (10), Thai Nguyen (13), Tuyen Quang (18), Vinh Phuc (14), and Yen Bai (22); **North West** - Hoa Binh (16), Lai Chau (24), and Son La (25); **Red River Delta** - Ha Nam (3), Ha Noi (municipality) (6), Ha Tay (15), Hai Duong (8), Hai Phong (municipality) (9), Hung Yen (5), Nam Dinh (2), Ninh Binh (1), and Thai Binh (4); **North Central Coast** - Ha Tinh (28), Nghe An (27), Quang Binh (29), Quang Tri (30), Thanh Hoa (26), and Thua Thien-Hue (31); **South Central Coast** - Binh Dinh (37), Da Nang (municipality) (32), Khanh Hoa (39), Phu Yen (38), Quang Nam (33), and Quang Ngai (34); **Central Highlands** - Dac Lak (41), Gia Lai (36), and Kon Tum (35); **North-East South** - Ba Ria-Vung Tau (44), Binh Duong (48), Binh Phuoc (46), Binh Thuan (43), Dong Nai (45), Thanh Pho Ho Chi Minh (municipality) (49), Lam Dong (42), Ninh Thuan (40), and Tay Ninh (47); and **Mekong River Delta** - An Giang (58), Bac Lieu (61), Ben Tre (53), Ca Mau (63), Can Tho (59), Dong Thap (57), Kien Giang (62), Long An (50), Soc Trang (60), Tien Giang (52), Tra Vinh (54), and Vinh Long (56).

records were made, the *FishBase*-recognized **English common name**, the **Vietnamese common name** (where available)[5], the host's **Status** in Viet Nam (native or exotic), and its typical **Environment** (freshwater, brackish, marine). This is followed by a **listing of the parasites** reported for the host in question, arranged by higher taxon and listed alphabetically. Following each parasite name, the **distribution** is summarized by administrative division. Records that involve possible parasite misidentifications are indicated by a question mark preceding the parasite's name. Finally, where appropriate, **Remarks** and **footnotes** are included to provide information on such topics as host taxonomy, distribution and introductions. An additional useful reference is *Freshwater Fishes of Northern Vietnam* (Kottelat 2001).

Under **References** all the papers containing the records, as well as other works cited in the text are listed. Not included in this checklist are unpublished records of fish parasites contained in post-graduate (M.Sc. and Ph.D.) theses. A **Parasite Index** and a **Host Index** complete the volume.

A number of specific problems were encountered in dealing with the literature for Viet Nam. One of the first studies of the parasites of freshwater fishes of Viet Nam was the unpublished thesis and dissertation synopsis ("avtoreferat") of Ky (1968a, 1969). Many of the records contained in these documents were eventually published by the author (see Ky 1968b, 1971a,b,c,d; Kulachkova and Ky 1971), however, some records drawn from this thesis and dissertation synopsis that do not appear in Ky's published works have appeared in the works of other authors. In these cases, the records have been attributed to the publishing author(s), with a footnote indicating their original source. We emphasize that names appearing in the thesis and dissertation synopsis of Ky (1968a, 1969) have no status in zoological nomenclature and thus the spellings and dates of species authorship used in this checklist are those of the first appearance in the published literature. In keeping with our decision not to include records appearing in theses in this checklist, other records appearing in Ky (1968a, 1969) have not been listed.

In cataloguing papers by Vietnamese authors, we have generally followed the normal convention of using the author's family name, followed by the initials for given names; however, an exception is made for the papers of Le Van Hoa, as in most of the papers published in the western literature, the names of this author and his colleagues have appeared in a hyphenated form (e.g., as Le-Van-Hoa).

Authorship of a few of the papers by Bui Quang Te was originally given as Bui Quang Te *et al.*, however, as the additional authors were not identified we have attributed the authorship of these articles only to the primary author (e.g., Te 1993b).

Despite considerable effort, a few documents occasionally cited in the Vietnamese literature could not be obtained, and it is believed that copies of these articles, mainly unpublished internal reports, no longer exist.

A special problem was encountered with the paper by Parukhin (1976). Although he gave parasite listings by individual host species and locality in the taxonomic portion of his work, additional records appear in the host and geographical analyses (section "Helmintho-faunistic Survey of Fishes of the Southern Seas"). However, in presenting these additional records, in many cases he combined information for two or more geographic localities and/or host species, and it is thus often impossible to determine whether individual parasite taxa were found in hosts from the South China Sea. Only those records for which the geographical locality is unambiguous are included in this checklist.

Readers should note that the diverse and rather poorly known freshwater fish fauna of Viet Nam has resulted in many probable cases of host misidentification. Records of parasites from a number of host species must thus be treated with caution.

The parasite fauna of the fishes of Viet Nam is perhaps the best known for any of the countries in Southeast Asia. To date, a total of 453 named species of parasites (not including 4

[5] Vietnamese common names for fishes are taken from several sources, including Froese and Pauly (2003) and the various publications of Dr Bui Quang Te and coworkers. To facilitate publication, accents on Vietnamese letters have been omitted.

nomina nuda), (48 Protozoa, 33 Myxozoa, 151 Digenea, 112 Monogenoidea, 16 Cestoda, 53 Nematoda, 21 Acanthocephala, 2 Hirudinea, 3 Branchiura, 12 Copepoda and 2 Isopoda) have been reported. Contained in this checklist are records for parasites from approximately 140 fish species. As more than 1 300 species of fish occur in the country[6], there remain many years of basic systematic and survey work to be conducted before the parasite fauna of Vietnamese fishes will be thoroughly documented.

[6]Froese and Pauly (2003) list 1 301 fish species for Vietnam (761 marine, 540 freshwater, and 21 listed in both categories); however, this compilation is noted to be incomplete.

PARASITE-HOST LIST

KINGDOM PROTISTA

SUBKINGDOM PROTOZOA

PHYLUM MASTIGOPHORA

CLASS KINETOPLASTIDEA

ORDER KINETOPLASTIDA

SUBORDER TRYPANOSOMATINA

FAMILY TRYPANOSOMATIDAE

Trypanosoma sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta, southern Viet Nam
Records: Te 1993b (MRD), 1998a (MRD); Te and Yen 1999 (MRD); Chon 1999 (SV)

SUBORDER BODONINA

FAMILY BODONIDAE

Cryptobia branchialis Nie in Chen, 1955 (F)
Location: gills, skin
Hosts: *Barbonymus gonionotus* (5)
Channa micropeltes (5)
Clarias macrocephalus (5)
Cyprinus carpio (1)
Helostoma temminckii (3,5)
Notopterus notopterus (5)
Osphronemus goramy (5)
Pangasius hypophthalmus (5)
P. micronemus (3)
fish (2,3,4,6,7)
Dist.: Mekong River Delta, Red River Delta, southern Viet Nam
Records: 1. Te 1984 (RRD), 2. 1993b (MRD), 3. 1995b (MRD), 4. 1998a (MRD); 5. Te *et al.* 1991 (MRD); 6. Te and Yen 1999 (MRD); 7. Chon 1999 (SV)
Remarks: Te (1995b) noted that this parasite caused mortalities in fingerling *Pangasius micronemus* and *Helostoma temminckii*.

Cryptobia makeevi (Akhmerov, 1959) (F)
Shulman, 1962
Location: blood
Host: fish
Dist.: southern Viet Nam
Record: Chon 1999
Remarks: As this parasite was originally described from Pacific salmon (*Oncorhynchus* spp.) from the estuary of the Amur River, former Soviet Union, its occurrence in a Vietnamese freshwater fish is improbable. Lom and Dyková (1992) noted that it is an inadequately described species whose relationship to *Cryptobia salmositica* Katz, 1951 requires re-examination.

Ichthyobodo necator (Henneguy, 1884) (F)
Pinto, 1928
Syn.: *Costia necatrix* Henneguy, 1884
Location: gills
Hosts: *Cyprinus carpio* (1)
Labeo rohita (2)
fish (3)
Dist.: Mekong River Delta, Red River Delta, southern Viet Nam
Records: 1. Te 1984 (RRD), 2. Te *et al.* 1991 (MRD); 3. Chon 1999 (SV)

PHYLUM OPALINATA

CLASS OPALINATEA

ORDER OPALINIDA

FAMILY OPALINIDAE

Protoopalina sp. (F)
Location: intestine
Host: *Pangasius bocourti*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

PHYLUM APICOMPLEXA

CLASS SPOROZOA

SUBCLASS COCCIDIA

ORDER EIMERIIDA

FAMILY EIMERIIDAE

Goussia carpelli (Léger and Stankovich, 1921) (F)
Dyková and Lom, 1983
Location: intestine
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Goussia sp. (F)
Location: intestine
Host: *Oreochromis niloticus niloticus*
Dist.: northern Viet Nam
Record: Te, Lua and Viet 1999

PHYLUM MICROSPORA

CLASS MICROSPOREA

ORDER MICROSPORIDIA

SUBORDER PANSPOROBLASTINA

FAMILY GLUGEIDAE

Glugea sp. (F)
Location: body cavity
Host: fish
Dist.: Mekong River Delta
Records: 1. Te 1993b, 2. 1998a; 3. Te and Yen 1999

Unidentified Microsporidia

Microsporidia gen. sp. (F)
Location: not given
Host: *Pangasius hypophthalmus*
Dist.: Can Tho
Record: Dung and Crumlish 2001

PHYLUM CILIOPHORA

CLASS KINETOPHRAGMINOPHOREA

SUBCLASS GYMNOSTOMATA

ORDER PLEUROSTOMATA

FAMILY AMPHILEPTIDAE

Pseudoamphileptus macrostoma (Chen, 1955) Foissner, 1985 (F)
Syn.: *Hemiophrys macrostoma* Chen, 1955
Location: gills, skin
Host: *Cyprinus carpio*
Dist.: Bac Ninh, Red River Delta
Record: Te 1984

SUBCLASS VESTIBULIFERA

ORDER TRICHOSTOMATIDA

FAMILY BALANTIDIIDAE

Balantidium ctenopharyngodoni Chen, 1955[7] (F)
Location: [intestine]
Host: fish
Dist.: southern Viet Nam
Record: Chon 1999

Balantidium spinibarbichthys Ky, 1971 (F)
Location: intestine
Hosts: *Barbonymus altus* (5)
Pangasius pangasius (4)
Spinibarbichthys denticulatus (1)
fish (2,3,4)
Dist.: Bac Kan, Lao Cai, Mekong River Delta
Records: 1. Ky 1971c (BK,LC); 2. Te 1993b (MRD); 3. 1995b (MRD), 4. 1998a (MRD); 5. Te *et al*. 1991 (MRD)

Balantidium steinae Ky, 1971 (F)
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Bac Kan, Lao Cai
Record: Ky 1971c

Balantidium strelkovi Ky, 1971 (F)
Location: intestine
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Lao Cai
Record: Ky 1971c

Balantidium sp. (F)
Location: intestine
Hosts: *Ctenopharyngodon idellus* (5)
Pangasius bocourti (1,3)
P. conchophilus (1)
P. hypophthalmus (1)
P. larnaudii (1)
fish (2,3)
Dist.: An Giang, Binh Duong, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1993a (-), 3. Te and Yen 1999 (MRD); 5. Chon 1999 (AG,BD)
Remarks: The record of *Balantidium* by Chon (1999), found in his Table 3, probably involves *B. ctenopharyngodoni.*

SUBCLASS HYPOSTOMATA

[7] The specific name was misspelled "*ctenopharyngodonis*" by Chon (1999).

ORDER CYRTOPHORIDA

FAMILY CHILODONELLIDAE

Chilodonella hexasticha (Kiernik, 1909) (F)
Kahl, 1931
Location: skin
Host: *Notopterus notopterus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Chilodonella piscicola (Zacharias, 1894) (F)
Jankovsky, 1980
Syn.: *Chilodonella cyprini* (Moroff, 1902)
Location: gills, skin
Hosts: *Channa micropeltes* (6)
Ctenopharyngodon idellus (2)
Cyprinus carpio (1,2)
Hypophthalmichthys harmandi (2)
Notopterus notopterus (4)
Oreochromis mossambicus (2)
fish (3,5,7,8)
Dist.: Mekong River Delta, Red River Delta, northern Viet Nam, southern Viet Nam
Records: 1. Te 1984 (RRD), 2. 1989 (NV)[8], 3. 1993b (MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te *et al.* 1991 (MRD); 7. Te and Yen 1999 (MRD); 8. Chon 1999 (SV)

Chilodonella sp. (F)
Location: gills, skin
Hosts: *Ctenopharyngodon idellus* (1)
Cyprinus carpio (1)
Hypophthalmichthys sp. (1)
Oreochromis sp. (1)
Pangasius hypophthalmus (4)
grouper (2,3)
Dist.: Bac Ninh, Mekong River Delta
Records: 1. Ky 1975 (BN); 2. NACA/FAO 1999a (-), 3. 1999b (-); 4. Dung and Crumlish 2001 (MRD)
Remarks: The records of NACA/FAO (1999a,b) most likely involve misidentifications of *Brooklynella hostilis* Lom and Nigrelli, 1970, a common parasite of cage-cultured groupers in Southeast Asia.

Ky (1975) noted that *Chilodonella* was responsible for mortalities of some grass carp fingerlings at Dinh Bang Freshwater Fish Research Station in December 1964.

[8] The records of Te (1989) are based on the unpublished dissertation synopsis of Ky (1969).

FAMILY HARTMANNULIDAE

Brooklynella hostilis Lom and Nigrelli, 1970 (M)
Location: gills, skin
Hosts: *Epinephelus bruneus*
E. sexfasciatus
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b
Remarks: Te (1998b) noted that this ciliate causes mortalities in cage-cultured grouper.

SUBCLASS SUCTORIA[9]

ORDER SUCTORIDA

FAMILY TRICHOPHYRIDAE

Capriniana piscium (Bütschli, 1889) (F)
Jankovsky, 1973
Location: skin
Hosts: *Notopterus notopterus* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1995b, 3. 1998a; 4. Te and Yen 1999

Capriniana sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

CLASS OLIGOHYMENOPHOREA

SUBCLASS HYMENOSTOMATA

ORDER HYMENOSTOMATIDA

SUBORDER OPHRYOGLENINA

FAMILY ICHTHYOPHTHIRIIDAE

Ichthyophthirius multifiliis Fouquet, 1876[10] (F)
Location: gills, skin

[9] Not included in this checklist are records of symbiotic suctorians belonging to the genera *Acineta*, *Podophyra* and *Tokophyra* that have been reported from Vietnamese freshwater fishes (see Te 1993b, 1998a).

[10] The generic name has been variously misspelled as "*Ichthyophthyrius*" "*Ichthyophthyrisus*" and "*Ichthyopthirius*" by Vietnamese authors.

Hosts: *Aristichthys noblis* (2)
?*Belondontichthys dinema* (2,3,5,6,10)
Cirrhinus cirrhosus (6,8)
C. microlepis (2,4,6,10)
C. molitorella (2)
Cirrhinus sp. (4)
Clarias fuscus (2)
C. macrocephalus (2,6)
Clarias sp. (3,5,10)
Ctenopharyngodon idellus (2,12,13,14,15,16,17)
Cyprinus carpio (1,2)
Hypophthalmichthys harmandi (2)
Labeo rohita (8)
Oreochromis mossambicus (2)
O. niloticus niloticus (6,7)
Oreochromis sp. (6)
Osphronemus goramy (6)
Oxyeleotris marmorata (4)
Pangasius bocourti (9)
P. hypophthalmus (5,6,10)
P. micronemus (2,4,15)
P. pangasius (15)
Pangasius sp. (3)
fish (3,4,5,10,11)

Dist.: An Giang, Bac Ninh, Dong Thap, Phu Tho, Mekong River Delta, Red River Delta, northern Viet Nam, southern Viet Nam

Records: 1. Te 1984 (RRD), 2. 1989 (MRD,NV)[11], 3. 1993b (MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te *et al.* 1991 (MRD); 7. Te, Lua and Viet 1999 (NV); 8. Te and Ha 1999 (BN); 9. Dung *et al.* 1999 (MRD)[12]; 10. Te and Yen 1999 (MRD); 11. Chon 1999 (SV); 12. NACA/FAO 2000a (PT), 13. 2000b (PT), 14. 2000c (PT), 15. 2001a (AG,DT,PT), 16. 2001b (PT), 17. 2001c (PT)[13]

Remarks: NACA/FAO (2000a,b) noted that this parasite caused mortalities of 50-60% in cage-cultured grass carp fingerlings in northern Viet Nam.

Te (1995b) noted that ichthyophthiriosis occurs during the rainy season in Viet Nam at infection rates of 70-100% and has caused mortalities of infected fish.

Ichthyophthirius sp.[14] (F)
Location: gills, skin

Hosts: *Hypophthalmichthys* sp. (1)
Clarias gariepinus x *C. macrocephalus* (4)
Ctenopharyngodon idellus (3)
Oreochromis sp. (1)
Osphronemus goramy (4)
fish (2,3)

Dist.: Mekong River Delta, northern Viet Nam

Records: 1. Ky 1975 (-); 2. Jeney *et al*. 1998 (MRD); 3. Le Van Khoa 1999 (NV); 4. Dung *et al*. 1999 (MRD)

Remarks: Ky (1975) noted that *Ichthyophthirius* caused mortalities of fingerling tilapia and *Hypophthalmichthys* sp.

All of the above records probably involve *Ichthyophthirius multifiliis*.

SUBCLASS PERITRICHIA

ORDER PERITRICHIDA

SUBORDER SESSILINA[15]

FAMILY EPISTYLIDIDAE

Apiosoma minutum (Chen, 1961) Banina, in Shulman, 1984 (F)
Syn.: *Glossatella minuta* Chen, 1961[16]
Location: gills, skin

Hosts: *Channa striata* (3)
Cirrhinus cirrhosus (3,5)
Clarias macrocephalus (3)
Cyprinus carpio (1)
Labeo rohita (3,5)
Notopterus notopterus (3)
Oreochromis niloticus niloticus (4)
Oreochromis sp. (3)
Osphronemus goramy (3)
Oxyeleotris marmorata (3)
Pangasius hypophthalmus (3)
fish (2,6)

Dist.: Bac Ninh, Quang Ninh, Mekong River Delta, Red River Delta

Records: 1. Te 1984 (BN,RRD), 2. 1998a (MRD); 3. Te *et al*. 1991 (MRD); 4. Te, Lua and Viet 1999 (QN); 5. Te and Ha 1999 (BN); 6. Te and Yen 1999 (MRD)

Remarks: The taxonomic status of this species

[11] Some of the host records included in Te (1989) were taken from the unpublished dissertation synopsis of Ky (1969).

[12] The record of Dung *et al.* (1999) is taken from their Pictures 1 and 5.

[13] Host not indicated, but known to pertain to grass carp.

[14] The generic name has been misspelled "*Ichthyophthyrius*" and "*Ichthyophthyrus*" by various authors.

[15] Not included in this checklist are reports of free-living sessiline ciliates encountered on the surfaces of fishes (e.g., *Zothamnium*, *Vorticella*). As noted by Lom and Dyková (1992), various free-living genera may occasionally colonize the surface of fishes in poor condition.

[16] Te (1984) reported this species as both *Apiosoma minutum* and *Glossatella minuta*.

requires re-evaluation (J. Lom, pers. comm.).

Apiosoma piscicolum cylindriformis (F)
(Chen 1955) Banina, in Shulman, 1984
Syn.: *Glossatella cylindriformis* Chen, 1955
Location: gills, skin
Hosts: *Aristichthys nobilis* (4)
Cyprinus carpio (1,4)
Hypophthalmichthys harmandi (4)
Oreochromis mossambicus (4)
Pangasius hypophthalmus (5)
fish (2,3)
Dist.: Mekong River Delta, Red River Delta, northern Viet Nam
Records: 1. Te 1984 (RRD), 2. 1993b (MRD), 3. 1995b (MRD), 4. 1999 (NV)[17]; 5. Te *et al.* 1991 (MRD)
Remarks: The taxonomic status of this species requires re-evaluation (J. Lom, pers. comm.).

Apiosoma sp. (F)
Syn.: *Glossatella* sp.
Location: gills, skin
Hosts: *Clarias gariepinus* x *C. macrocephalus* (1)
Oxyeleotris marmorata (2)
Dist.: Mekong River Delta
Records: 1. Dung *et al.* 1999; 2. Te and Yen 1999

Epistylis kronwerci Banina, 1982 (F)
Location: gills, skin
Host: *Pangasius hypophthalmus*
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: The taxonomic status of this species requires re-evaluation (J. Lom, pers. comm.)

Epistylis sp.[18] (F)
Location: gills, skin
Hosts: *Catla catla* (7)
Channa micropeltes (3,7)
Cyprinus carpio (1)
Labeo chryophekadion (9)
Notopterus notopterus (7)
fish (2,4,5,6,8,9)
Dist.: Ho Chi Minh, Mekong River Delta, Red River Delta, southern Viet Nam
Records: 1. Te 1984 (RRD), 2. 1995b (MRD), 3. 1989 (MRD), 4. 1993a (-), 5. 1993b (MRD), 6. 1998a (MRD); 7. Te *et al*. 1991 (MRD); 8. Te and Yen 1999 (MRD); 9. Chon 1999 (HCM,SV)

Unidentified Epistylidae

Epistylidae gen. sp. (F)
Location: gills, skin
Hosts: *Channa micropeltes*
Clarias sp.
Oxyeleotris marmorata
Pangasius micronemus
Dist.: Mekong River Delta
Record: Te 1995b
Remarks: The above records pertain to members of the genus *Apiosoma* and/or *Epistylis*.
Although Te (1995b) noted that these ciliates can cause disease, they are generally regarded as commensals.

SUBORDER MOBILINA

FAMILY TRICHODINIDAE[19]

.

Paratrichodina incissa (Lom, 1959) (F)
Lom, 1963[20]
Location: skin
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta, northern Viet Nam
Records: Te *et al.* 1991 (MRD); Te, Lua and Viet 1999 (NV)

Paratrichodina sp. (F)
Location: not given
Hosts: *Pangasius micronemus* (2)
fish (1,3)
Dist.: Mekong River Delta
Records: 1. Te 1993b, 2. 1995b; 3. Te and Yen 1999

Trichodina acuta Lom, 1961 (F)
Location: gills, skin
Hosts: *Cirrhinus cirrhosus* (5,7)
Cyprinus carpio (1)
Labeo rohita (5,7)
Oreochromis niloticus niloticus (5,6)
Pangasius hypophthalmus (5)

[17] The records by Te (1999), given in his Table 3 under "*Apiosoma piscicolum* spp. *cylindriformis* var *letiplanta* [sic] Ha Ky, 1968" were apparently taken from the unpublished dissertation of Ky (1968a).
[18] The generic name has been misspelled "*Epistilis*" by some Vietnamese authors.
[19] As almost all records of trichodinids from Vietnamese fishes are unsupported by photomicrographs of silver-impregnated specimens, these reports must be treated with caution.
[20] The specific name was misspelled "*incisa*" by Vietnamese authors.

fish (2,3,4,8,9)
Dist.: Bac Ninh, Mekong River Delta, Red River Delta, northern Viet Nam, southern Viet Nam
Records: 1. Te 1984 (RRD), 2. 1993b (MRD), 3. 1995b (MRD), 4. 1998a (MRD); 5. Te *et al*. 1991 (MRD); 6. Te, Lua and Viet 1999 (NV); 7. Te and Ha 1999 (BN); 8. Te and Yen 1999 (MRD); 9. Chon 1999 (SV)

Trichodina centrostrigata Basson, Van As and Paperna, 1983 (F)
Location: gills, skin
Hosts: *Oreochromis niloticus niloticus* (1,2)
fish (3,4)
Dist.: Mekong River Delta, northern Viet Nam, southern Viet Nam
Records: 1. Te *et al*. 1991 (MRD); 2. Te, Lua and Viet 1999 (NV); 3. Te and Yen 1999 (MRD); 4. Chon 1999 (SV)
Remarks: This species has been introduced into Viet Nam along with the importation of Nile tilapia.

Trichodina cubanensis Arthur and Lom, 1984 (F)
Location: [skin]
Host: fish
Dist.: southern Viet Nam
Record: Chon 1999
Remarks: This ciliate was originally described from a cichlid fish from Cuba (see Lom and Dyková 1992); its presence on a Viet Namese freshwater fish requires verification.

Trichodina domerguei (Wallengren, 1897) Haider, 1964 (F)
Includes: *Trichodina domerguei domerguei* (Wallengren, 1897)
Location: gills, skin
Hosts: *Labeo rohita* (1,5)
Oreochromis niloticus niloticus (5,6)
Osphronemus goramy (1,5)
fish (2,3,4,7)
Dist.: Mekong River Delta, northern Viet Nam
Records: 1. Te 1989 (MRD), 2. 1993b (MRD), 3. 1995b (MRD), 4. 1998a (MRD); 5. Te *et al*. 1991 (MRD); 6. Te, Lua and Viet 1999 (NV); 7. Te and Yen 1999 (MRD)
Remarks: As this ciliate is specific to sticklebacks (Gasterosteidae), euryhaline fishes occurring in northern latitudes (see Lom and Shtein 1966), the above records are considered to involve misidentifications.

Trichodina fultoni Davis, 1947 (F)
Location: [gills, skin]
Host: fish
Dist.: Mekong River Delta, southern Viet Nam
Records: Te 1995b (MRD), 1998a (MRD); Te and Yen 1999 (MRD); Chon 1999 (SV)

Trichodina gasterostei Shtein, 1967[21] (F)
Location: gills, skin
Hosts: *Channa micropeltes* (1)
Pangasius hypophthalmus (1)
fish (2,3,4,5)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1995b, 4. 1998a; 5. Te and Yen 1999
Remarks: This species was described from sticklebacks (*Gasterosteus aculeatus*) from Kamchatka (see Shtein 1967). The above records are considered to involve misidentifications.

Trichodina heterodentata Duncan, 1977 (F)
Location: gills, skin
Hosts: *Oreochromis niloticus niloticus* (1,2)
fish (3)
Dist.: Mekong River Delta, northern Viet Nam
Records: 1. Te *et al.* 1991 (MRD); 2. Te, Lua and Viet 1999 (NV); 3. Te and Yen 1999 (MRD)
Remarks: This species was probably introduced into Viet Nam along with the importation of tilapias for aquaculture.

Trichodina jadranica Haider, 1964 (F)
Location: gills, skin
Hosts: *Osphronemus goramy*
Oxyeleotris marmorata
Dist.: Mekong River Delta
Record: Te *et al.* 1991
Remarks: The occurrence of this trichodinid on Vietnamese freshwater fishes requires verification.

Trichodina mutabilis Kazubski and Migala, 1968 (F)
Location: gills, skin
Hosts: *Channa micropeltes* (1)
Cirrhinus cirrhosus (1,6)
Oreochromis niloticus niloticus (1,5)
Osphronemus goramy (1)
Oxyeleotris mormorata (1)
Pangasius hypophthalmus (1)
fish (2,3,4,7)
Dist.: Bac Ninh, Mekong River Delta, northern Viet Nam

[21] The specific name has been misspelled "*gasterrostei*" by some Vietnamese authors.

Records: 1. Te *et al.* 1991 (MRD); 2. Te 1993b (MRD), 3. 1995b (MRD), 4. 1998a (MRD); 5. Te, Lua and Viet 1999 (NV); 6. Te and Ha 1999 (BN); 7. Te and Yen 1999 (MRD)
Remarks: Te (1995b) noted that this species can cause mortalities.

Trichodina nigra Lom, 1961 (F)
Location: gills, skin
Hosts: *Anabas testudineus* (6)
Channa micropeltes (6)
C. striata (2,6)
Cirrhinus cirrhosus (6,8)
C. jullieni (6)
Clarias macrocephalus (2,3,5,6,9)
Cyprinus carpio (1)
Helostoma temminckii (6)
Labeo rohita (2,3,6,8)
Notopterus notopterus (6)
Oreochromis niloticus niloticus (6,7)
Oxyeleotris marmorata (6)
Pangasius bocourti (6)
P. conchophilus (6)
P. hypophthalmus (6,9)
P. larnaudii (6)
P. micronemus (2)
P. pangasius (2,5)
Pangasius sp. (3)
fish (3,4,5,9)
Dist.: Bac Ninh, Mekong River Delta, Red River Delta, northern Viet Nam, southern Viet Nam
Records: 1. Te 1984 (RRD), 2. 1989 (MRD), 3. 1993b (MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te *et al*. 1991 (MRD), 7. Te, Lua and Viet 1999 (NV); 8. Te and Ha 1999 (BN); 9. Te and Yen 1999 (MRD)
Remarks: Te (1995b) noted that this parasite can cause mortalities.
In their English language summary, Te and Ha (1999) erroneously listed this species as "*Tripartiella nigra*".

Trichodina nobillis Chen, 1963[22] (F)
Location: skin, gills, nasal cavities
Hosts: *Aristichthys nobilis* (2)
Barbonymus gonionotus (2,6)
Channa micropeltes (6)
Cirrhinus cirrhosus (6,7)
Ctenopharyngodon idellus (2)
Cyprinus carpio (2)
Hypophthalmichthys harmandi (2)
Labeo rohita (2,6,7)
fish (1,3,4,5,8,9)
Dist.: Bac Ninh, Mekong River Delta, northern Viet Nam, southern Viet Nam
Records: 1. Shtein 1984 (-); 2. Te 1989 (MRD,NV)[23], 3. 1993b (MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te *et al.* 1991 (MRD); 7. Te and Ha 1999 (BN); 8. Te and Yen 1999 (MRD); 9. Chon 1999 (SV)
Remarks: Te (1995b) noted that this species can cause mortalities of fingerlings.

Trichodina orientalis Chen and Hsieh, in Anon., 1973 (F)
Location: gills, skin
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta, northern Viet Nam
Records: Te *et al.* 1991 (MRD); Te, Lua and Viet 1999 (NV)
Remarks: This taxon was listed by Albaladejo and Arthur (1989) among those species whose descriptions are too inadequate to allow determination of their validity.

Trichodina partidisci Lom, 1962 (F)
Location: skin
Host: *Pangasius hypophthalmus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Trichodina pediculus (O.F. Müller, 1786) Ehrenberg, 1838 (F)
Location: skin, gills, mouth cavity, nasal cavities
Hosts: *Carassius auratus auratus* (3)
Channa micropeltes (3)
Cirrhinus molitorella (3)
Ctenopharyngodon idellus (3)
Cyprinus carpio (2,3)
Hypophthalmichthys harmandi (3)
Labeo rohita (4)
Oreochromis mossambicus (3)
O. niloticus niloticus (6)
Pangasius micronemus (3)
Pangasius sp. (4)
fish (1,4,5)
Dist.: Bac Ninh, Mekong River Delta, Red River Delta, northern Viet Nam
Records: 1. Shtein 1984 (-); 2. Te 1984 (BN,RRD), 3. 1989 (MRD,NV)[24], 4. 1993b (MRD), 5. 1995b (MRD); 6. Te, Lua and Viet 1999 (NV)
Remarks: Albaladejo and Arthur (1989) listed this

[22] All authors reporting this trichodinid from Viet Nam have misspelled the specific name "*nobilis*".

[23] Some of the host records given by Te (1989) were taken from the unpublished dissertation synopsis of Ky (1969).

[24] Some of the host records given by Te (1989) were taken from the unpublished dissertation synopsis of Ky (1969).

taxon among those species whose occurrence in East and Southeast Asia requires confirmation.

Te (1995b) noted that this species can cause mortalities of fingerlings.

Trichodina perforata Lom, Golemansky and Grupcheva, 1976 (F)
Syn.: *Trichodina rectangli perforata* Lom, Golemansky and Grupcheva, 1976
Location: nasal cavities
Hosts: *Cirrhinus cirrhosus*
Labeo rohita
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Trichodina rectangli Chen and Hsieh, 1964 (F)
Syn.: *Trichodina rectangli rectangli* Chen and Hsieh, 1964
Location: nasal cavities
Hosts: *Cirrhinus cirrhosus* (1,2)
Labeo rohita (1,2)
fish (3)
Dist.: Bac Ninh, Mekong River Delta
Records: 1. Te *et al*. 1991 (MRD); 2. Te and Ha 1999 (BN); 3. Te and Yen 1999 (MRD)

Trichodina reticulata Hirschmann and Partsch, 1955 (F)
Location: [gills, skin]
Host: fish
Dist.: Mekong River Delta
Records: Te 1995b, 1998a; Te and Yen 1999

Trichodina rostrata Kulemina, 1968 (F)
Location: [gills, skin]
Host: fish
Dist.: Mekong River Delta
Records: Te 1998a; Te and Yen 1999

Trichodina siluri Lom, 1970 (F)
Location: gills, skin
Hosts: *Helostoma temminckii* (1)
Oxyeleotris marmorata (1)
Pangasius hypophthalmus (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1998a; 3. Te and Yen 1999

Trichodina sp. (F,M)
Location: gills, skin
Hosts: *Aristichthys noblis* (7)
Cirrhinus sp. (7)
Clarias gariepinus x *C. macrocephalus* (6)
Clarias sp. (7)
Ctenopharyngodon idellus (5,7)
Cyprinus carpio (7)
Epinephelus bruneus (3)
E. sexfasciatus (3)
E. tauvina (3)
Helostoma temminckii (6)
Hypophthalmichthys sp. (7)
Osphronemus goramy (6)
Pangasius hypophthalmus (8)
Oreochromis sp. (7)
Ca heo beo (7)
Ca ngoi (7)
fish (1,2,4,5)
Dist.: An Giang, Binh Duong, Can Tho, Ho Chi Minh, Mekong River Delta, northern Viet Nam, Gulf of Tonkin
Records: 1. Te 1993a (-), 2. 1993b (MRD), 3. 1998b (GTO); 4. Jeney *et al*. 1998 (MRD); 5. Le Van Khoa 1999 (NV); 6. Dung *et al.* 1999 (MRD); 7. Chon 1999 (AG,BD,HCM); 8. Dung and Crumlish 2001 (CT)

Trichodinella epizootica (Raabe, 1950) Srámek-Husek, 1953 (F)
Location: gills, skin
Hosts: *Catla catla* (1)
Cirrhinus cirrhosus (1,4)
Labeo rohita (1,4)
fish (2,3,5,6)
Dist.: Bac Ninh, Mekong River Delta, southern Viet Nam
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1995b (MRD), 3. 1998a (MRD); 4. Te and Ha 1999 (BN); 5. Te and Yen 1999 (MRD); 6. Chon 1999 (SV)
Remarks: Te (1995b) noted that this species can cause mortalities of fingerlings.

Trichodinella subtilis Lom, 1959 (F)
Location: gills
Hosts: *Cirrhinus cirrhosus*
Labeo rohita
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Trichodinella sp. (F,M)
Location: gills
Hosts: *Cirrhinus* sp. (2)
grouper (1)
Dist.: Binh Duong
Records: 1. Le Van Khoa 1999 (-); 2. Chon 1999

Remarks: The record of Chon (1999), listed in his Table 3, probably involves *Trichodinella epizootica.*

Tripartiella bulbosa (Davis, 1947) Lom,1959 (F)
Location: gills, nasal cavities, skin
Hosts: *Anabas testudineus* (2)
Barbonymus gonionotus (2,3,5,8)
Catla catla (3,6)
Channa micropeltes (2)
Cirrhinus cirrhosus (7)
C. jullieni (2)
Helostoma temminckii (2,3,8)
Labeo rohita (3,6,7)
Notopterus notopterus (2)
Oreochromis niloticus niloticus (2,6)
Osphronemus goramy (2)
Pangasius bocourti (5)
P. conchophilus (2)
P. hypophthalmus (2,8)
P. larnaudii (2)
Pangasius sp. (3)
fish (1,3,4,5,6,8)
Dist.: Bac Ninh, Dong Thap, Quang Ninh, Mekong River Delta
Records: 1. Shtein 1984 (-); 2. Te *et al.* 1991 (MRD); 3. Te 1993b (DT,MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te, Lua and Viet 1999 (QN); 7. Te and Ha 1999 (BN); 8. Te and Yen 1999 (MRD)
Remarks: Te (1993b) noted that *Tripartiella* caused mass mortality of fingerling *Pangasius* held in a nursery pond at Phu Thuan Commune, Hong Ngu, Dong Thap in 1986.

As *Tripartiella bulbosa* was considered as a nomen dubium by Bondad-Reantaso and Arthur (1989), the true identity(ies) of the species involved in the above records are considered impossible to determine.

Tripartiella clavodonta Basson and Van As, 1987 (F)
Location: gills
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Tripartiella copiosa Lom, 1959 (F)
Location: gills
Host: *Pangasius hypophthalmus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Tripartiella lata Lom, 1963 (F)
Location: gills
Host: *Pangasius hypophthalmus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Tripartiella obtusa Ergens and Lom, 1970[25] (F)
Location: gills
Hosts: *Catla catla* (1)
Labeo rohita (1)
Oreochromis niloticus niloticus (3)
Pangasius hypophthalmus (1)
P. larnaudii (1)
fish (2,4)
Dist.: Mekong River Delta, northern Viet Nam
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1998a (MRD); 3. Te, Lua and Viet 1999 (NV); 4. Te and Yen 1999 (MRD)

Tripartiella sp. (F)
Location: gills
Hosts: *Barbonymus gonionotus*
Channa micropeltes
Helostoma temminckii
Labeo rohita
Pangasius larnaudi
P. micronemus
Dist.: Dong Thap, Mekong River Delta
Record: Te 1989
Remarks: Te (1989) noted that *Tripartiella* was associated with mortalities (100 000–200 000 fish/pond) of fingerling *Pangasius* held in rearing ponds in Dong Thap Province in 1986-1987.

Unidentified Trichodinidae

Trichodinidae gen. sp. (F)
Location: gills, skin
Hosts: *Aristichthys nobilis* (1)
Barbonymus gonionotus (2,3,4,5)
Clarias sp. (2,3,4,5)
Cyprinus carpio (1)
Helostoma temminckii (2,3,4,5)
Hypothalmichthys sp. (1)
Oxyeleotris marmorata (2,3,4,5)
Pangasius hypophthalmus (4,5)
P. micronemus (3)
Pangasius sp. (2,6)
fish (1)
Dist.: Bac Ninh, Dong Thap, Hai Hung, Ha Tinh, Phu Tho, Vinh Phu, Mekong River Delta
Records: 1. Ky 1975 (BN,HH,HN,HTI,PT,VP); 2.

[25] In an apparent lapsis, Te, Lua and Viet (1999) listed this species as "*Trichodinella obtusa* Ergens et Lom, 1970".

Te 1993b (MRD), 3. 1995b (MRD), 4. 1998a (MRD); 5. Te and Yen 1999 (MRD); 6. Te and Tam 1999 (DT)

Remarks: Ky (1975) noted that trichodinids caused massive mortalities of fish in Co Bi Hatchery (Ha Noi), at Dap Khe Enterprise (Hai Hung) in 1961 and at Hoang Phu Loi Enterprise (Phu Tho) in 1962. He also recorded that treatments against trichodinid infections were applied at Duc Bui Hatchery (Ha Tinh) and other fish culture enterprises in Vinh Phu, at Co Bi Hatchery, and at Dinh Bang Freshwater Fish Research Station (Bac Ninh).

Te and Tam (1999) noted that trichodinosis appeared at the nursery station in Hong Ngu District (Dong Thap) in June-July of 1986 and 1987 where it affected 80-90% of the nursery ponds. At the Phuoc Thuong Commune, 200 000 of a total of 360 000 *Pangasius* fingerlings died two days after becoming infected with this disease. At Long Khanh Commune, trichodinosis reduced the survival rate of *Pangasius* fry to 20%, while at Phu Thuan Commune 200 000 of 210 000 fingerlings died 48 hours after showing signs of trichodinosis.

CLASS POLYMENOPHORA

SUBCLASS SPIROTRICHA

ORDER HETEROTRICHIDA

SUBORDER CLEVELANDELLINA

FAMILY SICUOPHORIDAE

Ichthyonyctus baueri (Ky, 1971) Jankovsky, 1974 (F)
Syn.: *Nyctotherus baueri* Ky, 1971
Location: intestine
Hosts: *Barbonymus altus* (2,4,6)
Pangasius larnaudii (2,4)
P. micronemus (4)
P. pangasius (2,5)
Spinibarbichthys denticulatus (1)
fish (3,5)
Dist.: Bac Kan, Mekong River Delta
Records: 1. Ky 1971c (BK); 2. Te 1989 (MRD), 3. 1993b (MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te *et al*. 1991 (MRD)
Remarks: The synonymy follows Jankovsky (1974).

Ichthyonyctus pangasia (Tripathi, 1954) Jankovsky, 1974 (F)
Syn.: *Nyctotherus pangasia* Tripathi, 1954
Location: intestine
Hosts: *Pangasius bocourti* (1,2)
P. conchophilus (1)
P. larnaudii (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te and Yen 1999
Remarks: The synonymy follows Jankovsky (1974).

Ichthyonyctus schulmani (Ky, 1971) Jankovsky, 1974 (F)
Syn.: *Nyctotherus schulmani* Ky, 1971
Location: intestine
Host: *Squaliobarbus curriculus*
Dist.: Bac Kan
Record: Ky 1971c
Remarks: The synonymy follows Jankovsky (1974).

Ichthyonyctus sp. (F)
Syn.: *Nyctotherus* sp. of Te, 1993
Location: intestine
Host: fish
Dist.: Viet Nam
Record: Te 1993a

FAMILY INFEROSTOMATIDAE

Inferostoma jankowskii Ky, 1971 (F)
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Bac Kan, Lao Cai
Record: Ky 1971c

Unidentified Protozoa

Protozoa gen. sp. (F)
Location: not given
Hosts: *Barbonymus altus* (1,2)
B. gonionotus (1,2)
Catla catla (1,2)
Cirrhinus cirrhosus (1,2)
Clarias macrocephalus (1,2)
Helostoma temminckii (1)
Labeo rohita (1,2)
Osphronemus goramy (1,2)
Oxyeleotris marmorata (1,2)
Pangasius hypophthalmus (1,2)
P. larnaudii (1,2)
Dist.: Mekong River Delta
Records: 1. Te 1998a; 2. Te and Yen 1999

PHYLUM MYXOSPORIDIA

CLASS MYXOSPOREA

ORDER BIVALVULIDA

SUBORDER VARIISPORINA

FAMILY MYXIDIIDAE

Zschokkella donecae Ky, 1971 (F)
Location: gall bladder
Host: *Hypophthalmichthys harmandi*
Dist: Ha Noi
Record: Ky 1971d

Zschokkella parasiluri Fujita, 1927 (F)
Location: gall bladder
Hosts: *Hemibagrus nemurus*
Pangasius bocourti
Trichogaster trichopterus
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Zschokkella sp. (F)
Location: gallbladder
Hosts: *Trichogaster pectoralis* (2)
fish (1,3,4)
Dist.: Mekong River Delta
Records: 1. Te 1993b, 2. 1995b, 3. 1998a; 4. Te and Yen 1999

FAMILY CERATOMYXIDAE

Ceratomyxa sp. (F)
Location: gall bladder
Hosts: *Pangasius hypophthalmus* (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1998a; 4. Te and Yen 1999

FAMILY SPHAEROSPORIDAE

Myxobilatus sp. (F)
Location: fins
Hosts: *Channa micropeltes* (1,2,3)
fish (4,5)
Dist.: Ang Giang, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1993b (MRD), 3. 1995b (AG), 4. 1998a (MRD); 5. Te and Yen 1999 (MRD)

SUBORDER PLATYSPORINA

FAMILY MYXOBOLIDAE

Henneguya ophiocephali Chakravarty, 1938 (F)
Location: gills, gall bladder
Host: *Channa micropeltes*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Henneguya schizura (Gurley, 1893) Labbé, 1899 (F)
Location: gills
Hosts: *Trichogaster pectoralis*
T. trichopterus
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: As this taxon was originally described from a cold-water species (the northern pike, *Esox lucius*) in Europe, this report probably involves a misidentification.

Henneguya schulmani Ky, 1971 (F)
Location: gills
Hosts: *Anabas testudineus* (1,2,3,4,6)
fish (3,5,7)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1971d (HN)[26]; 2. Te 1989 (MRD), 3. 1993b (MRD), 4. 1995b (MRD), 5. 1998a (MRD); 6. Te *et al*. 1991 (MRD); 7. Te and Yen 1999 (MRD)

Henneguya shaharini Shariff, 1982 (F)
Location: gills
Hosts: *Bunaka gyrinoides* (2)
Oxyeleotris marmorata (2)
O. urophthalmus (1)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995b, 3. 1998a; 4. Te and Yen 1999
Remarks: Te (1995b) noted that infections by this myxozoan can cause mortalities.

Henneguya sp. (F)
Location: gall bladder, gills, skin
Hosts: *Ctenopharyngodon idellus* (5,6)

[26] Ky (1971d) in an apparent lapsis, gave the host for this species as *Cyprinus carpio* in his English language summary.

Hemibagrus nemurus (4)
Notopterus notopterus (4)
Osphronemus goramy (4)
Oxyeleotris marmorata (1)
Pangasius hypophthalmus (4,6)
P. larnaudii (4)
Trichogaster pectoralis (1)
fish (2,3,5)

Dist.: An Giang, Mekong River Delta, southern Viet Nam

Records: 1. Te 1989 (MRD), 2. 1993b (MRD), 3. 1998a (MRD); 4. Te *et al*. 1991 (MRD); 5. Chon 1999 (AG,SV); 6. Dung and Crumlish 2001 (MRD)

Myxobolus achmerovi Shulman, 1966 (F)
Location: gills, intestinal wall, skin
Host: *Cyprinus carpio*
Dist.: Bac Kan, Bac Ninh, Ha Noi, Red River Delta
Records: Ky 1971d (BK,HN); Te 1984 (BN,RRD)

Myxobolus anisocapsularis Shulman, 1962 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Bac Ninh, Ha Noi, Red River Delta
Records: Ky 1971d (HN); Te 1984 (BN,RRD)

Myxobolus artus Akhmerov, 1960 (F)
Location: gills, intestine, skin
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Myxobolus assymetricus Ky, 1971 (F)
Location: kidney
Host: *Hypophthalmichthys harmandi*
Dist.: Ha Bac
Record: Ky 1971d

Myxobolus cheisini Shulman, 1962 (F)
Location: gills, skin
Host: *Leptobarbus hoevenii*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Myxobolus clarii Chakravarty, 1943 (F)
Location: kidney, liver
Hosts: *Clarias batrachus*
C. macrocephalus
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Myxobolus cyprinicola Reuss, 1906 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Myxobolus discapsularis Ky, 1971 (F)
Location: gall bladder
Host: *Hypophthalmichthys harmandi*
Dist.: Ha Bac
Record: Ky 1971d

Myxobolus divergens Ky, 1971 (F)
Location: gills, kidney, liver, skin, spleen
Host: *Aristichthys nobilis*
Dist.: Ha Bac, Ha Noi
Record: Ky 1971d

Myxobolus ellipticus Ky, 1971 (F)
Location: gills
Host: *Hypophthalmichthys harmandi*
Dist.: Ha Noi
Record: Ky 1971d

Myxobolus exiguus Thélohan, 1895 (F)
Location: gills
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta, northern Viet Nam
Records: Te *et al*. 1991 (MRD); Te, Lua and Viet 1999 (NV)
Remarks: The occurrence of this Eurasian species, a parasite mainly of cyprinid fishes (see Lom and Dyková 1992), in tilapia from Viet Nam requires verification.

Myxobolus humilis Ky, 1971 (F)
Location: spleen
Host: *Hypophthalmichthys harmandi*
Dist.: Ha Bac
Record: Ky 1971d

Myxobolus koi Kudo, 1920 (F)
Location: gills
Hosts: *Cirrhinus cirrhosus* (3,4)
Cyprinus carpio (1,2)
Labeo rohita (4,5)
Dist.: Bac Ninh, Ha Bac, Quang Ninh, Hai Phong, Ha Noi, Mekong River Delta, Red River Delta
Records: 1. Ky 1971d (HN,HP); 2. Te 1984 (BN,HB,HN,QN), 3. Te 1989 (BN,HB,HN,QN); 4. Te *et al*. 1991 (MRD); 5. Te and Ha 1999 (BN)
Remarks: Te (1984, 1989) noted that *Myxobolus*

koi caused high mortality of young common carp at the Lang Giang (Ha Bac), Tien Phong (Quang Ninh), and Nhat Tan-Ha Noi fish seed farms (Ha Noi), and at the Research Institute for Aquaculture No. 1 (Bac Ninh).

Myxobolus lanfyongi Ky, 1971 (F)
Location: intestinal wall
Host: *Spinibarbichthys denticulatus*
Dist.: Lao Cai
Record: Ky 1971d

Myxobolus macrocapsularis Reuss, 1906 (F)
Location: gills
Host: *Barbonymus gonionotus*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Myxobolus minutus Nemeczek, 1911 (F)
Location: gills
Hosts: *Cirrhinus cirrhosus*
Labeo rohita
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: The presence of this European species in fishes of Viet Nam requires verification.

Myxobolus miyairii Kudo, 1920 (F)
Location: gills
Host: *Pangasius hypophthalmus*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Myxobolus oblongus Gurley, 1893 (F)
Location: skin
Host: *Channa micropeltes*
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: As this species was originally described from a catostomid fish (*Erimyzon sucetta*) from the eastern United States (see Hoffman 1998), the above report is considered a probable misidentification.

Myxobolus pavlovskii (Akhmerov, 1954) (F)
Shulman, 1962
Location: kidney, gills
Host: *Hypophthalmichthys harmandi*
Dist.: Ha Bac, Ha Noi
Record: Ky 1971d

Myxobolus poljanskii Shulman, 1962 (F)
Location: liver
Host: *Ompok bimaculatus*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Myxobolus semeniformis Ky, 1971 (F)
Location: gills, skin
Hosts: *Cirrhinus cirrhosus* (2,3,4,6)
C. molitorella (1)
Labeo rohita (2,3,4,6)
fish (3,5,7)
Dist.: Tieng Giang, Ha Noi, Ho Chi Minh, Mekong River Delta
Records: 1. Ky 1971d (HN); 2. 1989 (MRD), 3. 1993b (MRD), 4. 1995b (HCM,TG), 5. 1998a (MRD); 6. Te *et al.* 1991 (MRD); 7. Te and Yen 1999 (MRD)
Remarks: Te (1985) noted that this myxosporean caused high mortality of fingerling *Labeo rohita*.

Myxobolus toyamai Kudo, 1915 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Bac Kan, Bac Ninh, Ha Bac, Ha Noi, Quang Ninh, Red River Delta
Records: Ky 1971d (BK); Te 1984 (BN,RRD), 1989 (BN,HB,HN,QN)
Remarks: Te (1989) noted that *Myxobolus koi* and *M. toyamai* caused mortalities of 50-70% in fry of common carp held in rearing ponds at the Research Institute for Aquaculture No. 1 (Bac Ninh), at Nhat Tan Farm (Ha Noi), Lang Giang Farm (Ha Bac) and Tien Phong Farm (Quang Ninh).

Myxobolus uyeni Ky, 1971 (F)
Location: intestinal wall
Host: *Cirrhinus molitorella*
Dist.: Lao Cai
Record: Ky 1971d

Myxobolus sp. (F)
Location: body cavity, gall bladder, gills, intestine, kidney, liver, mouth, musculature, skin
Hosts: *Aristichthys nobilis* (2)
Barbonymus altus (5)
Carassius auratus auratus (2)
Channa micropeltes (3)
Clarias batrachus (3,5)
C. macrocephalus (5)
Cirrhinus jullieni (3)
C. molitorella (1,2)
Ctenopharyngodon idellus (7)

Cyprinus carpio (2)
Hypophthalmichthys sp. (2)
Hemibagrus nemurus (5)
Oxyeleotris marmorata (5)
Pangasius hypophthalmus (5,8)
P. micronemus (3)
Spinibarbichthys denticulatus (2)
fish (4,6,7)
Dist.: An Giang, Can Tho, Ha Noi, Mekong River Delta, southern Viet Nam
Records: 1. Ky 1971d (HN), 2. 1975 (-); 3. Te 1989 (MRD), 4. 1998a (MRD); 5. Te *et al.* 1991 (MRD); 6. Te and Yen 1999 (MRD); 7. Chon 1999 (AG,SV); 8. Dung and Crumlish 2001 (CT)

Thelohanellus acuminatus Ky, 1971 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Hai Phong, Red River Delta
Records: Ky 1971d (HP); Te 1984 (RRD)

Thelohanellus callisporis Ky, 1971 (F)
Location: gills, skin
Host: *Cyprinus carpio*
Dist.: Ha Noi, Red River Delta
Records: Ky 1971d (HN); Te 1984 (RRD)

Thelohanellus catlae Chakravarty and Basu, 1948 (F)
Location: gills, skin
Hosts: *Barbonymus gonionotus* (1,3,5)
Cyprinus carpio (1)
fish (2,4,6)
Dist.: Mekong River Delta, Red River Delta
Records: 1. Te 1984 (RRD), 2. 1993b (MRD), 3. 1995b (MRD), 4. 1998a (MRD); 5. Te *et al*. 1991 (MRD); 6. Te and Yen 1999 (MRD)

Thelohanellus dogieli Akhmerov, 1955 (F)
Location: gills, skin
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

PHYLUM PLATYHELMINTHES

CLASS TREMATODA

SUBCLASS DIGENEA

ORDER STRIGEIDA

SUPERFAMILY CLINOSTOMOIDEA

FAMILY CLINOSTOMIDAE

Clinostomum complanatum (Rudolphi, 1814) Braun, 1899 [metacercaria] (F)
Location: intestine
Hosts: *Monopterus albus* (1,2)
fish (3,4)
Dist.: Dong Thap, Ha Giang, Minh Hai, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1995d (DT,HG,MH), 3. 1998a (MRD); 4. Te and Yen 1999 (MRD)

Clinostomum piscidium Southwell and Prashad, 1918 [metacercaria] (F)
Location: body cavity, intestine
Hosts: *Trichogaster pectoralis* (1,2,3,4)
fish (3,4)
Dist.: Ha Giang, Minh Hai, Tien Giang, Mekong River Delta
Records: 1. Te *et al*. 1991 (MRD); 2. Te 1995d (HG,MH,TG), 3. 1998a (MRD); 4. Te and Yen 1999 (MRD)

Euclinostomum multicaecum Tubangui and Masiluñgan, 1935 [metacercaria] (F)
Location: gill cavity
Hosts: *Anabas testudineus* (1,2)
fish (3,4)
Dist.: Dong Thap, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1995d (DT), 3. 1998a (MRD); 4. Te and Yen 1999 (MRD)

SUPERFAMILY BUCEPHALOIDEA

FAMILY BUCEPHALIDAE

SUBFAMILY BUCEPHALINAE

Alcicornis baylisi Nagaty, 1937 (M)
Location: intestine
Host: *Caranx malabaricus*
Dist.: South China Sea
Records: Parukhin 1966a, 1976
Remarks: Lebedev (1968a,1970) believed that the report of *A. baylisi* by Parukhin (1966a) involved *A. carangis* MacCallum, 1917.

Alcicornis carangis MacCallum, 1917 (M)

Location: gill cavity
Host: *Caranx* sp.
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968a (SCS) [27], 1970 (GTO)

Bucephalus fragilis Velasquez, 1959 (M)
Location: intestine
Hosts: *Megalaspis cordyla* (1,2)
Scomberoides lysan (1)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976

Bucephalus gorgon (Linton, 1905) (M)
Eckmann, 1932
Location: stomach
Host: *Seriolina nigrofasciata*[28]
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Bucephalus introversus Manter, 1940 (M)
Location: intestine
Host: *Seriolina nigrofasciata*
Dist.: South China Sea
Records: Parukhin 1966, 1976

Bucephalus paraheterotentaculatus (M)
Velasquez, 1959[29]
Location: intestine
Hosts: *Seriola dumerili* (1,2)
Seriolina nigrofasciata (1,2)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976

Bucephalus varicus Manter, 1940 (M)
Location: stomach, intestine
Hosts: *Atropus atropos* (1,3)
Atule mate (1,3)
Carangidae (1)
Caranx sp. (1,3)
Rachycentron canadum (2)
Selar crumenophthalmus (1,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1971 (GTO), 3. 1976 (SCS)

Bucephalus sp. (M)
Location: stomach
Host: *Gerres filamentosus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Prosorhynchoides gracilescens (F)
(Rudolphi, 1819) Linton, 1940
Syn.: *Bucephalopsis gracilescens* (Rudolphi, 1819)
Location: intestine
Hosts: *Pangasius bocourti* (1)
P. conchophilus (1)
P. hypophthalmus (1)
P. micronemus (3)
P. pangasius (3)
fish (2,4,5)
Dist.: An Giang, Dong Thap, Mekong River Delta
Records: 1. Te *et al*. 1991 (MRD); 2. Te 1993b (MRD), 3. 1995d (AG,DT)[30], 4. 1998a (MRD); 5. Te and Yen 1999 (MRD)

Prosorhynchoides ozakii (Nagaty, 1937) (F)
Margolis and Arthur, 1975
Syn.: *Bucephalopsis ozakii* Nagaty, 1937
Location: intestine
Hosts: *Pelteobagrus vachellii*
Saurogobio dabryi
Dist.: Ha Noi
Record: Moravec and Sey 1989b

Rhipidocotyle laruei Velasquez, 1959 (M)
Location: [stomach, intestine]
Host: *Psettodes erumei*
Dist.: Gulf of Tonkin
Records: Parukhin 1967a, 1989

Rhipidocotyle sp. metacercaria (M)
Location: gills, gonads, intestine, kidneys, tissue of eye socket, vitreous humour of eye
Hosts: *Drepane punctata* (2)
Ephippus orbis (2)
Gerres filamentosus (2)
Gymnocranius griseus (2)
Leiognathidae (2)
Leiognathus equulus (2)
Parastromateus niger (2)
Sciaenidae (1)
Dist.: Gulf of Tonkin
Records: 1. Oshmarin 1965a; 2. Mamaev 1970

[27] Tentative parasite identification, as "*Alcicornis carangis* MacCallum, 1917 (?)".
[28] The host specific name was given by Oshmarin (1965a) as "*nigromaculata*"; however, as this specific epiphet is not listed by Froese and Pauly (2003) or Eschmeyer (2003), we consider it a lapsus for *nigrofasciata.*
[29] The specific name was misspelled "*paracheterotentaculates*" by Parukhin (1966a, 1976).
[30] The host record given only as *Pangasius* in the text of Te (1995d), appears as *P. pangasius* in his summary table.

SUBFAMILY PROSORHYNCHINAE

Dollfustrema bagarii Moravec and Sey, 1989 (F)
Location: intestine
Host: *Bagarius bagarius*
Dist.: Ha Noi
Record: Moravec and Sey 1989b

Prosorhynchus epinepheli Yamaguti, 1939 (M)
Location: intestine
Hosts: *Epinephelus bruneus*
E. sexfasciatus
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b

Prosorhynchus vietnamensis Moravec and Sey, 1989 (F)
Location: intestine
Host: *Bagarius bagarius*
Dist.: Ha Noi
Record: Moravec and Sey 1989b

Prosorhynchus sp. (F)
Location: intestine
Hosts: *Cirrhinus molitorella*
?*Hemibagrus elongatus*
Onychostoma lepturus
Squaliobarbus curriculus
Dist.: Ha Noi
Record: Moravec and Sey 1989b

SUPERFAMILY GYMNOPHALLOIDEA

FAMILY FELLODISTOMIDAE

SUBFAMILY FELLODISTOMINAE

Complexobursa vjetnamensis Oshmarin and Mamaev, 1963 (M)
Location: intestine
Host: *Therapon theraps*
Dist.: Gulf of Tonkin
Record: Oshmarin and Mamaev 1963a

Lintonium vibex (Linton, 1900) (M)
Stunkard and Nigrelli, 1930
Location: intestine, liver
Hosts: *Abalistes stellaris* (1,4)
Aluterus monoceros (2,4)
Scomberoides lysan (3)
Scomberomorus commerson (5)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin and Chikunova 1964 (GTO); 2. Oshmarin 1965a (GTO); 3. Parukhin 1966a (SCS), 4. 1989 (GTO); 5. Lebedev 1970 (GTO)
Remarks: The life cycle of the species involves development of nonoculate trichocercous cercariae in the marine lamellibranch *Laevicardium mortoni*, with metacercariae infecting the ctenophore *Mnemiopsis leidyi* (see Schell 1985).

Plectognathotrema ovata Parukhin, 1964 (M)
Location: intestine
Host: *Aluterus monoceros*
Dist.: Gulf of Tonkin
Records: Parukhin 1964c, 1989

Pseudosteringophorus sp. (M)
Location: intestine
Host: *Ephippus orbis*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

SUBFAMILY TERGESTIINAE

Tergestia laticollis (Rudolphi, 1819) (M)
Stossich, 1899
Location: intestine
Hosts: *Alepes melanoptera* (1,2)
Caranx sp. (1,2,3,4)
Decapterus sp. (1,2)
Megalaspis cordyla (1,2)
Selar crumenophthalmus (1,2)
Selaroides leptolepis (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1976 (SCS); 3. Lebedev 1968a (SCS), 4. 1970 (GTO)

FAMILY TANDANICOLIDAE

Buckleytrema indica Gupta, 1956 (M)
Syn.: *Buckleytrema postacetabulorchis* (Oshmarin and Mamaev, 1963)
Paramonodhelmis postacetabulorchis Oshmarin and Mamaev, 1963
Location: intestine
Host: *Arius* sp.
Dist.: Gulf of Tonkin
Record: Oshmarin and Mamaev 1963b
Remarks: The synonymy follows Cribb and Bray (1994).

SUPERFAMILY AZYGIOIDEA

FAMILY AZYGIIDAE

SUBFAMILY AZYGIINAE

Azygia hwangtsiyui Tsin, 1933 (F)
Location: intestine
Hosts: *Channa maculata* (1)
C. striata (2)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Moravec and Sey 1989b (HN); 2. Te *et al.* 1991 (MRD)
Remarks: Moravec and Sey (1989b) noted that this species was reported from the same host in the unpublished dissertation synopsis of Ky (1969).

Azygia sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Records: Te 1998a; Te and Yen 1999

SUPERFAMILY HEMIUROIDEA

FAMILY ACCACOELIIDAE

SUBFAMILY ACCACOELIINAE

Tetrochetus hansoni (Parukhin, 1964) (M)
Yamaguti, 1971
Syn.: *Paratetrochetus hansoni* Parukhin, 1964
Location: intestine
Host: *Aluterus monoceros*
Dist.: Gulf of Tonkin
Records: Parukhin 1964d, 1989

FAMILY BATHYCOTYLIDAE

Bathycotyle sp. (M)
Location: gill cavity
Host: *Pampus argenteus*
Dist.: Gulf of Tonkin
Record: Lebedev 1970

FAMILY DEROGENIDAE

SUBFAMILY DEROGENINAE

Derogenes varicus (O.F. Müller, 1784) (M)
Looss, 1901
Location: stomach, intestine
Hosts: *Rachycentron canadum* (1)
Triacanthus biaculeatus (1,2)
Dist.: Gulf of Tonkin
Records: 1. Parukhin 1971, 2. 1989

Gonocercella pacifica Manter, 1940 (M)
Location: intestine
Host: *Drepane punctata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Gonocercella sp. (M)
Location: intestine
Hosts: *Atropus atropos* (1)
Scomberoides lysan (1)
Psettodes erumei (2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1967a (GTO), 3. 1989 (GTO)

SUBFAMILY GONOCERCINAE

Gonocerca sp. (M)
Location: stomach
Hosts: *Atropus atropos*
Scomberoides lysan
Dist.: South China Sea
Record: Parukhin 1976
Remarks: Digeneans reported as *Gonocerca* sp. (as "*C.* [sic] sp. larvae") in the taxonomic portion of Parukhin (1976) were apparently listed as "*Gonocercella* sp. j." in his host-parasite list.

FAMILY DICTYSARCIDAE

SUBFAMILY ALBULATREMATINAE

Elongoparorchis siamensis (Oshmarin, 1965) n. comb. (M)
Syn.: *Tetraster siamensis* Oshmarin, 1965
Location: swimbladder
Host: *Arius* sp.
Dist.: Gulf of Thailand
Record: Oshmarin 1965b

FAMILY DIDYMOZOIDAE

Didymozoon polymorphis (M)

Oshmarin and Mamaev, 1963
Location: body cavity, fins, gills, mouth cavity
Host: *Priacanthus tayenus*
Dist.: Gulf of Tonkin
Record: Oshmarin and Mamaev 1963b

Monilicaecum ventricosum Yamaguti, 1942 (M)
Location: blood vessels of gills, liver
Hosts: *Abalistes stellaris*
Psettodes erumei
Dist.: Gulf of Tonkin
Record: Parukhin 1989

Multtubovarium amphibolum Mamaev, 1970 (M)
Location: gills, head tissue
Host: *Platax orbicularis*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Neometanematobothrioides rachycentri (M)
(Parukhin, 1969) Yamaguti, 1971
Syn.: *Nematobothrium rachycentri* Parukhin, 1969
Location: body cavity, gills
Host: *Rachycentron canadum*
Dist.: Gulf of Tonkin, South China Sea
Records: Parukhin 1969 (GTO), 1971 (GTO), 1976 (SCS)

Torticaecum fenestratum (Linton, 1907) (M)
Yamaguti, 1942
Location: blood vessels of gills, wall of intestine
Hosts: *Psettodes erumei*
Triacanthus biaculeatus
Dist.: Gulf of Tonkin
Record: Parukhin 1989

Unidentified Didymozoidae

Didymozoidae gen. sp. (M)
Location: body cavity, eye sockets, gills, intestine, kidney, liver
Hosts: *Atule mate* (1)
Caranx malabaricus (1)
Echeneis naucrates (3)
Leionathidae (6)
Leiognathus equulus (6)
Psettodes erumei (2)
Rachycentron canadum (4)
Selar crumenophthalmus (1)
Seriolina nigrofasciata (1)
fish (3,5)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1967a (GTO), 3. 1967b (SCS), 4. 1971 (GTO), 5. 1976 (SCS); 6. Mamaev 1970 (GTO) [31]

FAMILY HEMIURIDAE

SUBFAMILY APHANURINAE

Aphanurus stossichi (Monticelli, 1891) (M)
Looss, 1907
Location: stomach, intestine
Hosts: *Drepane punctata* (2)
Ephippus orbis (2)
Pampus argenteus (1)
Dist.: Gulf of Tonkin
Records: 1. Lebedev 1970; 2. Mamaev 1970

SUBFAMILY DINURINAE

Allostomachicola secundus (Srivastava, 1937) (M)
Yamaguti, 1958
Location: stomach
Host: *Chirocentrus dorab*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Dinurus longisinus Looss, 1907 (M)
Location: stomach
Host: *Caranx malabaricus*
Dist.: South China Sea
Records: Parukhin 1966a, 1976

Dinurus selari Parukhin, 1966 (M)
Location: stomach, intestine
Hosts: *Atropus atropos* (2,4)
Atule mate (2,4)
Carangidae (1)
Caranx malabaricus (2,4)
Decapterus sp. (2,4)
Rachycentron canadum (3)
Selar crumenophthalmus (2,4)
Selaroides leptolepis (4)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1966c (GTO), 3. 1971 (GTO), 4. 1976 (SCS)

[31] Mamaev (1970) reported young examples of a didymozoid from the eye sockets of Leiognathidae gen. sp. possibly belonging to the genus *Nematobothrium*; "larval" didymozoids from the intestine of *Leiognathus equulus* were listed under the heading "Larval Type *Monilicaecum*."

Dinurus sp. (M)
Location: stomach
Host: *Mene maculata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ectenurus selari (Parukhin, 1966) (M)
Yamaguti, 1971
Syn.: *Magnacetabulum selari* Parukhin, 1966
Location: stomach, intestine
Hosts: *Atule mate* (2)
Carangidae (1,3)
Caranx sp. (4)
Epinephelus bruneus (5)
E. sexfasciatus (5)
E. tauvina (5)
Megalaspis cordyla (2)
Selar crumenophthalmus (2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1966c (GTO), 3. 1976 (SCS); 4. Lebedev 1970 (GTO); 5. Te 1998b (GTO)

Ectenurus theraponae Oshmarin, 1965 (M)
Location: stomach
Host: *Therapon theraps*
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Ectenurus trachuri (Yamaguti, 1934) (M)
Yamaguti, 1970
Syn.: *Magnacetabulum trachuri*
Yamaguti, 1934
Location: stomach
Hosts: Carangidae (1)
Caranx sp. (1,2)
Selar crumeophthalmus (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1968a (SCS), 2. 1970 (GTO)

Ectenurus sp. (M)
Location: stomach
Host: *Selar crumenophthalmus*
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Erilepturus formosae Reid, Coil and Kuntz, 1966 (M)
Location: stomach
Hosts: *Decapterus* sp. (1)
Dussumieria elopsoides (2)
Dist.: Gulf of Tonkin
Records: 1. Lebedev 1970; 2. Mamaev 1970

Erilepturus sp. (M)
Location: stomach
Host: Sciaenidae
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Tubulovesicula angusticauda (Nicoll, 1915) (M)
Yamaguti, 1934
Syn.: *Tubulovesicula muraenesocis*
Yamaguti, 1934
Location: stomach, intestine
Hosts: *Epinephelus merra* (1)
Rachycentron canadum (3)
Trachinocephalus sp. (2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. King 1964 (SCS); 2. Oshmarin 1965a (GTO); 3. Parukhin 1971 (GTO)

Tubulovesicula lindbergi (Layman, 1930) (M)
Yamaguti, 1934
Location: stomach
Hosts: Carangidae (2)
Echeneis naucrates (2,3)
Psettodes erumei (1,4)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1967a (GTO), 2. 1967b (SCS), 3. 1976 (SCS), 4. 1989 (GTO)

Tubulovesicula marsupialia Oshmarin, 1965 (M)
Location: intestine
Host: *Saurida tumbil*
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

SUBFAMILY ELYTROPHALLINAE

Lecithocladium apolecti Velasquez, 1962 (M)
Location: stomach, intestine
Hosts: *Ephippus orbis* (2)
Gerres filamentosus (2)
Leiognathidae (2)
Parastromateus niger (2)
Rastrelliger kanagurta (1)
Dist.: Gulf of Tonkin
Records: 1. Lebedev 1970; 2. Mamaev 1970

Lecithocladium excisiforme Cohn, 1902 (M)
Location: stomach
Hosts: *Alepes melanoptera* (1,2)
Caranx sp. (1,2,3)
Selaroides leptolepis (1,2)
Dist.: Gulf of Tonkin, South China Sea

Records: 1. Parukhin 1966a (SCS), 2. 1976 (SCS); 3. Lebedev 1970 (GTO)

Lecithocladium excisum (Rudolphi, 1819) Lühe, 1901 (M)
Location: stomach
Hosts: *Alepes melanoptera* (5)
Caranx sp. (5)
Decapterus sp. (2,3)
Sardinella sp. (4)
Selar crumenophthalmus (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Oshmarin 1965a (GTO); 2. Lebedev 1968a (SCS), 3. 1970 (GTO); 4. Mamaev 1970 (GTO); 5. Parukhin 1976 (SCS)
Remarks: The taxonomic history and host and geographic range of *Lecithocladium excisum* were reviewed by Gibson and Bray (1986), who concluded that its confirmed distribution was the Mediterranean and Black seas and the Northeast Atlantic region. These authors noted that records from the Gulf of Tonkin and South China Sea "...would be better acommodated in one of the very confused Indo-Malaysian species, such as *L. megalaspis* Yamaguti, 1953...".

Lecithocladium harpodontis Srivastava, 1937 (M)
Syn.: *Lecithocladium ilishae* Mamaev, 1970
Location: stomach
Hosts: *Atropus atropos* (1,2)
Decapterus sp. (1,2)
Dussumieria elopsoides (3)
Ilisha sp. (3)
Selar crumenophthalmus (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1976 (SCS); 3. Mamaev 1970 (GTO)
Remarks: The synonymy follows Gibson and Bray (1986).

Lecithocladium megalaspis Yamaguti, 1953 (M)
Location: stomach, intestine
Host: *Megalaspis cordyla*
Dist.: South China Sea
Records: Parukhin 1966a, 1976

Lecithocladium pampi Lebedev, 1968 (M)
Location: intestine
Host: *Pampus argenteus*
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968d (SCS), 1970 (GTO)

Lecithocladium seriolellae Manter, 1954[32] (M)
Location: stomach, intestine
Hosts: *Caranx malabaricus* (1,2)
Selar crumenophthalmus (2)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976

Lecithocladium sp. (M)
Location: stomach
Host: *Mene maculata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

SUBFAMILY HEMIURINAE

Parahemiurus clupeae Yamaguti, 1953 (M)
Location: stomach
Host: *Herklotsichthys quadrimaculata*
Dist.: South China Sea
Record: King 1964

Parahemiurus merus (Linton, 1910) Woolcock, 1935 (M)
Location: stomach, intestine
Hosts: *Atropus atropos* (1,2)
Decapterus sp. (1,2)
Sardinella sp. (3)
Scomberoides lysan (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1976 (SCS); 3. Mamaev 1970 (GTO)

SUBFAMILY LECITHOCHIRIINAE

Lecithochirium imocavum (Looss, 1907) Skrjabin and Guschankskaja, 1955 (M)
Location: stomach
Host: *Ilisha* sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lecithochirium magnaporum Manter, 1940 (M)
Location: [stomach]
Host: *Atropus atropos*
Dist.: South China Sea
Record: Parukhin 1966a
Remarks: Williams and Bunkley-Williams (1996) considered this species a synonym of

[32] The specific name was misspelled "*seriola*" by Parukhin (1976).

Lecithochrium microstomum Chandler, 1935.

Lecithochirium microstomum Chandler, 1935 (M)
Syn.: *Adinosoma microstoma* (Chandler, 1935)
Location: stomach
Host: *Atropus atropos*
Dist.: South China Sea
Records: Parukhin 1966a, 1976

Lecithochirium monticellii (Linton, 1898) (M)
Skrjabin and Guschanskaja, 1955[33]
Location: [stomach]
Hosts: *Atropus atropos* (1)
Echeneis naucrates (2)
Selar crumenophthalmus (1)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1967b

Lecithochirium sp. (M)
Location: stomach
Hosts: *Mene maculata* (2)
Seriolina nigrofasciata (1)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS); 2. Mamaev 1970 (GTO)

SUBFAMILY PLERURINAE

Plerurus digitatus (Looss, 1899) Looss, 1907 (M)
Syn.: *Plerurus carangi* Parukhin,1966
Location: stomach
Host: Carangidae
Dist.: Gulf of Tonkin, South China Sea
Records: Parukhin 1966a (SCS), 1966c (GTO), 1976 (GTO)
Remarks: The synonymy follows Bray (1990).

FAMILY HIRUDINELLIDAE

Hirudinella ventricosa (Pallas, 1774) (M)
Baird, 1853
Syn.: *Hirudinella fusca* (Bosc, 1802)
Location: stomach
Host: *Seriolina nigrofasciata*
Dist.: South China Sea
Records: Parukhin 1966a, 1976
Remarks: The synonymy follows Gibson and Bray (1977).

[33] The specific name was misspelled "*monticelli*" by Parukhin (1966a, 1967b).

FAMILY ISOPARORCHIIDAE

Isoparorchis hypselobagri (Billet, 1898) (F)
Ejsmont, 1932
Syn.: *Distomum hypselobagri* Billet, 1898
Location: intestine, swimbladder
Hosts: *Channa maculata* (2)
Mystus sp. (1)
Dist.: Cao Bang, Ha Noi
Records: 1. Billet 1898 (CB)[34]; 2. Moravec and Sey 1989b (HN)
Remarks: The role of fish in the life cycle of this species has been discussed by Bashirullah (1972) and Chandra and Banerjee (1993). Adults are found in the swimbladder of siluriform catfishes, with metacercariae occurring in the muscles of many siluriform and non-siluriform fishes. Immature flukes are found in the body cavity of *Wallago attu* and occasionally *Channa punctata*; *Isoparorchis hypselobagri* thus appears to use piscivorous fishes as paratenic hosts.

Moravec and Sey (1989b) noted that Ky (1969), in his unpublished dissertation synopsis, recorded adults of this species from *Parasilurus asotus* and "larvae" in *Ophicephalus maculatus* (syn. of *Channa maculata*). These records were given under the lapsus *"Isoparorchis pseudobagri* ."

FAMILY LECITHASTERIDAE

SUBFAMILY HYSTEROLECITHINAE

Hysterolecitha nahaensis Yamaguti, 1942 (M)
Location: stomach
Host: *Dascyllus trimaculatus*
Dist.: South China Sea
Record: King 1964

SUBFAMILY TRIFOLIOVARIINAE

Trifoliovarium triacanthi (Parukhin, 1964) (M)
Bray and Cribb, 2000
Syn.: *Hysterolecitha triacanthi* Parukhin, 1964
Location: intestine
Host: *Triacanthus biaculeatus*
Dist.: Gulf of Tonkin
Records: Parukhin 1964d, 1971, 1989
Remarks: The synonymy follows Bray and Cribb

[34] Billet (1898) reported that the host fish were collected from the Bang Giang River, in the Haut-Tonkin of French Indochina.

(2000).

SUBFAMILY LECITHASTERINAE

Aponurus carangis Yamaguti, 1952 (M)
Location: stomach, intestine
Hosts: *Decapterus* sp. (1,3)
Rachycentron canadum (2)
Selar crumenophthalmus (4)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1971 (GTO), 3. 1976 (SCS); 4. Lebedev 1970 (GTO)

Aponurus laguncula Looss, 1907 (M)
Location: stomach, intestine
Hosts: *Atropus atropos* (1,2)
Carangidae (1)
Drepane punctata (3)
Dussumieria elopsoides (3)
Ilisha sp. (3)
Leiognathus sp. (3)
Megalaspis cordyla (1,2)
Parastromateus niger (3)
Sardinella sp. (3)
Selar crumenophthalmus (1,2)
Seriolina nigrofasciata (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1976 (GTO); 3. Mamaev 1970 (GTO)

Aponurus pyriformis (Linton, 1910) (M)
Overstreet, 1973
Syn.: *Brachadena pyriformis* Linton, 1910
Location: intestine
Hosts: *Parastromateus niger*
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lecithaster stellatus Looss, 1907 (M)
Location: stomach
Host: *Seriolina nigrofasciata*
Dist.: South China Sea
Records: Parukhin 1966a, 1976

FAMILY SCLERODISTOMIDAE

SUBFAMILY PROSOGONOTREMATINAE

Prosogonotrema abalisti Parukhin, 1964 (M)
Location: stomach
Host: *Abalistes stellaris*
Dist.: Gulf of Thailand, Gulf of Tonkin
Records: Parukhin 1964c (GTO), 1989 (GTO); Parukhin and Chikunova 1964 (GTH,GTO)

Prosogonotrema bilabiatum Vigueras, 1940 (M)
Syn.: *Prosogonotrema symmetricum* Oshmarin, 1965
Location: stomach
Hosts: *Lutjanus* sp. (2)
Pristipomoides typus (1)
Dist.: Gulf of Tonkin
Records: 1. Oshmarin 1965a; 2. Parukhin 1976
Remarks: The synonymy follows Parukhin (1976).

Prosogonotrema clupeae Yamaguti, 1952 (M)
Location: stomach
Hosts: *Ephippus orbis*
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970

SUBFAMILY PROSORCHIINAE

Prosorchis chainanensis Lebedev, 1970 (M)
Location: stomach
Hosts: *Ephippus orbis* (2)
Pampus argenteus (1)
Parastromateus niger (2)
Dist.: Gulf of Tonkin
Records: 1. Lebedev 1970; 2. Mamaev 1970

Unidentified Hemiuroidea

Hemiuroidea gen. sp. (M)
Includes: Hemiurata gen. sp.
Location: intestine
Hosts: *Alectis indicus* (2)
Carangidae (2)
Gnathanodon speciosus (2)
Megalaspis cordyla (2)
Rachycentron canadum (3)
Seriolina nigrofasciata (2)
Therapon theraps (1)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Oshmarin 1965a (GTO); 2. Parukhin 1966a (SCS), 3. 1971 (GTO)

SUPERFAMILY SCHISTOSOMATOIDEA

FAMILY SANGUINICOLIDAE

Cardicola congruenta Lebedev and Mamaev, 1968 (M)
Location: blood vessels of gills
Host: *Euthynnus affinis*
Dist.: Gulf of Tonkin
Record: Lebedev and Mamaev 1968

Cardicola grandis Lebedev and Mamaev, 1968 (M)
Location: blood vessels[35]
Host: *Makaira* sp.
Dist.: Gulf of Tonkin
Records: Lebedev and Mamaev 1968; Lebedev 1970

ORDER ECHINOSTOMIDA

SUPERFAMILY ECHINOSTOMATOIDEA

FAMILY ECHINOSTOMATIDAE

SUBFAMILY ECHINOSTOMATINAE

Singhia kruinensis Lim and Furtado, 1984 (F)
Location: intestine
Hosts: *Notopterus notopterus* (1,2)
fish (3,4)
Dist.: Ha Giang, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1995d (HG), 3. 1998a (MRD); 4. Te and Yen 1999 (MRD)
Remarks: Kostadinova and Gibson (2001) recently resassigned this genus to the subfamily Echinostomatinae, tentatively retaining *Singhia kruinensis* as a valid species.

SUPERFAMILY PARAMPHISTOMOIDEA

FAMILY CLADORCHIIDAE

Amurotrema dombrowskajae Akhmerov, 1959 (F)
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Ha Noi
Records: Sey 1985 (-); Sey and Moravec 1986; Moravec and Sey 1989b; Te 1989[36]
Remarks: Sey (1985, 1986) and Moravec and Sey (1989b) noted that this species was also reported from the same host in the unpublished dissertation synopsis of Ky (1969).

Sey and Moravec (1986) reported on a case of hyperparasitism of this digenean by the larva of the nematode *Spironoura babei* Ky, 1971.

The life cycle of this species involves the mollusc *Anisus acronicus* as first intermediate host (see Gvozdev, Agapova and Belyakova 1986).

Cleptodiscus sp. (M)
Location: intestine
Host: *Triacanthus biaculeatus*
Dist.: Gulf of Tonkin
Records: Parukhin 1971, 1989

Neocladorchis multilobularis Sey, 1986 (F)
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Ha Noi
Records: Sey 1985 (-), 1986; Moravec and Sey 1989b

Platycladorchis macroacetabularis Sey, 1986 (F)
Location: intestine
Host: *Poropuntius krempfi*
Dist.: Ha Noi
Records: Sey 1985 (-), 1986; Moravec and Sey 1989b

Platycladorchis microacetabularis Sey, 1986 (F)
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Ha Noi
Records: Sey 1985 (-), 1986; Moravec and Sey 1989b

SUPERFAMILY HAPLOPOROIDEA

FAMILY HAPLOPORIDAE

Carassotrema koreanum Park, 1938 (F)
Syn.: *Carassotrema ginezinskajae* Kulakova and Ky, 1976
Location: intestine
Hosts: *Cirrhinus molitorella* (1)
Hemiculter leucisculus (2)
Saurogobio dabryi (2)
Spinibarbichthys denticulatus (1)
Squaliobarbus curriculus (2)
Dist.: Bac Kan, Ha Noi, Lao Chai
Records: 1. Kulakova and Ky 1976 (BK,LC); 2.

[35] The location, initially given as the wall of the intestine by Lebedev and Mamaev (1968), was subsequently corrected to the blood vessels by Lebedev (1970).
[36] The record of Te (1989) is based on the unpublished dissertation of Ky (1968a).

Moravec and Sey 1989b (HN)
Remarks: The synonymy follows Moravec and Sey (1989b).

Kolakova and Ky (1976) listed *Asymphylodora pavlovskajae* Ky, 1969 as a synonym of *Carassotrema koreanum*, and *A. ginezinskajae* Ky, 1969 as a synonym of *Crassotrema ginezinskajae*. However, as noted by Moravec and Sey (1989b), as these two specific names appeared in the unpublished dissertation synopsis of Ky (1969), they have no status.

ORDER PLAGIORCHIIDA

SUPERFAMILY ALLOCREADIOIDEA

FAMILY ALLOCREADIIDAE

Allocreadium isoporum (Looss, 1894) (F)
Odhner, 1901[37]
Location: intestine
Hosts: *Barbonymus gonionotus* (2)
Cyprinus carpio (1)
Dist.: Bac Ninh, Red River Delta, Mekong River Delta
Records: 1. Te 1984 (BN,RRD); 2. Te *et al*. 1991 (MRD)
Remarks: As this digenean has a Palaearctic distribution (see Gibson 1996), these records from Viet Nam probably involve misidentifications.

Allocreadium sp. (F)
Location: intestine
Hosts: *Barbonymus gonionotus* (1)
fish (2,3)
Dist.: Dong Thap, Tien Giang, Mekong River Delta
Records: 1. Te 1995d (DT,TG), 2. 1998a (MRD); 3. Te and Yen 1999 (MRD)

FAMILY OPECOELIDAE

SUBFAMILY OPECOELINAE

Coitocaecum plagiorchis Ozaki, 1926[38] (F)
Location: intestine
Hosts: *Anabas testudineus* (1,2)
fish (3,4)
Dist.: An Giang, Mekong River Delta
Records: 1. Te *et al*. 1991 (MRD); 2. Te 1995d (AG), 3. 1998a (MRD); 4. Te and Yen 1999 (MRD)

Opecoelus sphaericus Ozaki, 1925 (M)
Location: intestine
Hosts: *Ephippus orbis*
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Opecoelus sp. (M)
Location: not given
Host: *Megalaspis cordyla*
Dist.: South China Sea
Record: Parukhin 1966a

Opecoelina vixiintestina Oshmarin, 1965 (M)
Syn.: *Opecoelina vixigastera* Oshmarin, 1965
Location: stomach, intestine
Host: *Therapon theraps*
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a
Remarks: The synonymy follows Parukhin (1976).

Opegaster parapristopomatis Yamaguti, 1934 (M)
Location: intestine
Host: *Gerres filamentosus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Pseudopecoeloides carangis (M)
(Yamaguti, 1938) Yamaguti, 1940
Location: intestine
Hosts: *Alectis indicus* (1,2)
Megalaspis cordyla (1,2)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976

SUBFAMILY PLAGIOPORINAE

Allopodocotyle epinepheli (Yamaguti, 1942) (M)
Pritchard, 1966
Syn.: *Podocotyle epinepheli* Yamaguti, 1942
Location: intestine
Host: *Drepane punctata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Helicometra fasciata (Rudolphi, 1819) (M)
Odhner, 1902

[37] The specific name has been misspelled "*issoporum*" by Vietnamese authors.
[38] The specific name has been misspelled "*plageorchis*" by Vietnamese authors.

Location: intestine
Host: *Epinephelus sexfasciatus*
Dist.: Gulf of Tonkin
Record: Te 1998b

Plagioporus macrolepidotus Te, 1995 (F)
Location: intestine
Hosts: *Hampala macrolepidota* (1)
fish (2,3)
Dist.: Dong Thap, Long An, Mekong River Delta
Records: 1. Te 1995d (DT,LA), 2. 1998a (MRD); 3. Te and Yen 1999 (MRD)
Remarks: The status of this species requires re-evaluation. It is probably a species inquirenda.

Plagioporus myoxocephalus Akhmerov, 1960 (F)
Location: intestine
Host: *Hampala macrolepidota*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Podocotyloides petalophallus Yamaguti, 1934 (M)
Syn.: *Podocotyle petalophallus* (Yamaguti, 1934)
Location: intestine
Hosts: *Plectorhinchus cinctus*
Plectorhinchus sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970
Remarks: The synonymy follows Bray and Campbell (1996).

Pycnadenoides pagrosomi Yamaguti, 1938 (M)
Location: intestine
Host: Sciaenidae
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

SUBFAMILY STENAKRINAE

Neonotoporus decapteri Parukhin, 1966 (M)
Location: intestine
Host: *Decapterus* sp.
Dist.: Gulf of Tonkin, South China Sea
Records: Parukhin 1966a (SCS), 1966b (GTO)

SUPERFAMILY LEPOCREADIOIDEA

FAMILY ACANTHOCOLPIDAE

Acanthocolpus liodorus Lühe, 1906 (M)
metacercaria
Location: vitreous humour of eye
Hosts: *Ilisha* sp. (1)
Sardinella sp. (1,2)
Dist.: Gulf of Tonkin
Records: 1. Mamaev and Oshmarin 1966; 2. Mamaev 1970

Acanthocolpus liodorus Lühe, 1906 (M)
Location: stomach
Host: *Chirocentrus dorab*
Dist.: Gulf of Tonkin
Records: Mamaev and Oshmarin 1966; Mamaev 1970

Acanthocolpus luehei Srivastava, 1939 (M)
Location: stomach
Host: *Chirocentrus dorab*
Dist.: Gulf of Tonkin
Records: Mamaev and Oshmarin 1966; Mamaev 1970

Acanthocolpus orientalis Srivastava, 1939 (M)
Location: intestine
Hosts: *Seriola dumerili* (1,2)
Seriolina nigrofasciata (1,2)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976

Pleorchis sciaenae Yamaguti, 1938 (M)
Location: intestine
Host: Sciaenidae
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Stephanostomum ditrematis (Yamaguti, 1939) (M)
Manter, 1947
Location: intestine
Hosts: *Scomberoides lysan* (1,2)
Seriola dumerili (1,2)
Seriolina nigrofasciata (1,2)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976

Stephanostomum fistulariae (Yamaguti, 1940) (M)
Manter and Van Cleave, 1951
Location: intestine
Host: *Fistularia petimba*
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Stephanostomum hispidum (Yamaguti, 1934) (M)
Manter, 1940
Location: intestine
Host: *Seriolina nigrofasciata*
Dist.: South China Sea
Records: Parukhin 1966a, 1976

Stephanostomum imparispine (Linton, 1905) (M)
Manter, 1940 metacercaria
Location: body cavity, gills, inner organs, intestine
Hosts: *Abalistes stellaris* (1,2,7)
Aluterus monoceros (7)
Echeneis naucrates (2,4,6)
Psettodes erumei (2,3,7)
Rachycentron canadum (5)
Seriolina nigrofasciata (2)
Triacanthus biaculeatus (2,5,7)
fish (1,3)
Dist.: Gulf of Thailand, Gulf of Tonkin, South China Sea
Records: 1. Parukhin and Chikunova 1964 (GTH, GTO); 2. Parukhin 1966a (SCS); 3. 1967a (GTO), 4. 1967b (SCS), 5. 1971 (GTO), 6. 1976 (SCS), 7. 1989 (GTH,GTO)

Stephanostomum tenue (Linton, 1898) (M)
Linton, 1934 metacercaria
Syn.: *Stephanostomoides dorabi* Mamaev and Oshmarin, 1966
Location: gills
Host: *Sardinella* sp.
Dist: Gulf of Tonkin
Records: Mamaev and Oshmarin 1966; Mamaev 1970
Remarks: The synonymy follows Hafeezullah (1991). As *Stephanostomum tenue* is a parasite of marine and anadromous fishes of the northwestern Atlantic Ocean (see Schell 1985, Gibson 1996), its occurrence in Vietnamese fishes requires verification.

Stephanostomum tenue (Linton, 1898) (M)
Linton, 1934
Syn.: *Stephanostomoides dorabi* Mamaev and Oshmarin, 1966
Location: stomach
Host: *Chirocentrus dorab*
Dist: Gulf of Tonkin
Records: Mamaev and Oshmarin 1966; Mamaev 1970
Remarks: The synonymy follows Hafeezullah (1991). As *Stephanostomum tenue* is a parasite of marine and anadromous fishes of the Northwestern Atlantic Ocean (see Schell 1985, Gibson 1996) its occurrence in Vietnamese fishes requires verification.

Stephanostomum sp. metacercaria (F,M)
Location: gills, vitreous humour of eye, intestine
Hosts: *Cyprinus carpio* (3)
Labeo chryophekadion (3)
Psettodes erumei (2)
Sciaenidae (1)
fish (3)
Dist.: Ho Chi Minh, Gulf of Tonkin, southern Viet Nam
Records: 1. Oshmarin 1965a (GTO); 2. Parukhin 1967a (GTO); 3. Chon 1999 (HCM,SV)
Remarks: Records of this genus from freshwater fishes are probably based on misidentifications.

Stephanostomum sp. (M)
Location: intestine
Host: *Ephippus orbis*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Tormopsolus carangi Parukhin, 1976 (M)
Location: stomach, intestine
Host: *Caranx malabaricus*
Dist.: South China Sea
Record: Parukhin 1976
Remarks: Bray and Cribb (2001) noted that Parukhin's (1966a) record of "*Tormopsolus carangis*" from the same host and locality presumably refers to this species; however, it must be considered a nomen nudum.

Tormopsolus echenei Parukhin, 1966 (M)
Location: stomach, intestine
Hosts: *Echeneis naucrates* (1,2,3,4)
Psettodes erumei (2,5)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966b (GTO), 2. 1967a (GTO), 3. 1967b (SCS), 4. 1976 (SCS), 5. 1989 (GTO)
Remarks: This taxon is probably a synonym of *Echeneidocoelium indicum* Simha and Pershad, 1964 (see Bray and Cribb 1998).

Tormopsolus filiformis Sogandares-Bernal and Hutton, 1959 (M)
Syn.: *Tormopsolus rhachicentri* Parukhin, 1965[39]
Location: intestine

[39] The specific name was misspelled "*rachycentri*" by Parukhin (1971, 1976).

Hosts: *Caranx malabaricus* (3)
Rachycentron canadum (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1965a (GTO), 2. 1971 (GTO), 3. 1976 (SCS)
Remarks: The synonymy follows Hafeezullah (1991).

Tormopsolus orientalis Yamaguti, 1934 (M)
Location: stomach
Host: *Caranx malabaricus*
Dist.: Gulf of Tonkin, South China Sea
Records: Parukhin 1966a (SCS); Lebedev 1970 (GTO)

FAMILY APOCREADIIDAE

Homalometron sp. (M)
Location: intestine
Host: *Gerres filamentosus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Schistorchis skrjabini Parukhin, 1963 (M)
Location: intestine
Hosts: *Abalistes stellaris* (1,3)
Triacanthus biaculeatus (1,2,3)
Dist.: Gulf of Tonkin
Records: 1. Parukhin 1963), 2. 1971, 3. 1989

Sphincteristomum acollum (M)
Oshmarin, Mamaev and Parukhin, 1961[40]
Location: intestine
Host: *Abalistes stellaris*
Dist.: Gult of Thailand, Gulf of Tonkin
Records: Oshmarin, Mamaev and Parukhin 1961a (GTO); Parukhin and Chikunova 1964 (GTH,GTO); Parukhin 1989 (GTH,GTO)

FAMILY LEPOCREADIIDAE

SUBFAMILY AEPHNIDIOGENINAE

Aephnidiogenes barbarus Nicoll, 1915 (M)
Location: intestine
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Remarks: The subfamily Aephnidiogeninae was recently reviewed by Bray and Cribb (1997).

SUBFAMILY DIPLOPROCTODAEINAE

Diploproctia drepanei Mamaev, 1970 (M)
Location: intestine
Host: *Drepane punctata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Diploproctodaeoides longipygum (Oshmarin, Mamaev and Parukhin, 1961) Reimer, 1981 (M)
Syn.: *Diploproctodaeum longipygum* Oshmarin, Mamaev and Parukhin, 1961
Location: intestine
Host: *Abalistes stellaris*
Dist.: Gulf of Thailand, Gulf of Tonkin
Records: Oshmarin, Mamaev and Parukhin 1961a (GTO); Parukhin and Chikunova 1964 (GTH,GTO); Parukhin 1989 (GTH,GTO)

Diploproctodaeum macracetabulum Oshmarin, Mamaev and Parukhin, 1961 (M)
Location: intestine
Hosts: *Abalistes stellaris* (1,2,4)
Triacanthus biaculeatus (3,4)
Dist.: Gulf of Thailand, Gulf of Tonkin
Records: 1. Oshmarin, Mamaev and Parukhin 1961a (GTO); 2. Parukhin and Chikunova 1964 (GTH,GTO); 3. Parukhin 1971 (GTO), 4. 1989 (GTH,GTO)

Diploproctodeum plataxi Mamaev, 1970 (M)
Location: intestine
Host: *Platax orbicularis*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Diploproctodaeum rutellum (Mamaev, 1970) Bray, Cribb and Barker, 1996 (M)
Syn.: *Caecobiporum rutellum* Mamaev, 1970
Location: intestine
Hosts: *Ephippus orbis*
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970
Remarks: The synonymy follows Bray, Cribb and Barker (1996).

[40] The generic name has been occasionally misspelled "*Spincterostomum*" by Soviet authors.

SUBFAMILY LEPIDAPEDINAE

Lepidapedon megalaspi Parukhin, 1966 (M)
incertae sedis
Location: intestine
Hosts: *Caranx malabaricus* (1,2,4)
Decapterus sp. (1,4)
Megalaspis cordyla (1,2,4)
Rachycentron canadum (2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1966b (GTO), 3. 1971 (GTO), 4. 1976 (SCS)
Remarks: Bray and Gibson (1995) noted that the taxonomic position of this species is uncertain. They suggested that it may be an acanthocolpid, possibly near *Stephanostomum* Looss, 1899.

SUBFAMILY LEPOCREADIINAE

Callogonotrema fistulariae Oshmarin 1965 (M)
Location: stomach
Host: *Fistularia petimba*
Dist.: Gulf of Tonkin
Record: Oshmarin 1965b

Hypocreadium cavum Bray and Cribb, 1966 (M)
Syn.: *Pseudocreadium patellarae* [sic] of Oshmarin, 1965
P. scaphosomum of Parukhin and Chikunova, 1964
Location: intestine
Host: *Abalistes stellaris*
Dist.: Gulf of Thailand, Gulf of Tonkin
Records: Oshmarin 1965a (GTO); Parukhin and Chikunova 1964 (GTH,GTO)
Remarks: The synonymy follows Bray and Cribb (1996).

Hypocreadium scaphosomum (Manter, 1940) (M)
Syn.: *Pseudocreadium scaphosomum* Manter, 1940
Location: intestine
Hosts: *Abalistes stellaris* (2)
Aluterus monoceros (2)
Triacanthus biaculeatus (1,2)
Dist.: Gulf of Thailand, Gulf of Tonkin
Records: 1. Parukhin 1971 (GTO), 2. 1989 (GTH,GTO)
Remarks: Some or all of these records may involve *H. cavum*.

Hypocreadium sp. (M)
Syn.: *Pseudocreadium* sp. of Parukhin and Chikunova, 1964 and of Parukhin, 1989
Location: not given
Host: *Abalistes stellaris*
Dist.: Gulf of Thailand
Records: Parukhin and Chikunova 1964; Parukhin 1989
Remarks: Bray and Cribb (1996) referred *Pseudocreadium* sp. of Parukhin and Chikunova (1964) to *Hypocreadium.*

Lepocreadium sp. (M)
Location: intestine
Hosts: *Ephippus orbis* (1)
Triacanthus biaculeatus (2,3)
Dist.: Gulf of Tonkin
Records: 1. Mamaev 1970; 2. Parukhin 1971, 3. 1989

Multitestis magnacetabulum Mamaev, 1970 (M)
Location: intestine
Hosts: *Ephippus orbis*
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Opechona formiae Oshmarin, 1965 (M)
Location: stomach, intestine
Hosts: Leiognathidae (3)
Pampus argenteus (2)
Parastromateus niger (1,3)
Dist.: Gulf of Tonkin
Records: 1. Oshmarin 1965a; 2. Lebedev 1970; 3. Mamaev 1970

Trigonotrema alatum Goto and Ozaki, 1929 (M)
Location: stomach, intestine
Hosts: *Brachiostegus japonicus* (1)
Drepane longimana (2)
D. punctata (2)
Ephippus orbis (2)
Dist.: Gulf of Tonkin
Records: 1. Oshmarin 1965a; 2. Mamaev 1970
.

Unidentified Lepocreadiidae

Lepocreadiidae gen. sp. (M)
Location: intestine
Host: *Plectorhinchus cinctus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

SUPERFAMILY OPISTHORCHIOIDEA

FAMILY CRYPTOGONIMIDAE

Metadena bagarii Moravec and Sey, 1989 (F)
Location: intestne
Host: *Bagarius bagarius*
Dist.: Ha Noi
Record: Moravec and Sey 1989b

Metadena eurystoma Oshmarin, 1965 (M)
Location: intestine
Host: Sciaenidae
Dist.: Gulf of Tonkin
Record: Oshmarin 1965a

Paracryptogonimus echinostomus (Oshmarin, Mamaev and Parukhin, 1961) Yamaguti, 1971 (M)
Syn.: *Lappogonimus echinostomus* Oshmarin, Mamaev and Parukhin, 1961
Location: intestine
Host: *Pristipomoides typus*
Dist: Gulf of Tonkin
Record: Oshmarin, Mamaev and Parukhin 1961b

Paracryptogonimus morosovi (Parukhin, 1965) Yamaguti, 1971 (M)
Syn.: *Lappogonimus morosovi* Parukhin, 1965
Location: intestine
Host: *Rachycentron canadum*
Dist: Gulf of Tonkin, South China Sea
Records: Parukhin 1965b (GTO), 1971 (GTO), 1976 (SCS)

Pseudallacanthochasmus plectorhynchi Mamaev, 1970 (M)
Location: intestine
Host: *Plectorhinchus cinctus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Pseudosiphoderoides longus (Oshmarin, Mamaev and Parukhin, 1961) Yamaguti, 1971 (M)
Syn.: *Disacanthus longus* Oshmarin, Mamaev and Parukhin, 1961
Location: intestine
Host: *Pristipomoides typus*
Dist: Gulf of Tonkin
Record: Oshmarin, Mamaev and Parukhin 1961b

FAMILY HETEROPHYIDAE

Apophallus sp.[41] [metacercaria] (F)
Location: muscle
Hosts: *Channa lucius* (1,2)
fish (3,4)
Dist.: An Giang, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1995d (AG), 3. 1998a (MRD); 4. Te and Yen 1999 (MRD)

Centrocestus formosanus (Nishigori, 1924) Price, 1932 metacercaria (F)
Location: gills
Hosts: *Barbonymus gonionotus* (2)
Catla catla (2)
Cirrhinus cirrhosus (2,4)
Clarias batrachus (2)
C. macrocephalus (2)
Cyprinus carpio (1)
Labeo rohita (2,4)
Monopterus albus (2)
Oreochromis niloticus niloticus (2,3)
Osphronemus goramy (2)
fish (5)
Dist.: Bac Ninh, Red River Delta, Mekong River Delta, northern Viet Nam
Records: 1. Te 1984 (RRD); 2. Te *et al*. 1991 (MRD); 3. Te, Lua and Viet 1999 (NV); 4. Te and Ha 1999 (BN); 5. Te and Yen 1999 (MRD)

Centrocestus sp. metacercaria (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Bac Ninh
Record: Te 1984

Unidentified Heterophyidae

Heterophyidae gen. sp. metacercaria (M)
Includes: Galactosomatidae gen. sp. of Mamaev, 1970
Location: gills
Host: *Sardinella* sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

FAMILY OPISTHORCHIIDAE

[41] The generic name has occasionally been misspelled "*Apophalus*" by Vietnamese authors.

Clonorchis sinensis (Cobbold, 1875) (F)
Looss, 1907 metacercaria
Location: [musculature]
Host: *Hypophthalmichthys molitrix*
Dist.: Ninh Binh
Record: Kino *et al.* 1998
Remarks: This trematode is of zoonotic importance in parts of Southeast and East Asia where freshwater fish are eaten raw.

In northern Viet Nam, the life cycle involves snails (*Melanoides tuberculatus* and *Parafossarulus manchouricus*) as first intermediate hosts, cyprinoid fishes as second intermediate hosts, and various piscivorous mammals (e.g., cats, dogs and humans) as final hosts (Kino *et al.* 1998).

SUPERFAMILY PLAGIORCHIOIDEA

FAMILY GORGODERIDAE

Phyllodistomum carangis Manter, 1947 (M)
Location: intestine [?]
Host: *Scomberoides lysan*
Dist.: South China Sea
Records: Parukhin 1966a, 1976
Remarks: As members of the genus *Phyllodistomum* are typically parasites of the ureters and urinary bladder, the parasites may have been displaced during host dissection.

Phyllodistomum clariasi Dajia, Dingke and Xiaoming, 1986 (F)
Location: intestine
Host: *Clarias fuscus*
Dist.: Ha Noi
Record: Moravec and Sey 1989b
Remarks: The site of infection, noted as the rectum by Moravec and Sey (1989b), is unusual for members of this genus.

Phyllodistomum megalovum Oshmarin, 1965 (F)
Location: urinary bladder
Host: ?*Cranoglanis bouderius*
Dist.: Hai Phong[42]
Record: Oshmarin 1965a

Phyllodistomum notosinicum Lebedev, 1970 (M)
Location: ovary [?]
Host: *Scomberomorus* sp.
Dist.: Gulf of Tonkin
Record: Lebedev 1970
Remarks: As members of the genus *Phyllodistomum* are typically parasites of the ureters and urinary bladder, the parasites may have been displaced during host dissection.

Phyllodistomum parukhini Yamaguti, 1971 (M)
Syn.: *Phyllodistomum skrjabini* Parukhin, 1963
P. rachycentri Parukhin, 1972
Location: kidney, urinary bladder
Host: *Rachycentron canadum*
Dist.: Gulf of Tonkin
Records: Parukhin 1963, 1971
Remarks: The synonymy follows Parukhin (1976).

Parukhin (1972) created the name *Phyllodistomum rachycentri* Parukhin, 1972 for *P. skrjabini* Parukhin, 1963, as this name was preoccupied by *P. skrjabini* Pigulevsky, 1953; however, he was unaware that this taxon had already been renamed as *P. parukhini* Yamaguti, 1971.

Phyllodistomum psettodi Parukhin, 1966 (M)
Location: urinary bladder
Host: *Psettodes erumei*
Dist.: Gulf of Tonkin
Records: Parukhin 1966c, 1967a, 1989

Phyllodistomum strictum Oshmarin, 1965 (M)
Location: intestine [?]
Host: *Parastromateus niger*
Dist.: Gulf of Tonkin
Records: Oshmarin 1965a; Mamaev 1970
Remarks: As members of the genus *Phyllodistomum* are typically parasites of the ureters and urinary bladder, the parasites may have been displaced during host dissection.

Phyllodistomum sp. (F)
Location: intestine [?]
Host: *Bagarius bagarius*
Dist.: Ha Noi
Record: Moravec and Sey 1989b
Remarks: As members of the genus *Phyllodistomum* are typically parasites of the ureters and urinary bladder, the parasites may have been displaced during host dissection.

Xystretum abalisti Parukhin, 1964 (M)
Location: urinary bladder
Hosts: *Abalistes stellaris* (1,4)
Triacanthus biaculeatus (2,3)

[42] The locality, given as "Kenan" by Oshmarin (1965a), is considered to be a spelling variant of Kien An.

Dist.: Gulf of Thailand, Gulf of Tonkin
Records: 1. Parukhin 1964b (GTO), 2. 1971 (GTO), 3. 1989 (GTH,GTO); 4. Parukhin and Chikunova 1964 (GTH)

FAMILY MASENIIDAE

Masenia collata Chatterji, 1933 metacercaria (F)
Location: gills
Hosts: *Barbonymus altus* (1)
B. gonionotus (1)
Labeo rohita (1)
Osphronemus goramy (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te 1995d; 2. Te and Yen 1999

Masenia collata Chatterji, 1933 (F)
Location: intestine
Hosts: *Clarias batrachus* (2,3)
C. fuscus (1)
C. macrocephalus (2,3)
fish (4)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Moravec and Sey 1989b (HN); 2. Te *et al.* 1991 (MRD); 3. Te 1995d (MRD), 4. 1998a (MRD)

FAMILY ORIENTOCREADIIDAE

Orientocreadium batrachoides Tubangui, 1931 (F)
Location: intestine
Hosts: *Clarias batrachus* (2,4)
C. fuscus (1)
C. macrocephalus (2,4)
fish (3,5,6,7)
Dist.: Ha Noi, Mekong River Delta, southern Viet Nam
Records: 1. Moravec and Sey 1989b (HN); 2. Te *et al.* 1991 (MRD); 3. Te 1993b (MRD), 4. 1995d (MRD), 5. 1998a (MRD); 6. Te and Yen 1999 (MRD); 7. Chon 1999 (SV)
Remarks: The life cycle of this trematode was studied experimentally by Sirikantayakul (1985). In the Philippines, the snail *Lymnaea viridis* serves as both the first intermediate and the primary second intermediate host. A few metacercariae were also recovered from catfish (*Clarias macrocephalus*) and tilapia (*Oreochromis mossambicus*) fry and other aquatic organisms expermentally exposed to newly emerged cercariae.

Orientocreadium siluri (Dubinina and Bykhovsky, 1954) Yamaguti, 1958 (F)
Location: intestine
Host: *Hemibagrus nemurus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Orientocreadium sp. (F)
Location: intestine
Hosts: *Anabas testudineus* (1)
Hemibagrus nemurus (1)
fish (2,3)
Dist.: Dong Thap, Tien Giang, Mekong River Delta
Records: 1. Te 1995d (DT,TG), 2. 1998a (MRD); 3. Te and Yen 1999 (MRD)

SUPERFAMILY ZOOGONOIDEA

FAMILY FAUSTULIDAE

Bacciger bacciger (Rudolphi, 1819) Nicoll, 1914 (F)
Location: intestine
Hosts: *Ompok bimaculatus*
Wallago attu
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Bacciger sp. (F)
Location: intestine
Hosts: *Ompok bimaculatus* (1)
Wallago attu (1)
fish (2,3)
Dist.: An Giang, Dong Thap, Tien Giang, Mekong River Delta
Records: 1. Te 1995d (AG,DT,TG), 2. 1998a (MRD); 3. Te and Yen 1999 (MRD)

Paradiscogaster drepanei Mamaev, 1970 (M)
Location: intestine
Hosts: *Drepane longimana*
D. punctata
Dist.: Gulf of Tonkin
Record: Mamaev 1970

FAMILY MONORCHIIDAE

Huridostomum formionis Mamaev, 1970 (M)
Location: intestine
Host: *Parastromateus niger*
Dist.: Gulf of Tonkin

Record: Mamaev 1970

Hurleytrematoides chaetodoni (Manter, 1942) (M)
Yamaguti, 1954
Location: intestine
Host: *Chaetodon* sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lasiotocus cacuminatus (Nicoll, 1915) (M)
Thomas, 1959
Syn.: *Genolopa cacuminata* Nicoll, 1915
Location: stomach, intestine
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Records: Oshmarin 1965a; Mamaev 1970

Lasiotocus chaetodipteri Thomas, 1959 (M)
Location: stomach, intestine
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lasiotocus cryptastoma (Oshmarin, 1965) (M)
Mamaev, 1970[43]
Syn.: *Proctotrema cryptastoma* Oshmarin, 1965
Location: stomach, intestine
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lasiotocus macrorchis (Yamaguti, 1934) (M)
Yamaguti, 1954
Location: intestine
Hosts: *Plectorhinchus cinctus*
Plectorhinchus sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lasiotocus plectorhynchi (Yamaguti, 1934) (M)
Yamaguti, 1954
Location: intestine
Hosts: *Plectorhinchus cinctus*
Plectorhinchus sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lasiotocus tropicus (Manter, 1940) (M)
Bartoli and Bray, 2004
Syn.: *Telolecithus tropicus* Manter, 1940[44]
Location: intestine
Hosts: *Caranx malabaricus* (2)
Megalaspis cordyla (1,2)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1976
Remarks: The synonymy follows Bartoli and Bray (2004).

Leiomonorchis leiognathi Mamaev, 1970 (M)
Location: intestine
Hosts: Leiognathidae
Leiognathus equulus
Parastromateus niger
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Longimonorchis ovacutus Mamaev, 1970 (M)
Location: intestine
Host: *Parastromateus niger*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Monorchis diplovarium Mamaev, 1970 (M)
Location: intestine
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Opisthomonorcheides decapteri (M)
Parukhin, 1966
Location: intestine
Hosts: *Atule mate* (1,2,3)
Decapterus sp. (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1966b (GTO), 3. 1976 (SCS)

Opisthomonorchis carangis Yamaguti, 1952 (M)
Location: stomach, intestine
Hosts: Carangidae (1,2)
Caranx malabaricus (1,2,3,4)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1976 (SCS); 3. Lebedev 1968a (SCS), 4. 1970 (GTO)

Proctotrema sp. (M)

[43] In the original description of this species by Oshmarin (1965a), the species name was first spelled "*cryptastoma*" and later, in the caption to Figure 23, given as "*cryptostoma*". Mamaev (1970) used the latter spelling in his report.

[44] The generic name was misspelled "*Thelolecithus"* by Parukhin (1966a, 1976).

Location: stomach, intestine
Hosts: *Pomadasys hasta* (1)
Selar crumenophthalmus (2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Oshmarin 1965a (GTO); 2. Parukhin 1966a (SCS), 3. 1976 (SCS)

Unidentified Digenea

Digenea gen. sp. adult and metacercaria (F,M)
Includes: Trematoda auctorum
Location: body cavity, vitreous humour of eye, muscle, stomach, intestine
Hosts: *Alectis indicus* (1)
Alepes melanoptera (1)
Atropus atropos (1)
A. oreolatus (1)
Atule mate (1)
Carangidae (1)
Carangoides chrysophrys (1)
Caranx malabaricus (1,2)
Caranx sp. (1,2,3)
Clarias macrocephalus (4)
Decapterus sp. (1)
Echeneis naucrates (1)
Gnathanodon speciosus (1)
Megalaspis cordyla (1,2)
Psettodes erumei (1)
Rachycentron canadum (1)
Scomberoides lysan (2)
Selar crumenophthalmus (1,2)
Selaroides leptolepis (1)
Seriola dumerili (1)
Seriolina nigrofasciata (1)
Trichogaster pectoralis (4)
` grouper (5,6)
fish (4)
Dist.: Mekong River Delta, Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1966a (SCS), 3. 1976 (SCS); 4. Te 1993b (MRD); 5. NACA/FAO 1999a (-), 6. 1999b (-)

CLASS MONOGENOIDEA[45]

SUBCLASS POLYONCHOINEA

ORDER CAPSALIDEA

FAMILY CAPSALIDAE

Benedenia epinepheli (Yamaguti, 1937) (M)
Meserve, 1938
Location: gills, eyes, mouth, skin
Hosts: *Epinephelus bruneus*
E. sexfasciatus
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b

Benedenia sp. (M)
Location: skin
Hosts: *Epinephelus bruneus*
E. sexfasciatus
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b

Encotyllabe spari Yamaguti, 1934 (M)
Location: gills
Hosts: *Gymnocranius griseus*
Plectorhinchus sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Megalocotyle lutiani Lebedev, 1970 (M)
Location: gills
Host: *Lutjanus lutjanus*
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Sessilorbis limopharynx Mamaev, 1970 (M)
Location: gills
Host: *Platax orbicularis*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Sprostoniella multitestis Bykhovsky and Nagibina, 1967 (M)
Location: gills
Host: *Platax orbicularis*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

ORDER GYRODACTYLIDEA

FAMILY GYRODACTYLIDAE

Gyrodactylus ctenopharyngodontis Lin, in Gusev, 1962 (F)
Location: [skin]
Host: fish

[45] There has been considerable debate concerning whether the correct name for this class is the Monogenea or the Monogenoidea (see Boeger and Kritsky 1993, 2001; Wheeler and Chisholm 1995).

Dist.: southern Viet Nam
Record: Chon 1999

Gyrodactylus fusci Ky, 1968[46] (F)
Location: gills, skin
Hosts: *Clarias batrachus* (5)
C. fuscus (1)
C. macrocephalus (2,5)
Clarias sp. (4)
fish (3,4,6)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1968b (HN); 2. Te 1989 (MRD), 3. 1993b (MRD), 4. 1998a (MRD)[47]; 5. Te *et al.* 1991 (MRD); 6. Te and Yen 1999 (MRD)

Gyrodactylus maculati Ky, 1968 (F)
Location: skin
Hosts: *Channa maculata* (1)
fish (2)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1968b (HN); 2. Te 1993b (MRD)

Gyrodactylus medius Kathariner, 1895 (F)
Location: gills, skin
Hosts: *Cyprinus carpio* (2)
Hypophthalmichthys harmandi (1)
Dist.: Bac Ninh, Red River Delta
Records: 1. Ky 1968b (BN)[48]; 2. Te 1984 (RRD)

Gyrodactylus niloticus Cone, Arthur and Bondad-Reantaso, 1995 (F)
Location: gills, skin
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991
Remarks: This species was probably introduced to Viet Nam with the Nile tilapia.

Gyrodactylus ophiocephali Gusev, 1955 (F)
Location: gills, skin
Hosts: *Channa micropeltes* (1)
C. striata (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1998a; 4. Te and Yen 1999

Gyrodactylus sprostonae Lin, 1962 (F)
Location: gills, skin
Host: *Oreochromis niloticus niloticus*
Dist.: northern Viet Nam
Record: Te, Lua and Viet 1999

Gyrodactylus squaliobarbi Lin, 1962 (F)
Location: gills, skin
Hosts: *Barbonymus gonionotus*
Helostoma temminckii
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Gyrodactylus sp. (F)
Location: gills, skin
Hosts: *Cyprinus carpio* (4)
fish (1,2,3)
Dist.: Binh Duong, Mekong River Delta
Records: 1. Te 1993a (-), 2. 1993b (MRD); 3. Le Van Khoa 1999 (-); 4. Chon 1999 (BD)

FAMILY TETRAONCHOIDIDAE

Paratetraonchoides inermis Bykhovsky, Gusev and Nagibina, 1965 (M)
Location: gills
Host: *Ichthyscopus lebeck lebeck*
Dist.: Gulf of Tonkin
Record: Bykhovsky, Gusev and Nagibina 1965

Pavlovskioides ichthyoscopi Bykhovsky, Gusev and Nagibina, 1965 (M)
Location: gills
Host: *Ichthyscopus lebeck lebeck*
Dist.: Gulf of Tonkin
Record: Bykhovsky *et al.* 1965

Pavlovskioides litoralis Bykhovsky, Gusev and Nagibina, 1965 (M)
Location: gills
Host: *Trachinocephalus myops*
Dist.: Gulf of Tonkin
Record: Bykhovsky, Gusev and Nagibina 1965

Pseudotetraonchoides bleekeriae Bykhovsky, Gusev and Nagibina, 1965 (M)
Location: gills
Host: *Bleekeria viridianguilla*

[46] The specific name has occasionally been misspelled "*fucus*" by Vietnamese authors.
[47] Te (1998a) recorded *Gyrodactylus fusci* and *Quadriacanthus kobiensis* from catfish (*Clarias batrachus* and *C. macrocephalus*), but did not indicate if both species were found on both hosts.
[48] Tentative parasite identification (as "*Gyrodactylus medius* (?)...".

Dist.: Gulf of Tonkin
Record: Bykhovsky, Gusev and Nagibina 1965

ORDER DACTYLOGYRIDEA

SUBORDER DACTYLOGYRINEA

FAMILY DACTYLOGYRIDAE

Ancyrocephalus bilobatus Yamaguti, 1953 (M)
Location: gills
Hosts: *Drepane longimana*
D. punctata
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ancyrocephalus macrogaster Yamaguti, 1953 (M)
Location: gills
Host: *Gerres filamentosus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ancyrocephalus parspinicirrus Mamaev, 1970 (M)
Location: gills
Host: *Drepane punctata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ancyrocephalus scapulasser Mamaev, 1970 (M)
Location: gills
Host: *Gerres filamentosus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ancyrocephalus spinicirrus Yamaguti, 1953 (M)
Location: gills
Host: *Drepane punctata*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ancyrocephalus unicirrus Tripathi, 1959 (M)
Location: gills
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Ancyrocephalus sp. (F)
Location: gills
Hosts: *Plotosus canius* (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1993b, 3. 1998a; 4. Te and Yen 1999
Remarks: In his summary and conclusions, Te (1998b) listed *Ancyrocephalus* sp. from groupers of Ha Long Bay, however, in his Table 3 and elsewhere in the text, this material was identified as *Haliotrema* sp. We have listed these records under the latter genus.

Bychowskyella pseudobagi Akhmerov, 1952 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Records: Te 1993b, 1998a

Bychowskyella tchangi Gusev, 1976 (F)
Location: gills
Hosts: *Clarias macrocephalus* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te and Yen 1999

Cichlidogyrus sclerosus Paperna and Thurston, 1969 (F)
Location: gills
Hosts: *Oreochromis niloticus niloticus* (1,4)
Oreochromis sp. (1)
fish (2,3,5,6)
Dist.: Mekong River Delta, northern Viet Nam, southern Viet Nam
Records: 1. Te *et al*. 1991 (MRD); 2. Te 1993b (MRD); 3. 1998a (MRD); 4. Te, Lua and Viet 1999 (NV); 5. Te and Yen 1999 (MRD); 6. Chon 1999 (SV)
Remarks: This monogenean was introduced to Viet Nam along with the importation of tilapias.

Cichlidogyrus tilapiae Paperna, 1960 (F)
Location: gills
Hosts: *Oreochromis niloticus niloticus* (1,2)
Oreochromis sp. (1)
fish (3)
Dist.: Mekong River Delta, northern Viet Nam
Records: 1. Te *et al*. 1991 (MRD); 2. Te, Lua and Viet 1999 (NV); 3. Te and Yen 1999 (MRD)
Remarks: This monogenean was introduced to Viet Nam along with the importation of tilapias.

Cichlidogyrus sp. (F)
Location: [gills]
Hosts: *Oreochromis* sp. (1)
fish (1,2)

Dist.: Mekong River Delta
Records: 1. Te 1993b, 2. 1998a
Remarks: This genus was introduced to Viet Nam along with the importation of tilapias.

Cornudiscoides malayensis Lim, 1987 (F)
Location: gills
Hosts: *Hemibagrus nemurus* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1998a

Cornudiscoides sundanensis Lim, 1987 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te 1998a

Dactylogyrus achmerowi Gusev, 1955 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Dactylogyrus anchoratus (Dujardin, 1845) (F)
Wagener, 1857
Location: gills
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Dactylogyrus babensis Ky, 1971 (F)
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Ha Noi, Lao Cai
Record: Ky 1971a

Dactylogyrus bakanensis Ky, 1971 (F)
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Ha Noi, Lao Cai
Record: Ky 1971a

Dactylogyrus cranoglanis Gusev, 1966 (F)
Location: gills
Host: ?*Cranoglanis bouderius*
Dist.: Sichuan River basin, Vietnamese-Chinese border
Record: Gusev 1966

Dactylogyrus curriculi Ky, 1971 (F)
Location: gills
Host: *Squaliobarbus curriculus*
Dist.: Hai Phong
Record: Ky 1971a

Dactylogyrus denticulati Ky, 1971 (F)
Location: gills
Host: *Spinibarbichthys denticulatus*
Dist.: Bac Kan, Lao Cai
Record: Ky 1971a

Dactylogyrus extensis Mueller and Van Cleave, 1932 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Dactylogyrus falciformis Akhmerov, 1952 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Dactylogyrus harmandi Ky, 1971 (F)
Location: gills
Hosts: *Hypophthalmichthys harmandi* (2)
H. molitrix (1)
Dist.: Ha Bac, Ha Noi, Hai Phong, northern Viet Nam
Records: 1. Ky 1971a (HN,HB,HP); 2. 1989 (NV)[49]

Dactylogyrus intermedius Wegener, 1910 (F)
Location: gills
Host: *Carassius auratus auratus*
Dist.: northern Viet Nam
Record: Te 1989[50]

Dactylogyrus kalyanensis Musselius and Gusev, in Gusev, 1976 (F)
Location: gills
Host: *Catla catla*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

[49] The record of Te (1989) is based on the unpublished dissertation synopsis of Ky (1969).
[50] This record is based on the unpublished dissertation synopsis of Ky (1969).

Dactylogyrus kanchanaburiensis Chinabut and Lim, 1993 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Dactylogyrus labei Musselius and Gusev, in Gusev, 1976 (F)
Location: gills
Hosts: *Labeo rohita* (1,4,5)
fish (2,3,6)
Dist.: Bac Ninh, Mekong River Delta
Records: 1. Te 1989 (MRD), 2. 1993b (MRD), 3. 1998a (MRD); 4. Te *et al.* 1991 (MRD); 5. Te and Ha 1999 (BN); 6. Te and Yen 1999 (MRD)

Dactylogyrus lamellatus Akhmerov, 1952 (F)
Location: gills
Host: *Ctenopharyngodon idellus*
Dist.: northern Viet Nam
Record: Te 1989[51]

Dactylogyrus lampam Lim, 1992 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Dactylogyrus laokajensis Ky, 1971 (F)
Location: gills
Host: *Bangana tonkinensis*
Dist.: Lao Cai
Record: Ky 1971a

Dactylogyrus minutus Kulwiec, 1927 (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Bac Ninh, Red River Delta, northern Viet Nam
Records: Te 1984 (BN, RRD), 1989 (NV)[52]

Dactylogyrus molitorelli Ky, 1971 (F)
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Ha Noi, Lao Cai
Record: Ky 1971a

[51] This record is based on the unpublished dissertation synopsis of Ky (1969).
[52] The record of Te (1989) is based on the unpublished dissertation synopsis of Ky (1969).

Dactylogyrus nobilis Long and Yu, 1958 (F)
Location: gills
Host: *Aristichthys nobilis*
Dist.: northern Viet Nam
Record: Te 1989[53]

Dactylogyrus pseudospyrna Chinabut and Lim, 1993 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Dactylogyrus quangfami Ky, 1971 (F)
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Ha Noi, Lao Cai
Record: Ky 1971a

Dactylogyrus siamensis Chinabut and Lim, 1993 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Dactylogyrus spinibarbichthi Ky, 1971 (F)
Location: gills
Host: *Spinibarbichthys denticulatus*
Dist.: Bac Kan, Lao Cai
Record: Ky 1971a

Dactylogyrus tapienensis Chinabut and Lim, 1993 (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Dactylogyrus tonguthaiae Chinabut and Lim, 1993[54] (F)
Location: [gills]

[53] This record is based on the unpublished dissertation synopsis of Ky (1969).
[54] The specific name was originally spelled "*tonguthaii*" by Chinabut and Lim (1993), however, as the species was named for a woman (Dr Kamonporn Tonguthai), the spelling is corrected to "*tonguthaiae*" (see the International Code of Zoological Nomenclature, Article 31.1.2 – dealing with an incorrect original spelling of a specific name which contravenes a provision of Articles 26 to 34.)

Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Dactylogyrus tonkinensis Ky, 1971 (F)
Location: gills
Host: *Bangana tonkinensis*
Dist.: Lao Cai
Record: Ky 1971a

Dactylogyrus uyeni Ky, 1971 (F)
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Ha Noi, Lao Cai
Record: Ky 1971a

Dactylogyrus viticulus Chinabut and Lim, 1993 (F)
Location: gills
Hosts: *Barbonymus altus* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te and Yen 1999

Dactylogyrus yogendrai Gusev and Musselius, in Gusev, 1976 (F)
Location: gills
Hosts: *Cirrhinus cirrhosus* (1,2)
fish (3)
Dist.: Bac Ninh, Mekong River Delta
Records: 1. Te *et al.* 1991 (MRD); 2. Te and Ha 1999 (BN); 3. Te and Yen 1999 (MRD)

Dactylogyrus zoanyngi Ky, 1971 (F)
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Bac Kan, Ha Noi, Lao Cai
Record: Ky 1971a

Dactylogyrus sp. (F)
Location: gills
Hosts: *Aristichthys nobilis* (7)
Barbonymus altus (1,4)
B. gonionotus (1,4)
Cirrhinus jullieni (4)
Cirrhinus sp. (7)
Ctenopharyngodon idellus (7)
Cyprinus carpio (7)
Hampala macrolepidota (4)
Hypophthalmichthys sp. (7)
Labiobarbus leptocheila (4)
Leptobarbus hoevenii (1,4)
Osteochilus melanopleurus (4)
Pangasius hypophthalmus (8)
Puntiorplites proctozysron (4)
Puntius brevis (4)
Ca ong tien (7)
fish (2,3,4,5,6,7)
Dist.: An Giang, Binh Duong, Can Tho, Ho Chi Minh, Mekong River Delta, southern Viet Nam
Records: 1. Te 1989 (MRD), 2. 1993b (MRD), 3. 1998a (MRD); 4. Te *et al.* 1991 (MRD); 5. Le Van Khoa 1999 (-); 6. Te and Yen 1999 (MRD); 7. Chon 1999 (AG,BD,HCM,SV); 8. Dung and Crumlish 2001 (CT)

Haliotrema sp. (M)
Location: gills
Hosts: *Epinephelus bruneus*
E. sexfasciatus
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b[55]

Heteronchocleidus sp. (F)
Location: gills
Hosts: *Anabas testudineus* (1)
Channa striata (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993b

Ligophorus macrocolpos Euzet and Suriano, 1983 (F)
Location: gills
Hosts: *Mugil cephalus* (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: Te *et al.* 1991; 2. Te 1993b, 3. 1998a; 4. Te and Yen 1999

Malayanodiscoides bihamuli Lim and Furtado, 1986 (F)
Location: gills
Hosts: *Notopterus notopterus* (1)
fish (2,3)
Dist.: Mekong River Delta
Records: Te *et al.* 1991; 2. Te 1998a; 3. Te and Yen 1999

Notopterodiscoides sp. (F)

[55] This material was listed as *Ancyrocephalus* sp. in the summary and conclusions of Te (1998b). Its recording as *Haliotrema* sp. was given in Table 3 and elsewhere in the text.

Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1998a

Quadriacanthus kobiensis Ky, 1968[56] (F)
Location: gills
Hosts: *Clarias batrachus* (2,5)
C. fuscus (1)
C. macrocephalus (2,5)
Clarias sp. (4)
fish (3,4,6)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1968b (HN); 2. Te 1989 (MRD), 3. 1993b (MRD), 4. 1998a (MRD)[57]; 5. Te *et al.* 1991 (MRD); 6. Te and Yen 1999 (MRD)

Pseudodactylogyrus sp. (F)
Location: gills
Hosts: *Oxyeleotris marmorata* (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1998a; 3. Te and Yen 1999

Thaparocleidus caecus (Mizelle and Kritsky, 1969) Lim, 1996 (F)
Syn.: *Silurodiscoides caecus* (Mizelle and Kritsky, 1969)
Location: gills
Hosts: *Pangasius bocourti* (1)
P. hypophthalmus (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te and Yen 1999
Remarks: The synonymy follows Lim (1996), who provided a summary of the genus.

Thaparocleidus notopterus (Jain, 1955) Lim, 1996[58] (F)
Syn.: *Ancyrocephalus notopterus* (Jain, 1955)
Silurodiscoides notopterus (Jain, 1955)
Location: gills
Hosts: *Notopterus notopterus* (1,4)
fish (2,3,5)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993b, 3. Te 1998a; 4. Te *et al.* 1991; 5. Te and Yen 1999

Thaparocleidus pangasi (Tripathi, 1959) Lim, 1996 (F)
Syn.: *Silurodiscoides pangasi* (Tripathi, 1959)
Location: gills
Hosts: *Pangasius bocourti* (1)
P. conchophilus (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te and Yen 1999

Thaparocleidus siamensis (Lim, 1990) Lim, 1996 (F)
Syn.: *Silurodiscoides siamensis* Lim, 1990
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

Thaparocleidus sudhakari (Gusev, 1976) Lim, 1996 (F)
Syn.: *Silurodiscoides sudhakari* Gusev, 1976
Location: gills
Hosts: *Wallago attu* (1,4)
fish (2,3,5)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993b, 3. 1998a; 4. Te *et al*. 1991; 5. Te and Yen 1999

Thaparocleidus wallagonius Jain, 1952 (F)
Syn.: *Silurodiscoides wallagonius* (Jain, 1952)
Location: gills
Hosts: *Wallago attu* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te and Yen 1999

Thaparocleidus sp. (F)
Syn.: *Silurodiscoides* sp.
Location: gills
Hosts: *Notopterus notopterus* (5)
Ompok bimaculatus (5)
Pangasius bocourti (5)
P. conchophilus (5)
P. hypophthalmus (5)
P. larnaudii (5)
P. micronemus (1)
P. pangasius (1)
fish (2,3,4,6)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993a (-), 3. 1993b, 4. 1998a; 5. Te *et al*. 1991; 6. Te and Yen 1999

[56] Vietnamese authors have misspelled the generic name as "*Quadricanthus*" and "*Quadriiacanthus*".
[57] Te (1998a) recorded *Quadriacanthus kobiensis* and *Gyrodactylus fusci* from catfish (*Clarias batrachus* and *C. macrocephalus*), but did not indicate if both species were found on both hosts.
[58] The specific name was misspelled "*notopteri*" by all authors.

Trianchoratus gussevi Lim, 1986 (F)
Location: gills
Hosts: *Anabas testudineus* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

Trianchoratus ophicephali Lim, 1986[59] (F)
Location: gills
Hosts: *Channa striata* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995, 3. 1998a; 4. Te and Yen 1999

Trianchoratus pahangensis Lim, 1986 (F)
Location: gills
Hosts: *Channa lucius* (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

Trianchoratus trichogasterium Lim, 1986[60] (F)
Location: gills
Hosts: *Trichogaster trichopterus* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

Unidentified Dactylogyridae

Dactylogyridae gen. sp. (F)
Includes: Ancyrocephalidae gen. sp.
Ancylodiscoidinae gen. sp.
Location: gills
Hosts: *Aristichthys nobilis* (1)
Carassius auratus auratus (1)
Cirrhinus moliterella (1)
Ctenopharyngodon idellus (1)
Cyprinus carpio (1)
Hypophthalmichthys sp. (1)
Notopterus notopterus (2)
fish (3)
Dist.: Ha Noi, Mekong River Delta
Records: 1, Ky 1975 (HN); 2. Te *et al.* 1991 (MRD); 3. Te and Yen 1999 (MRD)

FAMILY DIPLECTANIDAE

Diplectanum hargisi Oliver and Paperna, 1984 (M)
Location: gills
Hosts: *Epinephelus bruneus*
E. sexfasciatus
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b
Remarks: This species probably belongs to the genus *Pseudorhabdosynochus* (D.C. Kritsky, pers. comm.).

Diplectanum sp. (M)
Location: gills
Host: *Plectorhinchus cinctus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Pseudorhabdosynochus cupatum (Young, 1969) Kritsky and Beverley-Burton, 1986 (M)
Syn.: *Cycloplectanum cupatum* (Young, 1969)
Location: gills
Host: *Epinephelus sexfasciatus*
Dist.: Gulf of Tonkin
Record: Te 1998b
Remarks: The synonymy follows Kritsky and Beverley-Burton (1986).

Pseudorhabdosynochus epinepheli (Yamaguti, 1938) Kritsky and Beverley-Burton, 1986 (M)
Location: gills
Hosts: *Epinephelus bruneus*
E. tauvina
Dist.: Gulf of Tonkin
Record: Te 1998b

SUBORDER TETRAONCHINEA

FAMILY SUNDANONCHIDAE

Sundanonchus foliaceus Lim and Furtado, 1985[61] (F)
Location: gills
Hosts: *Channa micropeltes* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

[59] The specific name has been misspelled "*ophiocephali*" and "*ophiocephalis*" by Vietnamese authors.
[60] The specific name was misspelled "*trigasterium*" by Te and Yen (1999).
[61] The specific name has often been misspelled "*foliacens*" by Vietnamese authors.

Sundanonchus micropeltis Lim and Furtado, 1985 (F)
Location: gills
Hosts: *Channa micropeltes* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

Sundanonchus triradicatus Lim and Furtado, 1985[62] (F)
Location: gills
Hosts: *Pristolepis fasciata* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

Sundanonchus sp. (F)
Location: gills
Hosts: *Channa micropeltes* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995a, 3. 1998a; 4. Te and Yen 1999

FAMILY TETRAONCHIDAE

Tetraonchus sp. (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b
Remarks: As members of this genus are typically parasites of Salmoniformes (Salmonidae and Esocidae) in temperate latitudes, this record probably involves a misidentification.

SUBCLASS HETERONCHOINEA

INFRASUBCLASS OLIGONCHOINEA

ORDER MAZOCRAEIDEA

FAMILY ALLODISCOCOTYLIDAE

Allodiscocotyla chorinemi Yamaguti, 1953 (M)
Location: gills
Hosts: *Caranx* sp. (1,2,3)
Decapterus sp. (1,2,3)
Scomberoides lysan (2,3)
Dist.: Gulf of Tonkin; South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

Allodiscocotyla diacanthi Unnithan, 1962 (M)
Location: gills
Host: *Decapterus* sp.
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1970 (GTO); Lebedev *et al.* 1970 (GTO); Parukhin 1976 (SCS)

FAMILY ANTHOCOTYLIDAE

Triglicola tonkinensis Mamaev and Parukhin, 1972 (M)
Location: gills
Host: *Lepidotrygla* sp.
Dist.: Gulf of Tonkin
Records: Mamaev and Parukhin 1972; Parukhin 1989

Vallisia chorinemi Yamaguti, 1953 (M)
Location: gills
Hosts: *Scomberoides lysan* (2,3)
Selar crumenophthalmus (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

FAMILY GASTROCOTYLIDAE

Cathucotyle cathuaui Lebedev, 1968 (M)
Location: gills
Hosts: *Scomberomorus commerson* (1,2)
S. guttatus (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1968b (SCS), 2. 1970 (GTO)

Dawesia incisa Lebedev, 1970 (M)
Location: gills
Hosts: Scombridae
Scomberomorus commerson
S. guttatus
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Gastrocotyle trachuri Beneden and Hesse, 1863 (M)

[62] The specific name was misspelled "*triadicathus*" by Te and Yen (1999).

Location: gills
Hosts: *Decapterus* sp. (1,2,3)
Selar crumenophthalmus (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

Gastrocotyle sp. (M)
Location: gills
Hosts: *Alectis indicus* (2,3)
Decapterus sp. (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

Pseudaxine trachuri Perona and Perugia, 1890 (M)
Location: gills
Hosts: *Caranx malabaricus* (1,2,3)
Caranx sp. (1,2,3)
Decapterus sp. (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

Pseudaxine sp. (M)
Location: gills
Hosts: *Alectis indicus* (1)
Caranx sp. (1,2)
Decapterus muroadsi (1)
Decapterus sp. (1,2)
Dist.: Gulf of Tonkin; South China Sea
Records: 1. Lebedev *et al.* 1970 (GTO); 2. Parukhin 1976 (SCS)

Pseudaxinoides vietnamensis (M)
Lebedev, Parukhin and Roytman, 1970
Location: gills
Hosts: *Caranx* sp. (1,2,3)
Decapterus sp. (1,2,3)
Selar crumenophthalmus (1,2,3)
Selaroides leptolepis (1,2,3)
Seriola dumerili (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

FAMILY GOTOCOTYLIDAE

Gotocotyla laticauda Lebedev, 1970 (M)
Location: gills
Host: *Scomberomorus commerson*
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Gotocotyla secunda (Tripathi, 1956) (M)
Yamaguti, 1963
Location: gills
Host*: Scomberomorus guttatus*
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Pricea multae Chauhan, 1945 (M)
Location: gills
Hosts: Scombridae
Scomberomorus commerson
S. guttatus
Dist.: Gulf of Tonkin
Record: Lebedev 1970

FAMILY PROTOMICROCOTYLIDAE

Bilaterocotyloides carangis (M)
Ramalingam, 1961
Location: gills
Hosts: Carangidae (1,2)
Megalaspis cordyla (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

SUBORDER DISCOCOTYLINEA

FAMILY DIPLOZOIDAE

Diplozoon sp. (F)
Location: [gills]
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

Eudiplozoon nipponicum (Goto, 1891) (F)
Khotenovsky, 1985
Location: gills
Hosts: *Barbonymus altus* (2)
?*Carassius gibelio* (1)
Cyprinus rubrofuscus (1)
Leptobarbus hoevenii (2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Khotenovsky 1985 (-); 2. Te *et al.* 1991; 3. Te 1998a; 4. Te and Yen 1999

Paradiplozoon doi (Ky, 1971) (F)
Khotenovsky, 1985
Syn.: *Diplozoon doi* Ky, 1971
Sindiplozoon doi (Ky, 1971)
Location: gills
Hosts: *Carassius auratus auratus* (1)
?*C. gibelio* (3)
Cirrhinus molitorella (1,3)
Cultrichthys erythropterus (3)
Cyprinus carpio (2)
Elopichthys bambusa (3)
Hemiculter leucisculus (3)
Hypophthalmichthys harmandi (1,3)
H. molitrix (3)
Squaliobarbus curriculus (1,3)
Squaliobarbus sp. (3)
Dist.: Bac Ninh, Ha Bac, Ha Noi, Hai Phong, Red River Delta
Records: 1. Ky 1971a (HB,HN,HP); 2. Te 1984 (BN,RRD); 3. Khotenovsky 1985 (-)

Paradiplozoon vietnamicum (F)
Khotenovsky, 1982
Location: gills
Host: *Cirrhinus molitorella*
Dist.: Ha Noi, Hai Phong[63]
Records: Khotenovsky 1982, 1985

SUBORDER MICROCOTYLINEA

FAMILY AXINIDAE

Allopseudaxine macrova (Unnithan, 1957) (M)
Yamaguti, 1963
Location: gills
Host: *Caranx* sp.
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968a (SCS), 1968b (SCS); Lebedev *et al.* 1970 (GTO); Parukhin 1976 (GTO)

FAMILY DICLIDOPHORIDAE

Osphyobothrus bychowskyi Khoche and Chauhan, 1969 (M)
Location: gills
Host: *Saurida tumbil*
Dist.: Gulf of Tonkin, South China Sea
Records: Mamaev and Parukhin 1970 (GTO); Parukhin 1976 (SCS)

Osphyobothrus multivitellatus Mamaev and Parukhin, 1970 (M)
Location: gills
Host: *Saurida gracilis*
Dist.: Gulf of Thailand
Record: Mamaev and Parukhin 1970

FAMILY HETERAXINIDAE

Heteraxine heterocerca (Goto, 1894) (M)
Sproston, 1946
Location: gills, pharyngeal cavity
Host: *Selar crumenophthalmus*
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968a (SCS), 1970 (GTO)

Monaxine formionis Unnithan, 1957 (M)
Location: gills
Host: *Parastromateus niger*
Dist.: Gulf of Tonkin
Record: Mamaev 1970[64]

Tonkinaxine homocerca Lebedev, Parukhin and Roytman, 1970 (M)
Location: gills
Hosts: *Seriola dumerili* (1,2,3)
Seriola sp. (1,2,3)
Seriolina nigrofasciata (1,2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO)[65]; 3. Parukhin 1976 (SCS)

FAMILY HETEROMICROCOTYLIDAE

Heteromicrocotyla carangis Yamaguti, 1953 (M)
Location: gills
Hosts: Carangidae (3,4)
Caranx malabaricus (1,2,3,4)
Seriola sp. (3,4)
Seriolina nigrofasciata (4)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1968a (SCS), 2. 1970 (GTO); 3. Lebedev *et al.* 1970 (GTO); 4. Parukhin 1976 (SCS)

[63] The locality, given as "Kenan" by Khotenovsky (1982, 1985), is considered to be a spelling variant of Kien An.

[64] Tentative parasite identification (as "*Monaxine formionis* (?) Unnithan, 1957".

[65] The listing of this monogenean from *Caranx malabaricus* in the host-parasite list of Lebedev, Parukhin and Roytman (1970) is considered a compilation error.

Heteromicrocotyla polyorchis Unnithan, 1961 (M)
Location: gills
Host: Carangidae
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1970 (GTO); Lebedev *et al.* 1970 (GTO); Parukhin 1976 (SCS)

Heteromicrocotyla vaginispina Unnithan, 1961[66] (M)
Location: gills
Host: *Caranx malabaricus*
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1970 (GTO); Lebedev *et al.* 1970 (GTO); Parukhin 1976 (SCS)

Heteromicrocotyla sp. (M)
Location: gills
Hosts: Carangidae (2)
Caranx malabaricus (1,2,3)
Decapterus sp. (1,2,3)
Selaroides leptolepis (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

FAMILY MICROCOTYLIDAE

Bicotyle perpolita Lebedev, 1968 (M)
Location: gills
Hosts: *Pampus argenteus* (1,2)
Parastromateus niger (1,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1968c (SCS), 2. 1970 (GTO); 3. Mamaev 1970 (GTO)

Caballeraxine chainanica (Lebedev, Parukhin and Roytman, 1970) Lebedev, 1972 (M)
Syn.: *Axinella chainanica* Lebedev, Parukhin and Roytman, 1970
Location: gills
Host: *Caranx malabaricus*
Dist.: Gulf of Tonkin
Records: Lebedev 1970; Lebedev *et al.* 1970; Parukhin 1976

Incisaxine dubia Mamaev, 1970 (M)
Location: gills
Host: *Gerres* sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Intracotyle orientale Mamaev, 1970 (M)
Location: gills
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Kannaphalllus virilis Unnithan, 1957 (M)
Location: gills
Hosts: *Alectis indicus* (1,2,3)
Caranx malabaricus (1,2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Lebedev *et al.* 1970 (GTO); 3. Parukhin 1976 (SCS)

Lethrinaxine parva Mamaev, 1970 (M)
Location: gills
Host: *Gymnocranius griseus*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Lutianicola haifonensis Lebedev, 1970 (M)
Location: gills
Hosts: *Lutjanus russellii*
L. sebae
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Microcotyle hemiatriospinalis Lebedev, Parukhin and Roytman, 1970 (M)
Location: gills
Host: *Seriola* sp.
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1970 (GTO); Lebedev *et al.* 1970 (GTO); Parukhin 1976 (SCS)

Microcotyle sp. (M)
Location: gills
Host: *Caranx malabaricus*
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968a (SCS), 1970 (GTO); Lebedev *et al.* 1970 (GTO)

Unidentified Monogenoidea

Monogenoidea gen. sp. (F,M)
Includes: monogeneans auctorum
Location: gills, skin
Hosts: *Abalistes stellaris* (1)
Barbonymus altus (4,5)

[66] The specific name misspelled "*vaginaespina*" by Lededev *et al.* (1970) and Parukhin (1976).

B. gonionotus (2,4,5)
Channa micropeltes (5)
Clarias gariepinus x *C. macrocephalus* (4)
Clarias sp. (2)
Leptobarbus hoevenii (5)
Oxyeleotris marmorata (2,4,5)
Pangasius bocourti (5)
P. hypophthalmus (2,5)
grouper (3)
Dist.: Mekong River Delta, South China Sea
Records: 1. Parukhin 1989 (SCS); 2. Te 1998a (MRD); 3. Le Van Khoa 1999 (-); 4. Dung *et al.* 1999 (MRD); 5. Te and Yen 1999 (MRD)

CLASS CESTODA

SUBCLASS CESTOIDEA

SUPERORDER EUCESTODA

ORDER CARYOPHYLLIDEA

FAMILY LYTOCESTIDAE

Khawia sinensis Hsü, 1935 (F)
Location: intestine
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984
Remarks: This cestode has been introduced to continental Asia and Europe, including the British Isles, with the movement of common carp (see Scholz *et al.* 2001).

Lytocestus adhaerens Cohn, 1908[67] (F)
Location: intestine
Hosts: *Clarias batrachus* (1)
Hemibagrus nemurus (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1998a; 3. Te and Yen 1999

Lytocestus parvulus Furtado, 1963[68] (F)
Location: intestine
Hosts: *Clarias batrachus* (1)
Pangasius conchophilus (1)
P. hypophthalmus (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1998a; 3. Te and Yen 1999
Remarks: The pathology caused by this cestode in *Clarias batrachus* has been described by Ahmed and Sanaullah (1979).

Lytocestus sp.[69] (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Records: Te 1998a; Te and Yen 1999

FAMILY CARYOPHYLLAEIDAE

Caryophyllaeus fimbriceps (F)
Annenkova-Chlopina, 1919
Location: ovary [?][70]
Hosts: *Clarias batrachus* (1)
fish (2,3)
Dist.: Mekong River Delta
Records: Te *et al*. 1991; 2. Te 1998a; 3. Te and Yen 1999
Remarks: This cestode is a parasite of cyprinid fishes of the western parts of the former USSR and central and eastern Europe (see Dubinina 1987). Records from fishes of Viet Nam are thus considered to involve misidentifications.

Caryophyllaeus sp. (F)
Location: not given
Host: fish
Dist.: southern Viet Nam
Record: Chon 1999
Remarks: Members of the genus *Caryophyllaeus* appear to be restricted to cyprinid fishes in the Palearctic Region (see Mackiewicz 1983, 1994). The report of Chon (1990) is thus considered to involve a misidentification.

Paracaryophyllaeus gotoi (Motomura, 1927) (F)
Dubinina, 1971
Syn.: *Paracaryophyllaeus dubininae* Kulakovskaya, 1961
Location: liver [?]
Hosts: *Clarias macrocephalus* (1)

[67] Vietnamese authors have misspelled the generic name name as "*Lystocestus*" and the specific name as "*adhaeren*" and "*adhaesens*".
[68] Vietnamese authors have misspelled the generic name as "*Lystocestus*" and the specific name as "*paroulus*".
[69] Vietnamese authors have misspelled the generic name as "*Lystocestus*".
[70] Probably translocated from the intestine during host necropsy.

fish (2,3)
Dist.: Mekong River Delta
Records: Te *et al.* 1991; 2. Te 1998a; 3. Te and Yen 1999
Remarks: The synonymy follows Dubinina (1987). *Paracaryophyllaeus goti* has been recently redescribed from Japan by Scholz *et al*. (2001).

This species appears to be specific to cobitid fishes, with a distribution including East Asia (Korea, Japan), the former USSR, and Eastern Europe (Hungary, Bulgaria) (see Scholz *et al*. 2001). Its occurrence in Vietnamese fishes requires verification.

Unidentified Caryophyllaeidae

Caryphyllaeidae gen. sp. (F)
Includes: "Caryophyllaeinae gen. sp."[71]
Location: intestine
Hosts: *Clarias batrachus*
C. macrocephalus
Dist.: Mekong River Delta
Record: Te *et al.* 1991

ORDER TRYPANORHYNCHA

SUPERFAMILY HOMEACANTHOIDEA

FAMILY TENTACULARIIDAE

Nybelinia sp. plerocercoid[72] (M)
Location: body cavity, gonads, intestine, kidney, liver, stomach
Hosts: *Alectis indicus* (5)
Carangidae (1,5)
Caranx malabaricus (5)
Caranx sp. (5)
Cepola schlegelii (6)
Decapterus muroadsi (5)
Decapterus sp. (5)
Leiognathidae (6)
Leiognathus sp. (6)
Megalaspis cordyla (5)
Mene maculata (6)
Parastromateus niger (6)
Platax orbicularis (6)
Pomadasys hasta (6)
Rastrelliger kanagurta (5)
Scomberoides lysan (5)
Scomberomorus commerson (5)
S. guttatus (5)
Scombridae (5)
Selar crumenophthalmus (3,5)
Selaroides leptolepis (5)
Selaroides sp. (5)
Seriola dumerili (5)
Seriola sp. (5)
Seriolina nigrofasciata (5)
Triacanthus biaculeatus (2,4)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1971 (GTO), 3. 1976 (SCS), 4. 1989 (GTO); 5. Lebedev 1970 (GTO)[73]; 6. Mamaev 1970 (GTO)

SUPERFAMILY HETERACANTHOIDEA

FAMILY EUTETRARHYNCHIDAE

Oncomegas wageneri (Linton, 1890) (M)
Dollfus, 1929 plerocercus
Location: body cavity
Hosts: *Acanthocepola limbata*
Cepola schlegelii
Cepola sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Eutetrarhynchidae gen. sp. plerocercus (M)
Location: body cavity
Hosts: *Chirocentrus dorab*
Ilisha sp.
Dist.: Gulf of Tonkin
Record: Mamaev 1970

SUPERFAMILY OTOBOTHRIOIDEA

FAMILY OTOBOTHRIIDAE

Otobothrium sp. plerocercus (M)
Location: musculature; rarely body cavity, liver, spleen, wall of stomach and intestine
Hosts: *Abalistes stellaris* (2)
Aluterus monoceros (2)
Cepola schlegelii (1)
Cepola sp. (1)
Drepane punctata (1)
Ephippus orbis (1)

[71] "Caryophyllaeinae" is an old subfamilial name that no longer has taxonomic standing (Dr J.S. Mackiewicz, per. comm.)

[72] Terminology for larval cestodes follows Chervy (2002).

[73] Lebedev (1970) reported that *Nybelinia* sp. was found in all species of carangid fishes studied, as well as *Scomberomorus commerson*, *S. leopardus* (syn. *of S. guttatus*, "pelamida" and *Rastrelliger kanagurta*.

Gymnocranius griseus (1)
Leiognathidae (1)
Leiognathus equulus (1)
Leiognathus sp. (1)
Parastromateus niger (1)
Platax orbicularis (1)
Pomadasys hasta (1)
Dist.: Gulf of Tonkin
Records: 1. Mamaev 1970; 2. Parukhin 1989

FAMILY PTEROBOTHRIIDAE

Pterobothrium platycephalum (M)
(Shipley and Hornell, 1906)
Dollfus, 1942 species inquirenda plerocercus
Location: body cavity
Hosts: *Mene maculata*
Parastromateus niger
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970
Remarks: Campbell and Beveridge (1996) listed this taxon among those species of *Pterobothrium* being insufficiently known. As there is no adequate discription of *P. platycephalum*, we consider it to be a species inquirenda.

FAMILY GRILLOTIIDAE

Grillotia sp. plerocercus (M)
Location: body cavity
Hosts: *Drepane punctata*
Platax orbicularis
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Unidentified Trypanorhyncha

Trypanorhyncha gen. sp. plerocercus (M)
Includes: Tetrarhynchidea gen. sp.
Location: body cavity, gills, intestine, muscles
Hosts: *Abalistes stellaris* (6,7)
Acanthocepola limbata (8)
Alepes melanoptera (1)
Aluterus monoceros (6)
Atule mate (1)
Carangidae (2)
Caranx malabaricus (1)
Caranx sp. (1)
Cepola schlegelii (8)
Decapterus sp. (1)
Echeneis naucrates (4)
Ephippus orbis (8)
Gymnocranius griseus (8)
Mene maculata (8)
Parastromateus niger (8)
Pomadasys hasta (8)
Psettodes erumei (1,3,6)
Rachycentron canadum (5)
Selaroides leptolepis (1)
fish (4)
Dist.: Gulf of Thailand, Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1966a (SCS), 3. 1967a (GTO), 4. 1967b (SCS), 5. 1971 (GTO), 6. 1989 (GTH,GTO), 7. Parukhin and Chikunova 1964 (GTH,GTO); 8. Mamaev 1970 (GTO)

ORDER TETRAPHYLLIDEA

Unidentified Tetraphyllidea

Tetraphyllidea gen. sp. plerocercoid (M)
Includes: *Scolex pleuronectis* O.F. Müller, 1788
Scolex sp. plerocercoid auctorum
Location: body cavity, gall bladder, intestine, stomach
Hosts: *Abalistes stellaris* (1,5)
Acanthocepola limbata (7)
Carangidae (2,6)
Caranx malabaricus (6)
Caranx sp. (4,6)
Decapterus muroadsi (6)
Decapterus sp. (6)
Drepane punctata (7)
Echeneis naucrates (3)
Mene maculata (7)
Parastromateus niger (7)
Selar crumenophthalmus (6)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin and Chikunova 1964 (GTO); 2. Parukhin 1966a (SCS), 3. 1967b (SCS), 4. 1976 (SCS), 5. 1989 (GTO); 6. Lebedev 1970 (GTO); 7. Mamaev 1970 (GTO)

ORDER PSEUDOPHYLLIDEA

FAMILY BOTHRIOCEPHALIDAE

Bothriocephalus manubriformis Linton, 1899 (M)
Location: intestine
Host: *Makaira* sp.
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Senga malayana Fernando and Furtado, 1964 (F)
Syn.: *Polyonchobothrium malayana* (Fernando and Furtado 1964)[74]
Location: [intestine]
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

Senga ophicephaliana (Tseng, 1933) (F)
Dollfus, 1934
Syn.: *Polyonchobothrium ophicephalianum* (Tseng, 1933)[75]
Location: intestine, liver
Hosts: *Anabas testudineus* (1)
Channa striata (1)
fish (2,3,4)
Dist.: Mekong River Delta, southern Viet Nam
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1998a (MRD); 3. Te and Yen 1999 (MRD); 4. Chon 1999 (SV)

Senga parva Fernando and Furtado, 1964 (F)
Syn.: *Polyonchobothrium parva* (Fernando and Furtado, 1964)
Location: intestine, liver
Hosts: *Channa micropeltes* (1)
Clarias batrachus (1)
Hemibagrus nemurus (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1998a; 4. Te and Yen 1999

Senga sp. (F)
Syn.: *Polyonchobothrium* sp.
Location: intestine, liver
Hosts: *Monopterus albus* (1,4)
Channa micropeltes (1,2,3,5)
C. striata (1)
Labeo chryophekadion (6)
fish (2,3,5)
Dist.: Ho Chi Minh, Mekong River Delta
Records: 1. Te 1989 (MRD), 2. 1993b (MRD), 3. 1998a (MRD); 4. Te *et al.* 1991 (MRD); 5. Te and Yen 1999 (MRD); 6. Chon 1999 (HCM)[76]

[74] The specific name was misspelled "*malaysana*" by Te (1993b).
[75] The specific name has been spelled "*ophiocephalina*" and *ophicephalina*" by Vietnamese authors.
[76] The record of *Polyonchobothrium* from *Labeo chryophekadion* by Chon (1999) (given only in Table 4 under the Vietnamese common name "cá ét moi") may involve *P. ophicephaliana*.

FAMILY DIPHYLLOBOTHRIIDAE

Diphyllobothrium sp. plerocercoid (F,M)
Syn.: *Dibothriocephalus* sp.
Location: intestine, muscles
Hosts: *Alepes melanoptera* (1,2)
Atule mate (1,2)
Cyprinus carpio (3)
Dist.: Ho Chi Minh, South China Sea
Records: 1. Parukhin 1966a (SCS), 2. 1976 (SCS); 3. Chon 1999 (HCM)

ORDER PROTEOCEPHALIDEA

FAMILY PROTEOCEPHALIDAE

Paraproteocephalus parasiluri (F)
(Yamaguti, 1934) Shimazu, 1993
Syn.: *Proteocephalus parasiluri* Yamaguti, 1934
Location: intestine, liver
Hosts: *Clarias macrocephalus*
Wallago attu
Dist.: Mekong River Delta
Record: Te *et al.* 1991
Remarks: Adults of this species are parasitic in the intestine of the Amur catfish (*Parasilurus asotus*) in Japan (see Yamaguti 1934; Shimazu 1990, 1993). Its presence in Southeast Asia requires confirmation.

Proteocephalus gobiorum (F)
Dogiel and Bykhovsky, 1939
Location: intestine
Hosts: *Glossogobius giuris*
Oxyeleotris marmorata
O. urophthalmus
Dist.: Mekong River Delta
Record: Te *et al.* 1991
Remarks: Scholz and considered this cestode to be a specific parasite of gobiid fishes from brackish waters of river estuaries of the Baltic, Black, Azov and Caspian seas. The occurrence of this species in eleotrid and gobiid fish of Viet Nam requires verification.

Proteocephalus macrocephalus (Creplin, 1825) (F)
Nufer, 1905
Location: [intestine]
Host: fish
Dist.: Mekong River Delta
Records: Te 1998a; Te and Yen 1999
Remarks: Scholz and Hanzelová (1998) noted that this species is specific to eels (*Anguilla* spp.) and

that its distribution includes Europe, Russia, North America and North Africa. Reports from Viet Nam require verification.

Proteocephalus osculatus (Goeze, 1782) (F)
Nybelin, 1942
Location: intestine, [body?] cavity, liver
Hosts: *Pangasius bocourti*
P. conchophilus
P. hypophthalmus
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: Scholz and Hanzelová (1998) noted that this cestode is primarily (perhaps exclusively) a parasite of the wels catfish (*Silurus glanis*) and that its distribution is restricted to central, eastern and western Europe. Reports from Viet Nam are considered probable misidentifications.

Proteocephalus sagittus (Grimm, 1872) (F)
La Rue, 1911
Location: body cavity, liver
Hosts: *Channa micropeltes*
C. striata
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: Although Scholz and Hanzelová (1998) considered *Proteocephalus sagittus* a synonym of *P. torulosus* (Batsch, 1786), more recently, Scholz *et al.* (2003) have considered it a valid species.

Proteocephalus sagittus is a parasite of cobitid fishes (Cypriniformes) with a distribution that is primarily European, but includes parts of Russian Asia. The above record involves an apparent misidentification.

Proteocephalus sp. (F)
Location: intestine, liver
Hosts: *Channa micropeltes* (1)
Clarias macrocephalus (1)
Leptobarbus hoevenii (4)
Pangasius pangasius (1)
Trichogaster pectoralis (4)
fish (2,3,5)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993b, 3. 1998a; 4. Te *et al*. 1991; 5. Te and Yen 1999

Unidentified Cestoda

Cestoda gen. sp. larva and/or adult (F,M)
Includes: Cestoidea, cestodes auctorum
Location: not given
Hosts: *Abalistes stellaris* (2)
Alectis indicus (1)
Alepes melanoptera (1)
Atropus atropos (1)
A. oreolatus (1)
Atule mate (1)
Carangidae (1)
Carangoides chrysophrys (1)
Caranx malabaricus (1)
Caranx sp. (1)
Decapterus sp. (1)
Echeneis naucrates (1)
Gnathanodon speciosus (1)
Megalaspis cordyla (1)
Psettodes erumei (1)
Rachycentron canadum (1)
Selar crumenophthalmus (1)
Selaroides leptolepis (1)
Seriola dumerili (1)
Seriolina nigrofasciata (1)
fish (3)
Dist.: Mekong River Delta, Gulf of Tonkin
Records: 1. Parukhin 1964a (GTO); 2. Parukhin and Chikunova 1964 (GTO); 3. Te 1993b (MRD)

PHYLUM NEMATODA

CLASS ADENOPHOREA

ORDER ENOPLIDA

SUPERFAMILY TRICHINELLOIDEA

FAMILY CAPILLARIIDAE

Capillaria ariusi (Parukhin, 1989) n. comb. (M)
Syn.: *Thominx ariusi* Parukhin, 1989
Location: intestine
Host: *Arius* sp.
Dist.: Gulf of Thailand
Record: Parukhin 1989
Remarks: As the genus *Thominx* is no longer valid (see Moravec 1998), this species is provisionally assigned to the genus *Capillaria.*

Capillaria (sensu latu) sp. (F,M)
Location: intestine
Hosts: *Gerres filamentosus* (1)
fish (2,3)
Dist.: Mekong River Delta, Gulf of Tonkin, South China Sea
Records: 1. Mamaev 1970 (GTO); 2. Parukhin 1975 (SCS); 3. Te 1993b (MRD)
Remarks: As a large number of genera belonging to the Capillariidae are now recognized to infect

fishes (see Moravec 2001), the generic assignment of nematodes reported as "*Capillaria*" from fishes of Viet Nam must be re-examined.

Pseudocapillaria (*Pseudocapillaria*) *echenei* (Parukhin, 1967) Moravec 1982 (M)
Syn.: *Capillaria echenei* Parukhin, 1967
Location: intestine
Host: *Echeneis naucrates*
Dist.: South China Sea
Records: Parukhin 1967b, 1975, 1976
Remarks: Moravec (2001) noted that the original description of this species is inadequate and that its redescription is thus desirable.

CLASS SECERNENTEA

ORDER OXYURIDA

SUPERFAMILY OXYUROIDEA

FAMILY PHARYNGODONIDAE

Hakynema vietnamensis Moravec and Sey, 1988 (F)
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Ha Noi
Record: Moravec and Sey 1988c

ORDER ASCARIDIDA

SUPERFAMILY ASCARIDOIDEA

FAMILY ANISAKIDAE

Anisakis sp. larva (M)
Location: body cavity, gonads, kidneys, liver, stomach, intestine
Hosts: *Abalistes stellaris* (8,9)
Acanthocepola limbata (11)
Alectis indicus (1,2,10)
Alepes melanoptera (7)
Atropus atropos (1,2)
A. oreolatus (1)
Atule mate (1,2)
Carangidae (1,2,10)
Carangoides chrysophrys (1)
Caranx malabaricus (1,2,10)
Caranx sp. (1,2,7,10)
Cepola schlegelii (11)
Cepola sp. (11)
Chaetodontidae (11)
Chirocentrus dorab (11)
Decapterus muroadsi (7,10)
Decapterus sp. (1,2,7,10)
Drepane longimana (11)
D. punctata (11)
Dussumieria elopsoides (11)
Echeneis naucrates (1,4)
Ephippus orbis (11)
Gerres filamentosus (11)
Gerres sp. (11)
Gymnocranius griseus (11)
Ilisha sp. (11)
Leiognathidae (11)
Leiognathus equulus (11)
Leiognathus sp. (11)
Lutjanus russellii (10)
L. sebae (10)
Makaira sp. (10)
Megalaspis cordyla (1,2,10)
Mene maculata (11)
Pampus argenteus (10)
Parastromateus niger (11)
Platax orbicularis (11)
Pomadasys hasta (11)
Psettodes erumei (1,3)
Rachycentron canadum (5)
Rastrelliger kanagurta (10)
Sardinella sp. (11)
Scombridae (10)
Scomberoides lysan (2,10)
Scomberomorus commerson (10)
S. guttatus (10)
Scomberomorus sp. (10)
Selar crumenophthalmus (1,2,10)
Selaroides leptolepis (1,2,7,10)
Selaroides sp. (10)
Seriola dumerili (10)
Seriola sp. (10)
Seriolina nigrofasciata (1,2,10)
Xiphias sp. (10)
fish (4,6,9)
Dist.: Gulf of Thailand, Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1966a (SCS)[77], 3. 1967a (GTO), 4. 1967b (SCS), 5. 1971 (GTO), 6. 1975 (SCS), 7. 1976 (SCS), 8. 1989 (GTH,GTO); 9. Parukhin and Chikunova 1964 (GTH,GTO); 10. Lebedev 1970 (GTO)[78];

[77] Parukhin (1966a) noted that *Anisakis* was found in all species of carangids examined, with the exception of *Caranx speciosus* (syn. of *Gnathanodon speciosus*), *Selar malam* (syn. of *Alepes melanoptera*) and *Seriola dumerili*.

[78] Lebedev (1970) reported that larval *Anisakis* sp. were found in all host species examined except *Lutjanus lineolatus* (syn. of *L. lutjanus*).

11. Mamaev 1970 (GTO)[79]

Contracaecum rudolphii (F)
Hartwich, 1964 [larva]
Syn.: *Contracaecum spiculigerum* (Rudolphi, 1819) auctorum
Location: [body?] cavity, intestine, liver
Hosts: *Anabas testudineus*
Channa micropeltes
C. striata
Clarias macrocephalus
Hemibagrus nemurus
Ompok bimaculatus
Oxyeleotris marmorata
Dist.: Mekong River Delta
Record: Te *et al*. 1991
Remarks: The synonymy follows Hartwich (1964).

This is a cosmopolitan species, adults of which occur in fish-eating birds (cormorants and pelicans (Moravec 1998, Anderson 2000). The life cycle involves copepods as necessary precursor hosts, with third-stage larvae occurring in fish (Anderson 2000).

Moravec (1998) noted that since separation of species is based on adult morphology, it is generally impossible to assign larval *Contracaceum* to species with certainty without carrying out feeding experiments. Thus the occurrence of this nematode in Vietnamese freshwater fishes requires substantiation.

Contracaecum sp. larva (M)
Location: body cavity, kidney, liver, outer wall of stomach, intestine, stomach
Hosts: *Abalistes stellaris* (8,9)
Alectis indicus (1,11)
Alepes melanoptera (1,7)
Aluterus monoceros (8)
Atropus atropos (1)
Atule mate (1)
Carangidae (1,2,11)
Caranx malabaricus (1,10,11)
Caranx sp. (11)
Decapterus muroadsi (7,11)
Decapterus sp. (1,7,11)
Echeneis naucrates (1,4)
Lutjanus lutjanus (11)
L. sebae (11)
Makaira sp. (11)
Megalaspis cordyla (1,11)
Mene maculata (12)
Pampus argenteus (11)
Psettodes erumei (1,3)
Rastrelliger kanagurta (11)
Sardinella sp. (12)
Scombridae (11)
Scomberoides lysan (11)
Scomberomorus commerson (11)
S. guttatus (11)
Scomberomorus sp. (11)
Selar crumenophthalmus (1,11)
Selar sp. (1)
Selaroides leptolepis (1,7,11)
Selaroides sp. (11)
Seriola dumerili (1,7,11)
Seriola sp. (11)
Seriolina nigrofasciata (1,11)
Triacanthus biaculeatus (5,8)
Xiphias sp. (11)
fish (6,7,9,12)
Dist.: Gulf of Thailand, Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1966a (SCS). 3. 1967a (GTO), 4. 1967b (SCS), 5. 1971 (GTO), 6. 1975 (SCS), 7. 1976 (SCS), 8. 1989 (GTH,GTO); 9. Parukhin and Chikunova 1964 (GTH,GTO); 10. Lebedev 1968a (SCS), 11. 1970 (GTO)[80]; 12. Mamaev 1970 (GTO)[81]
Remarks: Members of the genus *Contracaecum* occur as adults in the digestive tract of fish-eating birds and marine mammals, while fish may serve as either intermediate or paratenic hosts (see Moravec 1998).

Hysterothylacium aduncum (Rudolphi, 1802) (M)
Deardorff and Overstreet, 1981
Syn.: *Contracaecum aduncum* (Rudolphi, 1802)
Location: not given[82]
Host: fish
Dist.: Mekong River Delta
Records: Te 1998a; Te and Yen 1999
Remarks: As this nematode is a northern marine species, the above records are considered to involve misidentifications.

The life cycle of *Hysterothylacium aduncum* has been summarized by Køie (1993).

Hysterothylacium chorinemi (Parukhin, 1966) (M)

[79] Mamaev (1970) reported that larval *Anisakis* sp. were found in all host species examined except *Chaetodon* sp., *Plectorhinchus* sp. and *P. cinctus*.

[80] Lebedev (1970) reported that larval *Contracaecum* sp. were found in all host species examined except *Lutjanus russellii*.

[81] Mamaev (1970) reported that larval *Contracaecum* sp. were found in almost all host species examined, however, aside from *Sardinella* sp. and *Mene maculata*, he did not indicate which species were infected.

[82] Adults of this species are found in the host's stomach and intestine, while larvae occur in the body cavity, viscera and musculature.

Bruce and Cannon, 1989
Syn.: *Contracaecum chorinemi* Parukhin, 1966
Location: intestine
Hosts: *Atule mate* (1,3)
Scomberoides lysan (1,2,3)
Dist.: South China Sea
Records: 1. Parukhin 1966a, 2. 1975, 3. 1976

Hysterothylacium fluviatile Moravec and Sey, 1988 larva (F)
Location: intestine
Hosts: *Arius arius*
Pangasius pangasius
Dist.: Ha Noi
Record: Moravec and Sey 1988c
Remarks: Bruce, Adlard and Cannon (1994) listed this species among those taxa decribed from larval forms, and which they considered nomina dubia. They further noted that the generic status of *H. fluviatile* is questionable.

Hysterothylacium incurvum (Rudolphi, 1819) Deardorff and Overstreet, 1981 (M)
Syn.: *Contracaecum incurvum* (Rudolphi, 1819)
Location: intestine
Host: *Xiphias* sp.
Dist.: Gulf of Tonkin
Record: Lebedev 1970
Remarks: This species was redescribed by Deardorff and Overstreet (1981), who noted that it probably occurs throughout the range of swordfishes.

Hysterothylacium saba (Yamaguti, 1941) Deardorff and Overstreet, 1980 (M)
Syn.: *Contracaecum saba* Yamaguti, 1941
Location: intestine
Host: Scombridae
Dist.: Gulf of Tonkin
Record: Lebedev 1970

Iheringascaris inquies (Linton, 1901) Deardorff and Overstreet, 1981 (M)
Syn.: *Contracaecum megacephalum* Oshmarin, 1963
Location: intestine
Host: *Rachycentron canadum*
Dist.: Gulf of Tonkin, South China Sea
Records: Oshmarin 1963 (GTO); Parukhin 1971 (GTO), 1975 (SCS), 1976 (SCS)
Remarks: *Contracaecum megacephalum* was considered a probable synonym of *I. inquies* by Bruce, Adlard and Cannon (1994).

Raphidascaris sp. larva (M)
Location: not given
Host: *Echeneis naucrates*
Dist.: South China Sea
Record: Parukhin 1967b

FAMILY ASCARIDIDAE

Porrocaecum sp. larva (M)
Location: body cavity, intestine
Hosts: *Abalistes stellaris* (7,8)
Alectis indicus (1,2,9)
Alepes melanoptera (1,2,6)
Atropus atropos (1,2)
Atule mate (1,2)
Carangidae (1,2,9)
Carangoides chrysophrys (1)
Caranx malabaricus (1,2,9)
Caranx sp. (1,2,6,9)
Chirocentrus dorab (10)
Decapterus muroadsi (6,9)
Decapterus sp. (1,2,6,9)
Dussumieria elopsoides (10)
Echeneis naucrates (1,4)
Gnathanodon speciosus (1,2)
Ilisha sp. (10)
Lutjanus lutjanus (9)
L. russellii (9)
L. sebae (9)
Megalaspis cordyla (1,2,9)
Pampus argenteus (9)
Psettodes erumei (1,3)
Rastrelliger kanagurta (9)
Sardinella sp. (10)
Scombridae (9)
Scomberoides lysan (2,9)
Scomberomorus commerson (9)
S. guttatus (9)
Scomberomorus sp. (9)
Selar crumenophthalmus (1,2,9)
Selaroides leptolepis (1,2,6,9)
Selaroides sp. (9)
Seriola dumerili (1,2,6,9)
Seriola sp. (9)
Seriolina nigrofasciata (1,2,9)
Triacanthus biaculeatus (5,7)
Dist.: Gulf of Thailand; Gulf of Tonkin; South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1966a (SCS)[83], 3. 1967a (GTO), 4. 1967b (SCS), 5. 1971 (GTO), 6. 1976 (SCS), 7. 1989 (GTH,GTO); 8. Parukhin and Chikunova 1964

[83] Parukhin (1966a) reported finding larval *Porrocaecum* sp. in all species of carangid fishes studied.

(GTH,GTO); 9. Lebedev 1970 (GTO)[84]; 10. Mamaev 1970 (GTO)

Remarks: Adults of members of this genus are intestinal parasites of birds, while larvae of some species occur in fishes (see Moravec 1998).

SUPERFAMILY COSMOCERCOIDEA

FAMILY KATHLANIIDAE

Falcaustra babei (Ky, 1971) n. comb. (F)
Syn.: *Spironoura babei* Ky, 1971
Location: intestine
Host: *Spinibarbichthys denticulatus*
Dist.: Bac Kan, Ha Noi, Lao Cai
Records: Ky 1971b (BK,LC); Sey and Moravec and 1986 (HN)[85]; Moravec and Sey 1988c (HN)
Remarks: Sey and Moravec (1986) reported an apparent case of hyperparasitism, the third-stage larva of this nematode being found in the caeca of the amphistome *Amurotrema dombrowskajae* Akhmerov, 1959.

Falcaustra kaverii (Karve and Niak, 1951) Soota, 1983 (F)
Syn.: *Spironoura kaverii* Karve and Naik, 1951
Location: intestine
Host: *Poropuntius krempfi*
Dist.: Ha Noi
Record: Moravec and Sey 1988c

Spectatus sp. (F)
Location: intestine
Hosts: *Pangasius bocourti*
P. conchophilus
P. hypophthalmus
P. larnaudii
Dist.: Mekong River Delta
Record: Te *et al*. 1991

SUPERFAMILY SEURATOIDEA

FAMILY CUCULLANIDAE

Campanarougetia campanarougetae (F)
Le-Van-Hoa and Pham-Ngoc-Khue, 1967
Location: intestine
Host: *Anguilla marmorata*
Dist.: Ho Chi Minh[86]
Record: Le-Van-Hoa and Pham-Ngoc-Khue 1967b

Chitwoodia chitwoodae Le-Van-Hoa and Pham-Ngoc-Khue, 1971[87] (F)
Syn.: *Oceanicucullanus chitwoodae* (Le-Van-Hoa and Pham-Ngoc-Khue, 1971)
Location: intestine
Hosts: *Barbonymus balleroides* (1,2)
Spinibarbichthys denticulatus (3)
Dist.: Ho Chi Minh[88]
Records: 1. Le-Van-Hoa and Pham-Ngoc-Khue 1970 (-), 2. 1971; 3. Le-Van-Hoa 1973 (-)

Cucullanus chabaudi Le-Van-Hoa and Pham-Ngoc-Khue, 1967 larva and adult (F)
Location: bile duct, gall bladder, liver, swimbladder
Host: *Pangasius pangasius*
Dist.: Viet Nam
Record: Le-Van-Hoa and Pham-Ngoc-Khue 1967a
Remarks: Le-Van-Hoa and Pham-Ngoc-Khue (1967a) reported a monoxenous life cycle for this species. When eggs isolated from females were placed in water, they became embryonated in about 48 hours. The first molt occurred within the egg by day 4 and young second stage larvae left the egg during day 5-6. Growth continues in the swimbladder of the fish host, which is the preferred site, for three to four weeks. Examination of naturally infected hosts showed larvae in the process of molting to the third larval stage occurring in the liver. Large numbers of third and fourth-stage larvae were found in the gall bladder and common bile duct where they develop into young males and females.

Cucullanus cyprini Yamaguti, 1941 (F)
Location: intestine
Hosts: *Barbonymus altus* (4)
Cyprinus carpio (1,2)
Glossogobius giuris (4)

[84] Lebedev (1970) reported that larval *Porrocaecum* sp. were found in all host species examined except *Makaira* sp. and *Xiphias* sp.

[85] Specimens reported by Sey and Moravec (1986) were noted to be from fish in the collection of Hanoi University. However, Moravec and Sey (1989a) later indicated that all hosts reported in their papers on parasites from Vietnamese fishes were from the Red River near Hanoi and deposited in the collections of the Department of Vertebrate Zoology, Hanoi University.

[86] Specimens were collected from fish obtained at the markets of Saigon (Ho Chi Minh City).

[87] In the abstract of Le-Van-Hoa and Pham-Ngoc-Khue (1970), the specific name was originally spelled "*chitwoodi*".

[88] Specimens were collected from fish obtained at the Saigon market (Ho Chi Minh City).

Pangasius bocourti (4)
fish (3,5,6)
Dist.: Bac Kan, Mekong River Delta, Red River Delta, southern Viet Nam
Records: 1. Ky 1971b (BK); 2. Te 1984 (RRD), 3. 1998a (MRD); 4. Te *et al.* 1991 (MRD); 5. Te and Yen 1999 (MRD); 6. Chon 1999 (SV)

Cucullanus decapteri Parukhin, 1966 (M)
Location: intestine
Host: *Decapterus* sp.
Dist.: South China Sea
Records: Parukhin 1966a, 1975, 1976

Cucullanus heterochrous Rudolphi, 1802 (M)
Location: [intestine]
Host: *Psettodes erumei*
Dist.: Gulf of Tonkin
Record: Parukhin 1967a
Remarks: This species is a primarily a parasite of pleuronectiform fishes of northern oceans (see Gibson 1972). Its occurence in Vietnamese waters requires confirmation.

The life cycle of *Cucullanus heterochrous* involves polychaetes belonging to several families as obligate intermediate hosts, with adults occurring only in flatfishes (Køie 2000).

Cucullanus sp. (F,M)
Location: intestine
Hosts: *Drepane punctata* (1)
Gymnocranius griseus (1)
fish (2)
Dist.: Mekong River Delta, Gulf of Tonkin
Records: 1. Mamaev 1970 (GTO); 2. Te 1993b (MRD)

Dichelyne (*Cucullanellus*) *minutus* (Rudophi, 1819) Petter, 1974 (M)
Syn.: *Cucullanus minutus* Rudolphi, 1819
Cucullanellus minutus (Rudolphi, 1819)
Location: bile duct
Hosts: *Pangasius bocourti* (1)
P. hypophthalmus (1)
fish (2.3)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1998a; 3. Te and Yen 1999
Remarks: *Dichelyne minutus* is primarily a parasite of pleuronectid and gobiid fishes. Its distribution includes the Northeast Atlantic Ocean, and the Baltic, Mediterranean, Caspian, Black, Azov and Aral seas (see Køie 2001). The above record from freshwater catfishes of Viet Nam is considered a misidentification.

Dichelyne (*Cucullanellus*) sp. (F)
Syn.: *Cucullanellus* sp.
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

FAMILY QUIMPERIIDAE

Paragendria sp. (F)
Location: intestine
Host: ?*Hemibagrus elongatus*
Dist.: Ha Noi
Record: Moravec and Sey 1988c

Paraseuratum sp. (F)
Location: intestine
Host: *Monopterus albus*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Pingus sinensis Hsü, 1933[89] (F)
Location: stomach, intestine
Hosts: ?*Acanthorhodeus fortunensis* (3)
Channa maculata (1,3)
Channa sp. (2,3)
Leptobarbus hoevenii (4)
Oxyeleotris marmorata (4)
fish (5,6)
Dist.: Bac Kan, Ha Noi, Mekong River Delta
Records: 1. Ky 1971b (BK,HN); 2. Moravec and Sey 1988a (HN)[90], 3. 1988c (HN); 4. Te *et al*. 1991 (MRD); 5. Te 1998a (MRD); 6. Te and Yen 1999 (MRD)
Remarks: Moravec, Nie and Wang (2003) note that *Pingus sinensis* is a specific intestinal parasite of fishes of the genus *Channa*. Records from other hosts may involve accidental infections.

Pingus sp. (F)
Location: not given

[89] Vietnamese authors have misspelled the generic name as "*Pingis*".

[90] Although their specimens were labeled as having been collected "from a silurid fish", Moravec and Sey (1988a) noted that the host was probably a member of the family Channidae, and subsequently (Moravec and Sey 1988c) indicated that this record likely involved a host misidentification, the probable host being *Ophicephalus* sp. (syn. of *Channa* sp.)

Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

SUPERFAMILY HETERAKOIDEA

FAMILY HETERAKIDAE

Meteterakis japonica (Wilkie, 1930) (F)
Inglis, 1957[91]
Location: intestine
Host: *Elopichthys bambusa*
Dist.: Ha Noi
Record: Moravec and Sey 1988c
Remarks: Moravec and Sey (1988c) noted that members of the genus *Meteterakis* are parasites of amphibians and reptiles and that this record probably involves a case of facultative parasitism.

ORDER SPIRURIDA

SUPERFAMILY CAMALLANOIDEA

FAMILY CAMALLANIDAE[92]

Camallanus (*Camallanus*) *alii* Ky, 1971 (F)
Location: intestine
Hosts: *Cirrhinus molitorella* (1)
fish (2)
Dist.: Bac Kan, Lao Cai, Mekong River Delta
Records: 1. Ky 1971b (BK,LC); 2. Te and Yen 1999 (MRD)
Remarks: Moravec and Sey (1988a) noted that this species was inadequately described.

Camallanus (*Zeylanema*) *anabantis* (F)
Pearse, 1933
Syn.: *Neocamallanus anabantis* Pearse, 1933
Location: intestine
Hosts: *Anabas testudineus* (1)
fish (2,3,4)
Dist.: Mekong River Delta, southern Viet Nam
Records: 1. Te *et al*. 1991 (MRD); 2. Te and Yen 1999 (MRD); 3. Te 1998a (MRD); 4. Chon 1999 (SV)

Camallanus (*Camallanus*) *carangis* Olsen, 1954 (M)
Location: intestine, pyloric caeca
Hosts: *Caranx* sp. (2)
Scomberoides lysan (2)
Scombridae (1)
Selar crumenophthalmus (2)
Seriolina nigrofasciata (2)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Lebedev 1970 (GTO); 2. Parukhin 1976 (SCS)

Camallanus (*Camallanus*) *cotti* Fujita, 1927 (F)
Location: intestine
Host: *Bagarius bagarius*
Dist.: Ha Noi
Record: Moravec and Sey 1988a
Remarks: The life cycle of this nematode has been reported to involve copepods of the genus *Cyclops* (see Anderson 2000).

Camallanus (*Camallanus*) *hampalae* (F)
Moravec and Scholz, 1991
Location: intestine
Host: *Hampala macrolepidota*
Dist.: Mekong River Delta
Record: Te *et al*. 1991

Camallanus (*Camallanus*) *truncatus* (F)
(Rudolphi, 1814) Törnquist, 1931
Location: intestine
Host: *Cyprinus carpio*
Dist.: Bac Ninh
Record: Te 1984
Remarks: As *Camallanus truncatus* is a parasite of European freshwater fishes, this report from Viet Nam probably involves a misidentification.

Camallanus sp. (M)
Location: not given
Hosts: *Echeneis naucrates* (2)
Psettodes erumei (1)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1967a (GTO), 2. 1967b (SCS)

Neocamallanus maculati Ky, 1971 (F)
Location: intestine
Hosts: *Channa maculata* (1)
C. striata (2)
fish (3,4,5)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1971b (HN); 2. Te 1989 (MRD), 3. 1993b (MRD), 4. 1998a (MRD); 5. Te and Yen 1999 (MRD)

[91] The generic name was misspelled "*Meterakis*" by Moravec and Sey (1988c).

[92] The taxonomy of the camallanids of the South Asian Region remains quite confused, and this group is in urgent need of critical study. For a recent treatment of generic and subgeneric structure of the family Camallanidae, see Moravec (1998).

Remarks: Moravec and Sey (1988a) noted that due to the inadequate description of this species, its identity with *Neocamallanus ophicephali* (Pearse, 1933) cannot be excluded.

Neocamallanus ophicephali (Pearse, 1933) (F)
Moravec and Sey, 1988
Location: intestine
Hosts: *Channa striata* (2)
Channa sp. (1)
fish (3)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Moravec and Sey 1988a (HN)[93]; 2. Te *et al.* 1991 (MRD); 3. Te and Yen 1999 (MRD)
Remarks: The life cycle, which involves a copepod intermediate host, was studied by Bashirullah and Ahmed (1976a) and by De, Samanta and Majumdar (1984) (as *Camallanus adamsi* and *Neocamallanus singhi*, respectively).

Neocamallanus trichogasterae (F)
(Pearse, 1933) n. comb.
Syn.: *Camallanus trichogasterae* Pearse, 1933
Location: intestine
Host: *Trichogaster pectoralis*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Neocamallanus sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

Procamallanus (*Spirocamallanus*) *bagarii* (F)
Karve and Naik, 1951
Syn.: ?*Procamallanus* (*Spirocamallanus*) *fulvidraconis* of Moravec and Sey, 1988
Location: intestine
Hosts: *Bagarius bagarius*
?*Cranoglanis bouderius*
?*Hemibagrus elongatus*
Dist.: Ha Noi
Record: Moravec and Sey 1988a
Remarks: Moravec and Sey (1988a), based on only female specimens, provisionally identified nematodes from *Cranoglanis bouderius* and *Hemibagrus elongatus* as *Procamallanus* (*Spirocamallanus*) *fulvidraconis* Li, 1935.[94] Moravec, Nie and Wang (2003) subsequently determined that these specimens had been misidentified; and that the record probably involved *P.* (*S.*) *bagarii.*

Procamallanus (*Procamallanus*) *clarius* (F)
Ali, 1957
Location: stomach, intestine
Hosts: *Clarias batrachus* (2)
C. fuscus (1)
C. macrocephalus (2,5)
fish (3,4,5)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1971b (HN) ; 2. Te *et al.* 1991 (HN); 3. Te 1993b (MRD), 4. 1998a (MRD); 5. Te and Yen 1999 (MRD)

Procamallanus (*Procamallanus*) *glossogobii* (F)
Pearse, 1933
Location: intestine
Hosts: *Glossogobius giuris* (1)
Ompok bimaculatus (3)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1998a; 3. Te and Yen 1999
Remarks: Petter (1979) noted that this species is insufficently described.

Procamallanus (*Procamallanus*) *malaccensis* (F)
Fernando and Furtado, 1963
Location: stomach, intestine
Hosts: *Channa lucius* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te and Yen 1999

Procamallanus (*Procamallanus*) *petterae* (F)
Moravec and Sey, 1988
Location: intestine
Host: *Pelteobagrus fulvidraco*
Dist.: Ha Noi
Record: Moravec and Sey 1988a

Procamallanus sp. (F)
Location: intestine, stomach
Hosts: *Hemibagrus nemurus* (1)
Notopterus notopterus (1)

[93] Although their specimens were labeled as having been collected "from a silurid fish", Moravec and Sey (1988a) noted that the host was probably a member of the family Channidae, and subsequently (Moravec and Sey 1988c), under *Pingus sinensis*, indicated that the probable host was *Ophicephalus* sp. (syn. of *Channa* sp.).

[94] The hosts involved may have actually been *Cranoglanis henrici* and *Hemibagrus guttatus* (see comments in the Host-Parasite List).

Ompok bimaculatus (1)
Oxyeleotris marmorata (1,3)
Pangasius conchophilus (1)
fish (2,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1998a; 4. Te and Yen 1999

SUPERFAMILY DRACUNCULOIDEA

FAMILY PHILOMETRIDAE

Buckleyella buckleyi Rasheed, 1963 (M)
Location: pylorica caeca
Host: *Scomberoides lysan*
Dist.: South China Sea
Records: Parukhin 1966a, 1975, 1976

Philometra balistii (Rasheed, 1963) (M)
Vidal-Martínez, Aguirre-Macedo and Moravec, 1995
Syn.: *Thwaitia balistii* Rasheed, 1963
Location: orbit of eye
Host: *Abalistes stellaris*
Dist.: Gulf of Thailand, Gulf of Tonkin
Records: Parukhin 1975 (GTH), Parukhin 1989 (GTH,GTO)
Remarks: Parukhin (1975) incorrectly attributed a report of this species from *A. stellaris* to Parukhin and Chikunova (1964).

Philometra sp. (F,M)
Location: body cavity, intestine, orbit of eye, ovary
Hosts: *Abalistes stellaris* (1,5,7)
Caranx malabaricus (2,6,8,9)
Caranx sp. (6)
Channa striata (13,15)
Clarias macrocephalus (11)
Clarias sp. (13,14,15)
Cyprinus carpio (16)
Decapterus sp. (6)
Labeo chryophekadion (16)
Leiognathidae (10)
Megalaspis cordyla (6)
Pangasius bocourti (14,15)
P. hypophthalmus (15)
P. larnaudii (13,14,15)
P. pangasius (11,12,14)
Pangasius sp. (13)
Parastromateus niger (10)
Psettodes erumei (3)
Sardinella sp. (10)
Triacanthus biaculeatus (4,7)
fish (13,14,15,16)
Dist.: An Giang, Ho Chi Minh, Mekong River Delta, Gulf of Thailand, Gulf of Tonkin, South China Sea, southern Viet Nam
Records: 1. Parukhin and Chikunova 1964 (GTH,GTO); 2. Parukhin 1966a (SCS), 3. 1967a (GTO), 4. 1971 (GTO), 5. 1975 (GTH), 6. 1976 (SCS), 7. 1989 (GTH,GTO); 8. Lebedev 1968a (SCS), 9. 1970 (GTO), 10. Mamaev 1970 (GTO); 11. Te 1989 (MRD), 12. 1993a (AG), 13. 1993b (MRD), 14. 1998a (MRD); 15. Te and Yen 1999 (MRD); 16. Chon 1999 (HCM,SV)
Remarks: Parukhin (1989) indicated that *Philometra* sp. of Parukhin and Chikunova (1964) from *Psettodes erumei* was referable to *P. lateolabracis* Yamaguti, 1935. However, the study of Parukhin and Chikunova (1964) does not deal with this host species. These authors reported two species of this genus (designated as *Philometra* sp. I and *Philometra* sp. II) from *Abalistes stellaris*. In his host/parasite table for *A. stellaris* (see Parukhin 1989, Table 7), only *Philometra* sp. was listed as occurring in this fish.

Philometroides atropi (Parukhin, 1966) (M)
Moravec and Ergens, 1970
Syn.: *Pseudophilometroides atropi* Parukhin, 1966
Location: body cavity
Host: *Atropus atropos*
Dist.: Gulf of Tonkin, South China Sea
Records: Parukhin 1966a (SCS), 1966d (GTO), 1975 (GTO)

Philometroides sp. (M)
Location: body cavity
Host: *Rachycentron canadum*
Dist.: Gulf of Tonkin
Record: Parukhin 1971

SUPERFAMILY GNATHOSTOMATOIDEA

FAMILY GNATHOSTOMATIDAE

Echinocephalus spinosissimus (M)
(von Linstow, 1905) Baylis and Lane, 1920 larva
Location: inner organs
Hosts: *Abalistes stellaris* (3)
Echeneis naucrates (2)
fish (1)
Dist.: Gulf of Tonkin; South China Sea
Records: 1. Parukhin 1975 (SCS), 2. 1976 (SCS), 3. 1989 (GTO)
Remarks: Adults of the genus *Echinocephalus* are

primarily parasites of marine and freshwater elasmobranchs, while larvae are found in molluscs (see Hoberg *et al.* 1998). Larvae found in teleost fishes may represent paratenic infections.

Echinocephalus sp. larva (M)
Location: intestine, inner organs
Hosts: *Echeneis naucrates* (1)
Ilisha sp. (4)
Triacanthus biaculeatus (2,3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1967b (SCS), 2. 1971 (GTO), 3. 1989 (GTO); 4. Mamaev 1970 (GTO)

Gnathostoma hispidum Fedchenko, 1872 larva (F)
Location: liver, stomach
Hosts: *Channa maculata* (1,2)
C. micropeltes (3)
fish (4,5)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1971b (HN); 2. Moravec and Sey 1988b (HN); 3. Te *et al.* 1991 (MRD); 4. Te 1998a (MRD); 5. Te and Yen 1999 (MRD)
Remarks: Moravec and Sey (1988b) noted that the principal definitive hosts for this species are pigs and wild boars, while first intermediate hosts are copepods; various fishes, amphibians, reptiles, birds and mammals serve as paratenic hosts.

This species is of zoonotic importance (see Anderson 2000), humans becoming infected through the consumption of raw infected fish.

Gnathostoma sp. [larva] (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

SUPERFAMILY PHYSALOPTEROIDEA

FAMILY PHYSALOPTERIDAE

Bulbocephalus deblocki Le-Van-Hoa, Pham-Ngoc-Khue and Nguyen-Thi-Lien, 1972 (M)
Location: intestine
Host: *Eleutheronema tetradactylum*
Dist.: Ho Chi Minh[95]
Record: Le-Van-Hoa, Pham-Ngoc-Khue and Nguyen-Thi-Lien 1972

Bulbocephalus petterae Le-Van-Hoa, Pham-Ngoc-Khue and Nguyen-Thi-Lien, 1972 (M)
Location: intestine
Host: *Polynemus plebeius*
Dist.: Ho Chi Minh[96]
Record: Le-Van-Hoa, Pham-Ngoc-Khue and Nguyen-Thi-Lien 1972

Protoleptinae gen. sp. larva (F)
Location: body cavity
Hosts: *Channa maculata*
Clarias fuscus
Megalobrama terminalis
fish[97]
Dist.: Ha Noi
Record: Moravec and Sey 1988b

SUPERFAMILY HABRONEMATOIDEA

FAMILY CYSTIDICOLIDAE

Ascarophis sp. (M)
Location: intestine
Hosts: *Echeneis naucrates* (1,2)
Gymnocranius griseus (3)
Dist.: Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1967b (SCS), 2. 1976 (SCS); 3. Mamaev 1970 (GTO)

Pseudoproleptus lamyi Le-Van–Hoa and Bui-Thi Lien-Huong, 1969 (F)
Location: stomach
Host: ?*Chitala chitala*
Dist.: Ho Chi Minh[98]
Record: Le-Van–Hoa and Bui-Thi Lien-Huong 1969

Spinitectus clariasi Ky, 1971 (F)
Location: stomach, intestine
Hosts: *Clarias batrachus* (5)
C. fuscus (1)
C. macrocephalus (2,5)
fish (3,4,6)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1971b (HN); 2. Te 1989 (MRD), 3. 1993b (MRD), 4. 1998a (MRD); 5. Te *et al.* 1991 (MRD); 6. Te and Yen 1999 (MRD)

[95] The hosts were purchased from a Saigon (Ho Chi Minh City) market.

[96] The hosts were purchased from a Saigon (Ho Chi Minh City) market.

[97] The record for this host was given as a "silurid fish".

[98] The hosts were purchased from a Saigon (Ho Chi Minh City) market.

Spinitectus echenei Parukhin, 1967 (M)
Location: intestine
Host: *Echeneis naucrates*
Dist.: South China Sea
Records: Parukhin 1967b, 1975, 1976

Spinitectus notopteri Karve and Naik, 1951 (F)
Location: stomach
Hosts: *Notopterus notopterus* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te and Yen 1999

Spinitectus ophicephali Ky, 1971[99] (F)
Location: stomach, intestine
Hosts: *Channa lucius* (6)
C. maculata (1,2)
C. striata (3,6)
Pelteobagrus fulvidraco (2)[100]
fish (4,5,7)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Ky 1971b (HN); 2. Moravec and Sey 1988a (HN); 3. Te 1989 (MRD), 4. 1993b (MRD), 5. 1998a (MRD); 6. Te *et al.* 1991 (MRD); 7. Te and Yen 1999 (MRD)
Remarks: The validity of this species requires verification. Moravec and Sey (1988a) suggested that it may be conspecific with *Spinitectis gigi* Fujita, 1927

Spinitectus ranae Morishita, 1926 (F)
Location: intestine
Host: ?*Hemibagrus elongatus*
Dist.: Ha Noi
Record: Moravec and Sey 1988a
Remarks: *Spinitectus ranae* is typically a parasite of frogs, with larvae having been found in freshwater shrimp (see Anderson 2000).

Spinitectus sp. (F)
Location: stomach, intestine
Hosts: ?*Acanthorhodeus fortunensis* (1)
Bagarius bagarius (1)
Cirrhinus molitorella (1)
fish (2,3)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Moravec and Sey 1988a (HN); 2. Te 1993b (MRD), 3. 1998a (MRD)

[99] Vietnamese authors have often misspelled the specific name as "*ophiocephali*".
[100] Material from this host consisted of only a single female specimen and was provisionally assigned to *Spinitectus ophicephali*.

SUPERFAMILY THELAZIOIDEA

FAMILY RHABDOCHONIDAE

Heptochona dorabi (Mamaev, 1968) (M)
Moravec, 1975
Syn: *Pontochona dorabi* Mamaev, 1968
Location: intestine
Host: *Chirocentrus dorab*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Rhabdochona (*Rhabdochona*) *hakyi* (F)
Moravec and Sey, 1988
Location: intestine
Hosts: *Arius sinensis*
Bagarius bagarius
?*Cranoglanis bouderius*
?*Hemibagrus elongatus*
Onychostoma lepturus
?*Rhinogobius giurinus*
Dist.: Ha Noi
Record: Moravec and Sey 1988b
Remarks: In their host-parasite list summarizing all the records contained in their papers dealing with parasites of Vietnamese fishes, Moravec and Sey (1989b) listed this species as also occurring in *Hemiculter leucisculus*; however, as this host does not appear in their earlier paper (Moravec and Sey 1988b) this host listing is apparently a mistake (Dr F. Moravec, pers. comm.).

Rhabdochona (*Rhabdochona*) *jiangxiensis* (F)
Wang, Zhao, Wang and Zhang, 1979
Location: intestine
Host: *Hemiculter leucisculus*
Dist.: Ha Noi
Record: Moravec and Sey 1988b

Rhabdochona (*Globochonoides*) *squaliobarbus* (F)
Moravec and Sey, 1988
Location: intestine
Host: *Squaliobarbus curriculus*
Dist.: Ha Noi
Record: Moravec and Sey 1988b

Rhabdochona (*Rhabdochona*) *vietnamensis* (F)
Moravec and Sey, 1988
Location: intestine
Hosts: ?*Cranoglanis bouderius*
?*Rhinogobius giurinus*
Dist.: Ha Noi

Record: Moravec and Sey 1988b

Rhabdochona (*Globochonoides*) sp. (F)
Location: intestine
Host: *Megalobrama terminalis*
Dist.: Ha Noi
Record: Moravec and Sey 1988b

Rhabdochona (*Rhabdochona*) sp. (F)
Location: intestine
Hosts: *Cirrhinus molitorella*
Megalobrama terminalis
Squaliobarbus curriculus
Dist.: Ha Noi
Record: Moravec and Sey 1988b

Unidentified Nematoda

Agamospirura sp. larva[101] (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Records: Te 1998a; Te and Yen 1999
Remarks: The genus *Agamospirura* is a collective genus for spiruroid-like larvae of unknown generic affiliation (see Moravec 1998).

Nematoda gen. sp. (F,M)
Location: not given
Hosts: *Alectis indicus* (1)
Alepes melanoptera (1)
Atropus atropos (1)
A. oreolatus (1)
Atule mate (1)
Carangidae (1)
Carangoides chrysophrys (1)
Caranx malabaricus (1)
Caranx sp. (1)
Decapterus sp. (1)
Echeneis naucrates (1)
Gnathanodon speciosus (1)
Megalaspis cordyla (1)
Psettodes erumei (1,2)
Rachycentron canadum (1)
Selar crumenophthalmus (1)
Selar sp. (1)
Selaroides leptolepis (1)
Seriola dumerili (1)
Seriolina nigrofasciata (1)
fish (3,4)
Dist.: Mekong River Delta, Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1989 (SCS); 3. Te 1993b (MRD); 4. Le Van Khoa 1999 (-)[102]

PHYLUM ACANTHOCEPHALA

CLASS PALAEACANTHOCEPHALA

ORDER ECHINORHYNCHIDA

FAMILY CAVISOMIDAE

Echinorhynchoides sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Records: Te 1993b, 1998a

Neorhadinorhynchus nudus (Harada, 1938) Yamaguti, 1939[103] (M)
Location: intestine
Host: *Decapterus* sp.
Dist.: South China Sea
Record: Parukhin 1976
Remarks: Parukhin (1976, 1989) noted that this species had also been reported in tunas from the South China Sea, Parukhin (1989) incorrectly citing Mamaev (1970) as containing this report. The source of this record is unclear.

FAMILY FESSISENTIDAE

Fessisentis sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te and Yen 1999

FAMILY ILLIOSENTIDAE

Brentisentis cyprini (Yin and Wu, 1984) Yu and Wu, 1989 (F)
Syn.: *Rhadinorhynchus cyprini*Yin and Wu, 1984
Location: intestine
Host: *Cyprinus carpio*
Dist.: Red River Delta

[101] The generic name was misspelled "*Agamospiura*" by all authors.

[102] The record is taken from Appendix 1 of Le Van Khoa (1999) and is presumed to involve fish.

[103] The specific name was misspelled "*nudum*" by Parukhin (1976).

Record: Te 1984

Paradentitruncus longireceptaculis (F)
Moravec and Sey, 1989
Location: intestine
Host: *Arius sinensis*
Dist.: Ha Noi
Record: Moravec and Sey 1989a

Pseudorhadinorhynchus vietnamensis (F)
Moravec and Sey, 1989
Location: intestine
Hosts: *Pangasius bocourti* (2)
Squaliobarbus curriculus (1)
Dist.: Ha Noi, Mekong River Delta
Records: 1. Moravec and Sey 1989a (HN); 2. Te *et al.* 1991 (MRD)

Pseudorhadinorhynchus sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta, southern Viet Nam
Records: Te 1998a (MRD); Te and Yen 1999 (MRD); Chon 1999 (SV)

Tegorhynchus multacanthus (Mamaev, 1970) (M)
Amin and Sey, 1996
Syn.: *Illiosentis multacanthus* Mamaev, 1970
Location: intestine
Hosts: Leiognathidae
Leiognathus equulus
Leiognathus sp.
Pomadasys hasta
Dist.: Gulf of Tonkin
Record: Mamaev 1970

FAMILY RHADINORHYNCHIDAE

Cathayacanthus bagarii (F)
Moravec and Sey, 1989
Location: intestine
Host: *Bagarius bagarius*
Dist.: Ha Noi
Record: Moravec and Sey 1989a

Cleaveius longirostris Moravec and Sey, 1989 (F)
Location: intestine
Hosts: *Cirrhinus molitorella*
Culter flavipinnis
Glossogobius giuris
?*Rhinogobius giurinus*
Dist.: Ha Noi
Record: Moravec and Sey 1989a

Gorgorhynchus medius (Linton, 1908) (M)
Chandler, 1934
Syn.: *Gorgorhynchus gibber* Chandler, 1934[104]
Location: body cavity, inner organs
Host: *Selar crumenophthalmus*
Dist.: Gulf of Tonkin
Record: Parukhin 1976
Remarks: Parukhin (1976) noted that this record involved juvenile specimens.

Gorgorhynchus sp. (M)
Location: not given
Host: *Abalistes stellaris*
Dist.: Gulf of Tonkin
Record: Parukhin 1989
Remarks: Parukhin (1989) noted that this record involved juvenile specimens.

Micracanthorhynchina hemiculterus (F)
(Demshin, 1965) Amin and Sey, 1996
Syn.: *Micracanthocephalus hemiculterus* Demshin, 1965
Location: intestine
Host: *Hemiculter leucisculus*
Dist.: northern Viet Nam[105]
Record: Demshin 1965

Rhadinorhynchus carangis Yamaguti, 1939 (M)
Syn.: *Protorhadinorhynchus carangis* (Yamaguti, 1939)
Location: intestine
Host: *Caranx malabaricus*
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968a (SCS), 1970 (GTO); Parukhin 1976 (SCS)
Remarks: the record given by Parukhin (1976) is based on the unpublished dissertation of B.I. Levedev.

Rhadinorhynchus ditrematus Yamaguti, 1939 (M)
Syn.: *Protorhadinorhynchus ditrematis* (Yamaguti, 1939)
Location: intestine
Host: *Decapterus* sp.
Dist.: Gulf of Thailand, Gulf of Tonkin, South China Sea

[104] The specific name was incorrectly given as "*gibberum*" by Parukhin (1976).
[105] Noted to be from the Red River.

Records: Lebedev 1968a (GTH,SCS), 1970 (GTO)
Remarks: The synonymy follows Amin (1985).

Rhadinorhynchus pristis (Rudolphi, 1802) (M)
Lühe, 1911
Location: intestine
Host: *Caranx malabaricus*
Dist.: Gulf of Tonkin, South China Sea
Records: Lebedev 1968a (SCS), 1970 (GTO); Parukhin 1976 (GTO)

Serrasentis sagittifer (Linton, 1889) (M)
Van Cleave, 1923
Syn.: *Serransentis chauhani* Datta, 1954
S. socialis (Leidy, 1851)
Includes: Acanthocephalans of Parukhin, 1964a[106]
Location: pyloric caeca, intestine, body cavity
Hosts: *Abalistes stellaris* (8,9)
Atropus atropos (2,7)
Caranx malabaricus (2,7)
Echeneis naucrates (4,7)
Gerres filamentosus (11)
Gerres sp. (11)
Gymnocranius griseus (11)
Lutjanus russellii (10)
Pomadasys hasta (11)
Psettodes erumei (3)
Rachycentron canadum (1,5,6,9)
Scomberoides lysan (2,7)
Triacanthus biaculeatus (6,8)
fish (3,9)
Dist.: Gulf of Thailand, Gulf of Tonkin, South China Sea
Records: 1. Parukhin 1964a (GTO), 2. 1966a (SCS), 3. 1967a (GTO), 4. 1967b (SCS), 5. 1970 (SCS), 6. 1971 (GTO), 7. 1976 (SCS), 8. 1989 (GTH,GTO); 9. Parukhin and Chikunova 1964 (GTH,GTO); 10. Lebedev 1970 (GTO); 11. Mamaev 1970 (GTO)
Remarks: The synonymy follows Amin (1985).
In Vietnamese waters, adults of *Serrasentis sagittifer* have only been found in the pyloric caeca and intestine of *Rachycentron canadum* (see Parukhin 1964a, 1970, 1971, Parukhin and Chikunova 1964). Records from other hosts involve juvenile stages.

CLASS EOACANTHOCEPHALA

ORDER GYRACANTHOCEPHALA

[106] Specimens from *Rachycentron canadum* listed only as acanthocephalans in Table 1 of Parukhin (1964a) were referred to *Serrasentis socialis* by Parukhin (1970).

FAMILY QUADRIGYRIDAE

Acanthocephalorhynchoides ussuriensis (F)
Kostylew, 1941
Syn.: *Palisentis ussuriensis* (Kostylew, 1941)
Location: intestine
Hosts: *Barbonymus gonionotus* (1)
Hampala macrolepidota (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1998a; 3. Te and Yen 1999

Acanthocephalorhynchoides sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

Acanthogyrus (*Acanthosentis*) *indicus* (M)
(Tripathi, 1959) Chubb, 1982
Syn.: *Acanthosentis indicus* Tripathi, 1959
Location: intestine
Host: *Pomadasys hasta*
Dist.: Gulf of Tonkin
Record: Mamaev 1970

Pallisentis (*Pallisentis*) *celatus* (F)
(Van Cleave, 1928) Baylis, 1933
Syn.: *Neosentis celatus* Van Cleave, 1928
Location: intestine
Host: *Monopterus albus*
Dist.: Ha Noi
Record: Moravec and Sey 1989a

Pallisentis (*Pallisentis*) *nagpurensis* (F)
(Bhalerao, 1931) Baylis, 1933
Location: [body?] cavity, intestine, kidney, liver
Hosts: *Anabas testudineus* (1)
Channa lucius (1)
C. micropeltes (1)
C. striata (1,3,4)
Glossogobius giuris (1)
Hemibagrus nemurus (1)
Monopterus albus (1)
Ompok bimaculatus (1)
Oxyeleotris marmorata (1)
O. urophthalmus (1)
Trichogaster pectoralis (1)
` *Wallago attu* (1)
fish (2,3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1993b, 3. 1998a;

4. Te and Yen 1999

Pallisentis (*Demidueterospinus*) *ophiocephali* (Thapar, 1931) Baylis, 1933 (F)
Location: intestine
Hosts: *Channa striata* (1)
fish (2,3,4)
Dist.: Mekong River Delta, southern Viet Nam
Records: 1. Te *et al.* 1991 (MRD); 2. Te 1998a (MRD); 3. Te and Yen 1999 (MRD); 4. Chon 1999 (SV)
Remarks: As the record of this species by Moravec and Sey (1989a) has been recently reassigned to *Pallisentis* (*Brevitritospinus*) *vietnamensis* Amin, Heckmann, Ha, Luc and Doahn, 2000 (see Amin *et al.* 2000), it is possible that some or all of these records also pertain to this new taxon.

Pallisentis (*Brevitritospinus*) *vietnamensis* Amin, Heckmann, Ha, Luc and Doahn, 2000 (F)
Syn.: *Pallisentis ophiocephali* of Moravec and Sey, 1989
Location: intestine
Hosts: ?*Acanthorhodeus fortunensis* (1)
Channa maculata (1,2)
Dist.: Ha Noi[107]
Records: 1. Moravec and Sey 1989a; 2. Amin *et al.* 2000
Remarks: Morevec and Sey (1989a) believed that the record of *Pallisentis gaboes* (MacCallum, 1918) from *Channa maculata* (as *Ophicephalus maculatus*) contained in the unpublished dissertation synopsis of Ky (1969) apparently pertained to *P. ophiocephali* (Thapar, 1930); however, Amin *et al.* (2000) referred this record, as well as that of *P. ophiocephali* by Moravec and Sey (1989a) to *P.* (*B.*) *vietnamensis*.

Pallisentis sp. (F)
Location: intestine, liver
Hosts: *Channa lucius* (1)
C. striata (1,2)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993b

[107] Moravec and Sey (1989a) noted that their specimens were obtained from the Red River near Hanoi; Amin *et al.* (2000) indicated that their hosts originated from waters around Hanoi and were purchased alive from a Hanoi fish market and subsequently gave the collection locality as "Lakes and Red River near Hanoi, Vietnam."

ORDER NEOECHINORHYNCHIDA

FAMILY DENDRONUCLEATIDAE

Dendronucleata dogieli Sokolovskaya, 1962 (F)
Location: intestine
Hosts: *Cyprinus carpio* (1)
Notopterus notopterus (3)
fish (2,4)
Dist.: Mekong River Delta, Red River Delta
Records: 1. Te 1984 (RRD), 2. 1998a (MRD); 3. Te *et al.* 1991 (MRD); 4. Te and Yen 1999 (MRD)

Dendronucleata petruschewskii Sokolovskaya, 1962 (F)
Location: intestine
Hosts: *Cirrhinus molitorella*
?*Hemibagrus elongatus*
Hemiculter leucisculus
Megalobrama terminalis
Onychostoma lepturus
?Opsariichthys uncirostris uncirostris
Pelteobagrus vachellii
Squaliobarbus curriculus
Dist.: Ha Noi
Record: Moravec and Sey 1989a
Remarks: Moravec and Sey (1989a) suggested that this taxon may be a junior synonym of *Dendronucleata dogieli*.

Dendronucleata sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

FAMILY NEOECHINORHYNCHIDAE

Neoechinorhynchus sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

Unidentified Acanthocephala

Acanthocephala gen. sp. (F,M)
Location: not given
Hosts: *Echeneis naucrates* (1)
Psettodes erumei (1)
fish (2)

Dist: Mekong River Delta, Gulf of Tonkin
Records: 1. Parukhin 1964a (GTO)[108]; 2. Te 1993b (MRD)

PHYLUM ANNELIDA

CLASS HIRUDINEA

ORDER RHYNCHOBDELLIDA

FAMILY GLOSSIPHONIIDAE

Hemiclepsis sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

FAMILY PISCICOLIDAE

Caspiobdella fadejewi (Epshtein, 1961) (F)
Epshtein, 1969[109]
Syn.: *Piscicola fadejewi* Epshtein, 1961
Location: skin
Hosts: *Barbonymus gonionotus* (1)
Hemibagrus nemurus (1)
Oxyeleotris marmorata (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1998a; 3. Te and Yen 1999
Remarks: As *Caspiobdella fadejewi* is known only from the drainages of the Black and Azov seas (western Russia), these records from Viet Nam probably involve misidentifications (E.M. Burreson, pers. comm.).

Piscicola geometra (Linnaeus, 1761) (F)
Blainville, 1818
Location: skin
Host: *Oreochromis niloticus niloticus*
Dist.: Quang Ninh, Mekong River Delta
Records: Te *et al.* 1991 (MRD); Te, Lua and Viet 1999 (QN)
Remarks: Although *Piscicola geometra* is widely distributed in Europe and Asia, it is mainly a boreal species and has never been reported from the tropics. It is possible that these reports from Viet Nam may involve *Zeylanicobdella arugamensis* de Silva, 1963, which is widely distributed on estuarine fish (including *Oreochromis*) in India, Indonesia, northern Australia and the Philippines (E.M. Burreson, pers. comm.)

Piscicola sp. (-)
Location: not given
Host: fish
Dist.: Mekong River Delta
Records: Te 1993b; Le Van Khoa 1999 (-)[110]

PHYLUM MOLLUSCA

CLASS PELECYPODA

SUBCLASS PALAEAHETERODENTA

ORDER UNIONIDA

FAMILY UNIONIDAE

Unionidae gen. sp. (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

PHYLUM ARTHROPODA

CLASS CRUSTACEA

SUBCLASS BRANCHIURA

ORDER ARGULOIDEA

FAMILY ARGULIDAE

Argulus chinensis Ku and Yang, 1955 (F)
Location: skin
Hosts: *Channa micropeltes* (1,3,5)
C. striata (1,5)
fish (2,4,6)
Dist.: Mekong River Delta
Records: 1. Te 1989, 2. 1993b, 3. 1995c, 4. 1998a; 5. Te *et al*. 1991; 6. Te and Yen 1999
Remarks: Te (1995c) noted that this crustacean can cause mortalities.

[108] Material from *Rachycentron canadum* reported as unidentified acanthocephalans in Table 1 of Parukhin (1964a) was referred to *Serrasentis socialis* (syn. of *S. sagittifer*) by Parukhin (1970).
[109] Vietnamese authors have misspelled the specific name as "*jadejewi*".
[110] The record is taken from Appendix 1 of Le Van Khoa (1999) (as "*Piscicolla*") and is presumed to involve fish.

Argulus foliaceus (Linnaeus, 1758) Jurine, 1806 (F)
Location: body
Hosts: *Aristichthys nobilis*
Cyprinus carpio
Hypophthalmichthys harmandi
Dist.: northern Viet Nam
Record: Te 1989[111]
Remarks: As there are no confirmed reports of *Argulus foliaceus* from Southeast Asia, the above records from Vietnamese fishes may involve misidentifications of the closely related *A. japonicus* Thiele, 1900 (W.J. Poly, pers. comm.).

Argulus japonicus Thiele, 1900 (F)
Location: body
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta, northern Viet Nam
Records: Te *et al.* 1991 (MRD); Te, Lua and Viet 1999 (NV)

Argulus sp. (F)
Location: skin, gills
Hosts: *Ctenopharyngodon idellus* (3)
Channa micropeltes (3,4,7)
C. striata (4,5)
Cyprinus carpio (2,8)
Oreochromis sp. (1)
Oxyeleotris marmorata (4,5,7)
fish (6)
Dist.: An Giang, Hai Phong, Ho Chi Minh, Mekong River Delta, Red River Delta
Records: 1. Ky 1975 (HP); 2. Te 1984 (RRD), 3. 1993a (AG), 4. 1993b (MRD), 5. 1998a (MRD); 6. Le Van Khoa 1999 (-); 7. Te and Yen 1999 (MRD); 8. Chon 1999 (HCM)
Remarks: Ky (1975) noted that *Argulus* caused mass mortality of brackishwater acclimated tilapia in Quy Kim Hatchery, Hai Phong in 1961, while Te (1998a) noted that infections by this parasite can lead to death of cage-cultured fishes.

SUBCLASS ENTOMOSTRACA

ORDER COPEPODA

SUBORDER CYCLOPOIDA

FAMILY LERNAEIDAE

Lamproglena chinensis Yu, 1937 (F)
Location: gills
Hosts: *Anabas testudineus* (1,3)
Channa lucius (1,3)
C. striata (1,3)
Notopterus notopterus (1,3)
fish (2,4,5)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1995c, 4. 1998a; 5. Te and Yen 1999

Lamproglena sp. (F)
Location: gills
Hosts: *Clarias macrocephalus* (1)
fish (2)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b

Lernaea cyprinacea Linnaeus, 1758 (F)
Syn.: *Lernaea carassi* Tidd, 1933
Location: body, fins
Hosts: *Aristichthys nobilis* (3)
Carassius auratus auratus (1,3)
Channa micropeltes (3)
C. striata (3)
Cyprinus carpio (1,2,3)
Hypophthalmichthys harmandi (3)
fish (4)
Dist.: Ha Tay, Phu Tho, Mekong River Delta, Red River Delta, northern Viet Nam
Records: 1. Chevey and Lemasson 1936 (HTA,PT)[112]; 2. Te 1984 (RRD), 3. 1989 (MRD,NV)[113], 4. 1993b (MRD)
Remarks: Te (1989) noted that *Lernaea*, in association with other pathogens, was responsible for the loss of 300 000 grass carp and bighead carp fry at Nhat Tan fish seed farm.

Lernaea elegans Leigh-Sharpe, 1925 (F)
Syn.: *Lernaea ctenopharyngodontis* Yin, 1960[114]
Location: [external surface]
Host: fish
Dist.: southern Viet Nam
Record: Chon 1999
Remarks: The validity of this species requires further study. It may be a synonym *of L. cyprinacea* (see Kabata 1981).

[111] The above records were taken from the unpublished dissertation synopsis of Ky (1969).

[112] The records of Chevey and Lemasson (1936) were given using the host common names "carassin doré" and "carpe."

[113] Some of the host records given by Te (1989) were taken from the unpublished dissertation synopsis of Ky (1969).

[114] The genus and specific names were misspelled "*Lernae*" and "*ctenopharyngodoni*" by Chon (1999).

Lernaea lophiara Harding, 1950 (F)
Location: body
Hosts: *Channa striata* (1,2)
Oxyeleotris marmorata (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995c, 3. 1998a; 4. Te and Yen 1999
Remarks: Te (1995c) noted that infection by this copepod promotes secondary infections by bacteria, resulting in mortalities.

Lernaea oryzophila Monod, 1932 (F)
Location: base of fins
Host: *Oxyeleotris marmorata*
Dist.: southern Viet Nam[115]
Record: Monod 1932

Lernaea sp. (F)
Location: gills [?], skin
Hosts: *Aristichthys nobilis* (1)
Cirrhinus sp. (5)
Clarias gariepinus x *C. macrocephalus* (4)
Ctenopharyngodon idellus (1,5)
Cyprinus carpio (1,5)
Oxyeleotris marmorata (4)
fish (1,2,3)
Dist.: Binh Duong, Ha Tay, Ha Noi, Nam, Ha,Vinh Phu, Mekong River Delta
Records: 1. Ky 1975 (HN,HTA,NH,VP) 2. Te 1993a (-); 3. Jeney *et al.* 1998 (MRD); 4. Dung *et al.* 1999 (MRD); 5. Chon 1999 (BD)
Remarks: Ky (1975) noted that anchor worm and other diseases killed more than 300 000 bighead and grass carp at Nhat Tan (Hanoi) Aquaculture State Enterprise in 1961. He also noted that treatments were also applied to combat this parasite at Viet-Tiep Enterprise (Hanoi), and other enterprises in Vinh Phu and Nam Ha.

SUBORDER POECILOSTOMATOIDA

FAMILY ERGASILIDAE

Ergasilus anchoratus Markevich, 1946 (F)
Location: [gills]
Host: fish
Dist.: southern Viet Nam
Record: Chon 1999

[115] The locality was given as "Cochinchine (localité exacte inconnue)".

Ergasilus philippinensis Velasquez, 1951 (F)
Location: gills
Hosts: *Glossogobius giuris* (1,2)
Oxyeleotris marmorata (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1995c, 3. 1998a; 4. Te and Yen 1999

Ergasilus thailandensis Capart, 1943 (F)
Location: gills
Hosts: *Plotosus canius* (1,2)
fish (3,4)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1995c, 3. 1998a; 4. Te and Yen 1999

Ergasilus sp. (F)
Location: gills
Hosts: *Anabas testudineus* (1)
Barbonymus gonionotus (1)
Channa striata (1)
Clarias gariepinus x *C. macrocephalus* (4)
C. macrocephalus (1)
Helostoma temminckii (1)
Hemibagrus nemurus (1)
Notopterus notopterus (1)
Oxyeleotris marmorata (4)
Pangasius hypophthalmus (1)
P. larnaudii (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al.* 1991; 2. Te 1993b, 3. 1998a; 4. Dung *et al.* 1999

Paraergasilus brevidigitus Yin, 1954 (F)
Location: fins
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Paraergasilus medius Yin, 1956 (F)
Location: gills, skin
Host: *Cyprinus carpio*
Dist.: Red River Delta
Record: Te 1984

Paraergasilus sp. (F)
Location: gills
Host: *Cyprinus carpio*
Dist.: Binh Duong
Record: Chon 1999

SUBORDER SIPHONOSTOMATOIDEA

FAMILY CALIGIDAE

Caligus lacustris Steenstrup and Lütken, 1861 (B)
Location: skin
Host: *Oreochromis niloticus niloticus*
Dist.: Quang Ninh
Record: Te, Lua and Viet 1999
Remarks: *Caligus lacustis* is a parasite of many species of European freshwater fish. Its occurrence in Viet Nam requires verification.

Caligus sp. (F,B)
Location: skin
Host: *Oreochromis niloticus niloticus*
Dist.: Mekong River Delta
Record: Te *et al.* 1991

Caligididae gen. sp. (M)
Includes: "sea lice" auctorum
Location: [skin]
Host: grouper
Dist.: Khanh Hoa
Records: Dung 2001 (KH); Cameron 2001 (-)

Lepeophtheirus sp. (M)
Location: gills [?][116]
Host: *Epinephelus tauvina*
Dist.: Gulf of Tonkin
Record: Te 1998b

FAMILY PENNELLIDAE

Lernaeocera branchialis (Linnaeus, 1767) (M)
Wilson, 1917
Location: gills
Host: *Epinephelus tauvina*
Dist.: Gulf of Tonkin
Record: Te 1998b

[116] Members of the genus *Lepeophtheirus* are typically parasites of the body surface of marine fish.

SUBCLASS MALACOSTRACA

ORDER ISOPODA[117]

SUBORDER FLABELLIFERA

FAMILY AEGIDAE

Alitropus typus Milne Edwards, 1840 (F)
Location: gill cavity, mouth, skin
Host: fish
Dist.: Mekong River Delta
Record: Te 1995c
Remarks: Te (1995c) noted that this isopod can cause mortalities.

FAMILY CORALLANIDAE

Corallana grandiventra Ho and Tonguthai, 1992[118] (F)
Location: skin
Hosts: *Notopterus notopterus* (1)
fish (2,3)
Dist.: Mekong River Delta
Records: 1. Te *et al*. 1991; 2. Te 1998a; 3. Te and Yen 1999

Corallana sp. (M)
Location: skin
Host: *Epinephelus tauvina*
Dist.: Gulf of Tonkin
Record: Te 1998b

Unidentified Isopoda

Isopoda gen. sp. (F)
Location: not given
Host: fish
Dist.: Mekong River Delta
Record: Te 1993b

[117] Although not clearly indicated in Te (1993b), the record of a bopyrid isopod (as "Bopyrid sp.") given in his Table 1 pertains to *Macrobrachium rosenbergii* (see Te 1989).

[118] Te (1998a) erroneously listed this species as "*Cirolana grandiventra* Ju et Kamonporn, 1991".

NOMINA NUDA

The following names appear in literature dealing with the fish parasites of Viet Nam. However, because their authors provided neither species discriptions nor differential diagnoses, they are unrecognizable. These name are unavailable and therefore, should not be used (see the International Code of Zoological Nomenclature, Article 13).

Monogenoidea

Pseudodactylogyrus marmoratus Te, Yen, Lang and Trung, 1991

Digenea

Tormopsolus carangis Parukhin, 1966 (nec *T. carangi* Parukhin, 1976).

Nematoda

Chitwoodia chitwoodae Le-Van-Hoa and Pham-Ngoc-Khue, 1970[119]

Proleptus albi Te, Yen, Lang and Trung, 1991

[119] This material was subsequently described as *Chitwoodia chitwoodae* Le-Van-Hoa and Pham-Ngoc-Khue, 1971

HOST-PARASITE LIST

CLASS ACTINOPTERYGII

ORDER OSTEOGLOSSIFORMES

FAMILY NOTOPTERIDAE

Chitala chitala (Hamilton) clown knifefish
Syn.: *Notopterus chitala* (Hamilton) ca com
Status: native
Environment: freshwater
Nematoda
Pseudoproleptus lamyi (HCM)
Remarks: The distribution of this species is restricted to South Asia (see Froese and Pauly 2003); records from Viet Nam are regarded as misidentifications of either *Chitala ornata* (Gray) *or C. blanci* (d'Aubenton) (M. Kottelat, pers. comm.).

Notopterus notopterus (Pallas) bronze featherback
Status: native ca that lat
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
Capriniana piscium (MRD)
Chilodonella hexasticha (MRD)
C. piscicola (MRD)
Cryptobia branchialis (MRD)
Epistylis sp. (MRD)
Trichodina nigra (MRD)
Tripartiella bulbosa (MRD)
Myxozoa
Henneguya sp. (MRD)
Digenea
Singhia kruinensis (HG,MRD)
Monogenoidea
Dactylogyridae gen. sp. (MRD)
Malayanodiscoides bihamuli (MRD)
Thaparocleidus notopterus (MRD)
Thaparocleidus sp. (MRD)
Nematoda
Procamallanus sp. (MRD)
Spinitectus notopteri (MRD)
Acanthocephala
Dendronucleata dogieli (MRD)
Copepoda
Ergasilus sp. (MRD)
Lamproglena chinensis (MRD)
Isopoda
Corallana grandiventra (MRD)

ORDER ANGUILLIFORMES

FAMILY ANGUILLIDAE

Anguilla marmorata giant mottled eel
Quoy and Gaimard –
Syn.: *Anguilla mauritiana* Bennett
Status: native
Environment: freshwater, brackish, marine
Nematoda
Campanarougetia campanarougetae (HCM)

ORDER CLUPEIFORMES

FAMILY CHIROCENTRIDAE

Chirocentrus dorab (Forrskål) dorab wolf-herring
Status: native ca lanh
Environment: marine, brackish
Digenea
Acanthocolpus liodorus (GTO)
A. luehei (GTO)
Allostomachicola secundus (GTO)
?*Stephanostomum tenue* (GTO)
Cestoda
Eutetrarhynchidae gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Heptochona dorabi (GTO)
Porrocaecum sp. larva (GTO)

FAMILY CLUPEIDAE

Dussumieria elopsoides slender rainbow sardine
Bleeker ca lam
Syn.: *Dussumieria hasselti* Bleeker
Status: native
Environment: marine
Digenea
Aponurus laguncula (GTO)
Erilepturus formosae (GTO)
Lecithocladium harpodontis (GTO)
Nematoda
Anisakis sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Herklotsichthys quadrimaculata bluestripe herring
(Rüppell) –
Syn.: *Harengula schrammi* (Bleeker)
Status: native
Environment: marine
Digenea
Parahemiurus clupeae (SCS)

Ilisha sp. –
Status: native
Environment: marine
Digenea
Acanthocolpus liodorus metacercaria (GTO)
Aponurus laguncula (GTO)
Lecithocladium harpodontis (GTO)
Lecithochirium imocavum (GTO)
Cestoda
Eutetrarhynchidae gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Echinocephalus sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Sardinella sp. –
Status: native ca trich
Environment: marine
Digenea
Acanthocolpus liodorus metacercaria (GTO)
Aponurus laguncula (GTO)
Heterophyidae gen. sp. metacercaria (GTO)
?*Lecithocladium excisum* (GTO)
Parahemiurus merus (GTO)
?*Stephanostomum tenue* metacercaria (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Philometra sp. (GTO)
Porrocaecum sp. larva (GTO)

ORDER CYPRINIFORMES

FAMILY CYPRINIDAE

Acanthorhodeus fortunensis –
Status: native ca the be
Environment: freshwater
Nematoda
Pingus sinensis (HN)
Spinitectus sp. (HN)
Acanthocephala
Pallisentis (*Brevitritospinus*) *vietnamensis* (HN)
Remarks: The validity of this host name could not be confirmed. It is probably one of the numerous nomina nuda occurring in the Vietnamese literature (M. Kottelat, pers. comm.).

Aristichthys nobilis (Richardson) bighead carp
Status: exotic ca me hoa
Environment: freshwater
Protozoa
Apiosoma piscicolum cylindriformis (NV)
Ichthyophthirius multifiliis (NV)
Trichodina nobillis (NV)
Trichodina sp. (BD)
Trichodinidae gen. sp. (-)
Myxozoa
Myxobolus divergens (HB,HN)
Myxobolus sp. (-)
Monogenoidea
Dactylogyridae gen. sp. (HN)
Dactylogyrus nobilis (NV)
Dactylogyrus sp. (BD)
Branchiura
?*Argulus foliaceus* (NV)
Copepoda
Lernaea cyprinacea (NV)
Lernaea sp. (HN)

Bangana tonkinensis (Pelllegrin and Chevey) –
Syn.: *Varicorhinus tonkinensis* Pellegrin and Chevy –
Status: native
Environment: freshwater
Monogenoidea
Dactylogyrus laokajensis (LC)
D. tonkinensis (LC)

Barbonymus altus (Günther) red tailed tinfoil
Syn.: *Puntius altus* (Günther) ca he vang
Status: native
Environment: freshwater
Protozoa
Balantidium spinibarbichthys (MRD)
Ichthyonyctus baueri (MRD)
Protozoa gen. sp. (MRD)
Myxozoa
Myxobolus sp. (MRD)
Digenea
Masenia collata metacercaria (MRD)
Monogenoidea
Dactylogyrus viticulus (MRD)
Dactylogyrus sp. (MRD)
Eudiplozoon nipponicum (MRD)
Monogenoidea gen. sp. (MRD)
Nematoda
Cucullanus cyprini (MRD)

Barbonymus balleroides (Valenciennes) –
Syn.: *Puntius bramoides* (Valenciennes) ca tra-vinh
Status: native
Environment: freshwater

Nematoda
Chitwoodia chitwoodae (HCM)

Barbonymus gonionotus (Bleeker) Java barb
Syn.: *Barbodes gonionotus* (Bleeker) ca me vinh
Puntius gonionotus (Bleeker)
Status: native
Environment: freshwater
Protozoa
Cryptobia branchialis (MRD)
Protozoa gen. sp. (MRD)
Trichodina nobillis (MRD)
Trichodinidae gen. sp. (MRD)
Tripartiella bulbosa (MRD)
Tripartiella sp. (MRD)
Myxozoa
Myxobolus macrocapsularis (MRD)
Thelohanellus catlae (MRD,RRD)
Digenea
?*Allocreadium isoporum* (MRD)
Allocreadium sp. (DT,TG)
Centrocestus formosanus metacercaria (MRD)
Masenia collata metacercaria (MRD)
Monogenoidea
Dactylogyrus sp. (MRD)
Gyrodactylus squaliobarbi (MRD)
Monogenoidea gen. sp. (MRD)
Acanthocephala
Acanthocephalorhynchoides ussuriensis (MRD)
Hirudinea
?*Caspiobdella fadejewi* (MRD)
Copepoda
Ergasilus sp. (MRD)

Carassius auratus auratus (Linnaeus) goldfish
Status: uncertain ca diec
Environment: freshwater
Protozoa
Trichodina pediculus (NV)
Myxozoa
Myxobolus sp. (-)
Monogenoidea
Dactylogyridae gen. sp. (-)
Dactylogyrus intermedius (NV)
Paradiplozoon doi (-)
Copepoda
Lernaea cyprinacea (HTA,NV)
Remarks: According to DIAS (1998), this host was introduced from China at an unknown date. However, M. Kottelat (pers. comm.) notes that the goldfish may be native to northern Viet Nam.

Carassius gibelio (Bloch) Prussian carp
Syn.: *Carassius auratus gibelio* (Bloch) –
Status: exotic
Environment: freshwater
Monogenoidea
Eudiplozoon nipponicum (-)
Paradiplozoon doi (-)
Remarks: This species does not occur in Viet Nam (M. Kottelat, pers. comm.). The above records are thus probably based on misidentifications of *Carassius auratus auratus*.

Catla catla (Hamilton) catla
Status: exotic ca catla an Do
Environment: freshwater
Protozoa
Epistylis sp. (MRD)
Protozoa gen. sp. (MRD)
Trichodinella epizootica (MRD)
Tripartiella bulbosa (QN,MRD)
T. obtusa (MRD)
Digenea
Centrocestus formosanus metacercaria (MRD)
Monogenoidea
Dactylogyrus kalyanensis (MRD)

Cirrhinus cirrhosus (Bloch) mrigal
Syn.: *Cirrhina mrigala* (Hamilton) ca troi mrigal[120]
Status: exotic
Environment: freshwater
Protozoa
Apiosoma minutum (BN,MRD)
Ichthyophthirius multifiliis (BN,MRD)
Protozoa gen. sp. (MRD)
Trichodina acuta (BN,MRD)
T. mutabilis (BN,MRD)
T. nigra (BN,MRD)
T. nobillis (BN,MRD)
T. perforata (MRD)
T. rectangli (BN,MRD)
Trichodinella epizootica (BN,MRD)
T. subtilis (MRD)
Tripartiella bulbosa (BN)
Myxozoa
Myxobolus koi (BN,HB,HN,QN,MRD)
?*M. minutus* (MRD)
M. semeniformis (HCM,TG,MRD)
Digenea
Centrocestus formosanus metacercaria (BN,MRD)
Monogenoidea
Dactylogyrus yogendrai (BN,MRD)

[120] Other Vietnamese common names appearing in the parasitological literature are "ca troi an Do", "ca mrigal an Do" and "ca troi an".

Cirrhinus jullieni Sauvage –
Status: native ca linh ong
Environment: freshwater
Protozoa
Trichodina nigra (MRD)
Tripartiella bulbosa (MRD)
Myxozoa
Myxobolus sp. (MRD)
Monogenoidea
Dactylogyrus sp. (MRD)

Cirrhinus microlepis small scale mud carp
Sauvage ca duong
Status: native
Environment: freshwater
Protozoa
Ichthyophthirius multifiliis (MRD)

Cirrhinus molitorella (Valenciennes) mud carp
Syn.: *Cirrhinus chinensis* Günther ca linh ria[121]
Status: native
Environment: freshwater
Protozoa
Balantidium strelkovi (BK,LC)
Ichthyophthirius multifiliis (NV)
Trichodina pediculus (NV)
Myxozoa
Myxobolus semeniformis (HN)
M. uyeni (LC)
Myxobolus sp. (HN)
Digenea
Carassotrema koreanum (BK,LC)
Prosorhynchus sp. (HN)
Monogenoidea
Dactylogyridae gen. sp. (-)
Dactylogyrus babensis (BK,HN,LC)
D. bakanensis (BL,HN,LC)
D. molitorelli (BK,HN,LC)
D. quangfami (BK,HN,LC)
D. uyeni (BK,HN,LC)
D. zoanyngi (BK,HN,LC)
Paradiplozoon doi (-)
P. vietnamicum (HN,HP)
Nematoda
Camallanus (*Camallanus*) *alii* (BK,LC)
Rhabdochona (*Rhabdochona*) sp. (HN)
Spinitectus sp. (HN)
Acanthocephala
Cleaveius longirostris (HN)
Dendronucleata petruschewskii (HN)

[121] Other Vietnamese common names appearing in the parasitological literature are "ca troi" and "ca troi Vietnam".

Cirrhinus sp. –
Status: native ca troi
Environment: freshwater
Protozoa
Ichthyophthirius multifiliis (MRD)
Trichodina sp. (BD)
Trichodinella sp. (BD)
Monogenoidea
Dactylogyrus sp. (BD)
Copepoda
Lernaea sp. (BD)

Ctenopharyngodon idellus grass carp
(Valenciennes) ca cham treng[122]
Status: exotic
Environment: freshwater
Protozoa
Balantidium sp. (AG,BD)
Chilodonella piscicola (NV)
Chilodonella sp. (BN)
Ichthyophthirius multifiliis (PT,NV)
Ichthyophthirius sp. (NV)
Trichodina nobillis (NV)
T. pediculus (NV)
Trichodina sp. (AG,BD,NV)
Myxozoa
Henneguya sp. (AG,MRD)
Myxobolus sp. (AG)
Monogenoidea
Dactylogyridae gen. sp. (-)
Dactylogyrus lamellatus (NV)
Dactylogyrus sp. (AG,BD)
Branchiura
Argulus sp. (-)
Copepoda
Lernaea sp. (BD,HN)
Remarks: The specific name is frequently mispelled "*idella*."
.

Cultrichthys erythropterus predatory carp
(Basilewsky) ca ngao
Syn.: *Culter tientsinensis* Abbot
Status: native
Environment: freshwater
Monogenoidea
Paradiplozoon doi (-)
Remarks: The synonomy follows Kottelat (2001).

Culter flavipinnis (Tirant) –
Syn.: *Erythroculter recurvirostris* ca thieu gu
(Sauvage)

[122] The Vietnamese common name ca tram co is frequently used in the papers of Bu Quang Te and coworkers.

Status: native
Environment: freshwater
Acanthocephala
Cleaveius longirostris (HN)
Remarks: The synonymy follows Kottelat (2001).

Cyprinus carpio Linnaeus common carp
Status: native ca chep
Environment: freshwater
Protozoa
Apiosoma minutum (BN,RRD)
A. piscicolum cylindriformis (RRD,NV)
Chilodonella piscicola (RRD,NV)
Chilodonella sp. (BN)
Cryptobia branchialis (RRD)
Epistylis sp. (RRD)
Goussia carpelli (RRD)
Ichthyobodo necator (RRD)
Ichthyophthirius multifiliis (RRD,NV)
Pseudoamphileptus macrostoma (BN, RRD)
Trichodina acuta (RRD)
T. nigra (RRD)
T. nobillis (NV)
T. pediculus (BD,RRD,NV)
Trichodina sp. (BD)
Trichodinidae gen. sp. (-)
Myxozoa
Myxobolus achmerovi (BK,BN,HN,RRD)
M. anisocapsularis (BN,HN,RRD)
M. artus (RRD)
M. cyprinicola (RRD)
M. koi (BN,HB,HN,HP,QN)
M. toyamai (BK,BN,HB,HN,QN,RRD)
Myxobolus sp. (-)
Thelohanellus acuminatus (HP,RRD)
T. callisporis (HN,RRD)
T. catlae (RRD)
T. dogieli (RRD)
Digenea
?*Allocreadium isoporum* (BN,RRD)
Centrocestus formosanus metacercaria (RRD)
Centrocestus sp. metacercaria (BN)
?*Stephanostomum* sp. metacercaria (HCM)
Monogenoidea
Dactylogyridae gen. sp. (-)
Dactylogyrus achmerowi (RRD)
D. anchoratus (RRD)
D. extensis (RRD)
D. falciformis (RRD)
D. minutus (BN,RRD,NV)
Dactylogyrus sp. (BD)
Gyrodactylus medius (RRD)
Gyrodactylus sp. (BD)
Paradiplozoon doi (BN,RRD)
Cestoda
Diphyllobothrium sp. plerocercoid (HCM)
Khawia sinensis (RRD)
Nematoda
?*Camallanus* (*Camallanus*) *truncatus* (BN)
Cucullanus cyprini (BK,RRD)
Philometra sp. (HCM)
Acanthocephala
Brentisentis cyprini (RRD)
Dendronucleata dogieli (RRD)
Mollusca
Unionidae gen. sp. (RRD)
Branchiura
?*Argulus foliaceus* (NV)
Argulus sp. (HCM,RRD)
Copepoda
Lernaea cyprinacea (HTA,PT,RRD,NV)
Lernaea sp. (BD,HT)
Paraergasilus brevidigitus (RRD)
P. medius (RRD)
Paraergasilus sp. (BD)
Remarks: Records of *Cyprinus carpio* from northern Viet Nam may involve misidentifications of *C. rubrofuscus* (see Kottelat 2001).

Cyprinus rubrofuscus Lacepède –
Includes: *Cyprinus carpio haematopterus* auctorum
Status: native
Environment: freshwater
Monogenoidea
Eudiplozoon nipponicum (-)

Elopichthys bambusa (Richardson) yellowcheek
Status: native ca chay dam
Environment: freshwater
Monogenoidea
Paradiplozoon doi (-)
Nematoda
Meteterakis japonica (HN)

Hampala macrolepidota hampala barb
(Valenciennes) ca ngua
Status: native
Environment: freshwater
Digenea
Plagioporus macrolepidotus (DT,LA)
P. myoxocephalus (MRD)
Monogenoidea
Dactylogyrus sp. (MRD)
Nematoda
Camallanus (*Camallanus*) *hampalae* (MRD)
Acanthocephala

Acanthocephalorhynchoides ussuriensis (MRD)

Hemiculter leucisculus (Basilewsky) sharpbelly
Syn.: *Hemiculter leucisculus* ca muong
leucisculus (Basilewsky)
Status: native
Environment: freshwater, brackish
Digenea
Carassotrema koreanum (HN)
Monogenoidea
Paradiplozoon doi (-)
Nematoda
Rhabdochona (*Rhabdochona*)
jiangxiensis (HN)
Acanthocephala
Dendronucleata petruschewskii (HN)
Micracanthorhynchina hemiculterus (NV)

Hypophthalmichthys harmandi Sauvage –
Status: native ca me trang Viet Nam
Environment: freshwater
Protozoa
Apiosoma piscicolum cylindriformis (NV)
Chilodonella piscicola (NV)
Ichthyophthirius multifiliis (NV)
Trichodina nobillis (NV)
T. pediculus (NV)
Myxozoa
Myxobolus assymetricus (HB)
M. discapsularis (HB)
M. ellipticus (HN)
M. humilis (HB)
M. pavlovskii (HB,HN)
Zschokkella donecae (HN)
Monogenoidea
Dactylogyrus harmandi (NV)
?*Gyrodactylus medius* (BN)
Paradiplozoon doi (-)
Branchiura
?*Argulus foliaceus* (NV)
Copepoda
Lernaea cyprinacea (NV)

Hypophthalmichthys molitrix silver carp
(Valenciennes) ca me trang Trung Quoc
Status: exotic
Environment: freshwater
Digenea
Clonorchis sinensis metacercaria (NB)
Monogenoidea
Dactylogyrus harmandi (HB,HN,HP)
Paradiplozoon doi (-)
Copepoda

Hypophthalmichthys sp. –
Status: unknown
Environment: freshwater
Protozoa
Chilodonella sp. (BN)
Ichthyophthirius sp. (-)
Trichodina sp. (BD)
Trichodinidae gen. sp. (-)
Myxozoa
Myxobolus sp. (-)
Monogenoidea
Dactylogyridae gen. sp. (-)
Dactylogyrus sp. (BD)

Labeo chryophekadion black sharkminnow
(Bleeker) ca et moi
Status: native
Environment: freshwater
Protozoa
Epistylis sp. (HCM)
Digenea
?*Stephanostomum* sp. metacercaria (HCM)
Cestoda
Senga sp. (HCM)
Nematoda
Philometra sp. (HCM)

Labeo rohita (Hamilton) rohu
Status: exotic ca rohu an Do
Environment: freshwater
Protozoa
Apiosoma minutum (BN,MRD)
Ichthyobodo necator (MRD)
Ichthyophthirius multifiliis (BN)
Protozoa gen. sp. (MRD)
Trichodina acuta (BN,MRD)
?*T. domerguei* (MRD)
T. nigra (BN,MRD)
T. nobillis (BN,MRD)
T. pediculus (MRD)
T. perforata (MRD)
T. rectangli (BN,MRD)
Trichodinella epizootica (BN,MRD)
T. subtilis (MRD)
Tripartiella bulbosa (BN,QT,MRD)
T. obtusa (MRD)
Tripartiella sp. (MRD)
Myxozoa
Myxobolus koi (BN,MRD)
?*M. minutus* (MRD)
M. semeniformis (HCM,TG,MRD)
Digenea
Centrocestus formosanus metacercaria
(BN,MRD)
Masenia collata metacercaria (MRD)
Monogenoidea

Dactylogyrus labei (BN,MRD)

Labiobarbus leptocheila (Valenciennes) –
Syn.: *Labiobarbus lineatus* (Sauvage) ca linh ria
Status: native
Environment: freshwater
Monogenoidea
Dactylogyrus sp. (MRD)

Leptobarbus hoevenii (Bleeker) mad barb
Status: native ca chai
Environment: freshwater
Myxozoa
Myxobolus cheisini (MRD)
Monogenoidea
Dactylogyrus sp. (MRD)
Eudiplozoon nipponicum (MRD)
Monogenoidea gen. sp. (MRD)
Cestoda
Proteocephalus sp. (MRD)
Nematoda
Pingus sinensis (MRD)

Megalobrama terminalis black Amur bream
(Richardson) ca ven
Syn.: *Megalobrama hoffmanni*
Herre and Myers
Status: native
Environment: freshwater
Nematoda
Protoleptinae gen. sp. larva (HN)
Rhabdochona (*Globochonoides*) sp. (HN)
Rhabdochona (*Rhabdochona*) sp. (HN)
Acanthocephala
Dendronucleata petruschewskii (HN)

Onychostoma lepturus (Boulenger) –
Syn.: *Gymnostomus lepturus* ca phao
Boulenger
Status: native
Environment: freshwater, brackish
Digenea
Prosorhynchus sp. (HN)
Nematoda
Rhabdochona (*Rhabdochona*) *hakyi* (HN)
Acanthocephala
Dendronucleata petruschewskii (HN)

Opsariichthys uncirostris uncirostris three-lips
(Temminck and Schlegel) ca chao
Syn.: *Opsariichthys uncirostris*
(Temminck and Schlegel)
Status: native
Environment: freshwater
Acanthocephala
Dendronucleata petruschewskii (HN)
Remarks: As Kottelat (2001) notes that this species is restricted to Japan, and that the mainland species should be called *O. bidens* Günther, the above records probably involve the latter host.

Osteochilus melanopleurus (Bleeker) –
Status: native ca me hoi
Environment: freshwater
Monogenoidea
Dactylogyrus sp. (MRD)

Poropuntius kremphi (Pellegrin and Chevy) –
Syn.: *Lissochilus kremphi* ca chat
(Pellegrin and Chevy)
Status: native
Environment: freshwater
Digenea
Platycladorchis macroacetabularis (HN)
Nematoda
Falcaustra kaverii (HN)
Remarks: The synonymy follows Kottelat (2001).

Puntioplites proctozysron (Bleeker) –
Status: native ca ranh
Environment: freshwater
Monogenoidea
Dactylogyrus sp. (MRD)

Puntius brevis (Bleeker) –
Status: native ca hot mit
Environment: freshwater
Monogenoidea
Dactylogyrus sp. (MRD)

Saurogobio dabryi Chinese lizard gudgeon
Bleeker ca duc dang
Status: exotic
Environment: freshwater
Digenea
Carassotrema koreanum (HN)
Prosorhynchoides ozakii (HN)
Remarks: As the distribution of this species is given by Froeze and Pauly (2003) as northeast Asia (Korea, China (Yangtze) and the Amur basin), the host identity for the above records requires verification. As Kottelat (2001) lists *Saurogobio dabryi vietnamensis* Mai as a synonym of *S. immaculatus* Koller, these records may actually involve this species.

Spinibarbichthys denticulatus (Oshima) –
Status: native ca bong
Environment: freshwater
Protozoa
Balantidium spinibarbichthys (BK,LC)
B. steinae (BK,LC)
Ichthyonyctus baueri (BK)
Inferostoma jankowskii (BK,LC)
Myxozoa
Myxobolus lanfyongi (LC)
Myxobolus sp. (-)
Digenea
Amurotrema dombrowskajae (HN)
Carassotrema koreanum (BK,LC)
Neocladorchis multilobularis (HN)
Platycladorchis microacetabularis (HN)
Monogenoidea
Dactylogyrus denticulati (BK,LC)
D. spinibarbichthi (BK,LC)
Nematoda
Chitwoodia chitwoodae (-)
Falcaustra babei (BK,HN,LC)
Hakynema vietnamensis (HN)

Squaliobarbus curriculus barbel chub
(Richardson) ca chay
Status: native
Environment: freshwater
Protozoa
Ichthyonyctus schulmani (BK)
Digenea
Carassotrema koreanum (HN)
Prosorhynchus sp. (HN)
Monogenoidea
Dactylogyrus curriculi (HP)
Paradiplozoon doi (-)
Nematoda
Rhabdochona (*Globochonoides*) *squaliobarbus* (HN)
Rhabdochona (*Rhabdochona*) sp. (HN)
Acanthocephala
Dendronucleata petruschewskii (HN)
Pseudorhadinorhynchus vietnamensis (HN)

Squaliobarbus sp. –
Status: native
Environment: freshwater
Monogenoidea
Paradiplozoon doi (-)

ORDER SILURIFORMES

FAMILY ARIIDAE

Arius arius (Hamilton) threadfin sea catfish
Status: native –
Environment: marine, brackish
Nematoda
?*Hysterothylacium fluviatile* larva (HN)

Arius sinensis (Lacepéde) –
Status: native ca uc
Environment: marine, brackish
Nematoda
Rhabdochona (*Rhabdochona*) *hakyi* (HN)
Acanthocephala
Paradentitruncus longireceptaculis (HN)

Arius sp. –
Status: native
Environment: marine
Digenea
Buckleytrema indica (GTO)
Elongoparorchis siamensis (GTH)
Nematoda
Capillaria ariusi (GTH)

FAMILY BAGRIDAE

Hemibagrus elongatus (Günther) –
Status: native ca lang
Environment: freshwater
Digenea
Prosorhynchus sp. (HN)
Nematoda
?*Procamallanus* (*Spirocamallanus*) *bagarii* (HN)
Paragendria sp. (HN)
Rhabdochona (*Rhabdochona*) *hakyi* (HN)
Spinitectus ranae (HN)
Acanthocephala
Dendronucleata petruschewskii (HN)
Remarks: As *Hemibargus elongatus* does not occur in Viet Nam, these records are based on host misidentifications, possibly of *H. guttatus* (Lacepède) (M. Kottelat, pers. comm.).

Hemibagrus nemurus Asian redtail catfish
(Valenciennes) ca lang
Syn.: *Mystus nemurus* (Valenciennes)
Status: native
Environment: freshwater
Myxozoa
Henneguya sp. (MRD)
Myxobolus sp. (MRD)
Zschokkella parasiluri (MRD)
Digenea

Orientocreadium siluri (MRD)
Orientocreadium sp. (DT,TG)
Monogenoidea
Cornudiscoides malayensis (MRD)
Cestoda
Lytocestus adhaerens (MRD)
Senga parva (MRD)
Nematoda
Contracaecum rudolphii larva (MRD)
Procamallanus sp. (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Hirudinea
?*Caspiobdella fadejewi* (MRD)
Copepoda
Ergasilus sp. (MRD)
Remarks: M. Kottelat (pers. comm.) notes that these records probably involve host misidentifications.

Mystus sp. –
Syn.: *Hypselobagrus* sp.
Status: native
Environment: freshwater
Digenea
Isoparorchis hypselobagri (CB)

Pelteobagrus fulvidraco (Richardson) yellow catfish ca bo
Syn.: *Pseudobagrus fulvidraco* (Richardson)
Status: native
Envronment: freshwater
Nematoda
Procamallanus (*Procamallanus*) *petterae* (HN)
?*Spinitectus ophicephali* (HN)

Pelteobagrus vachellii (Richardson) –
Syn.: *Pseudobagrus vachellii* (Richardson) ca man
Status: native
Envronment: freshwater
Digenea
Prosorhynchoides ozakii (HN)
Acanthocephala
Dendronucleata petruschewskii (HN)

FAMILY CLARIIDAE

Clarias batrachus (Linnaeus) walking catfish
Status: native ca tre trang
Environment: freshwater, brackish
Myxozoa
Myxobolus clarii (MRD)
Myxobolus sp. (MRD)
Digenea
Centrocestus formosanus metacercaria (MRD)
Masenia collata (MRD)
Orientocreadium batrachoides (MRD)
Monogenoidea
Gyrodactylus fusci (MRD)
Quadriacanthus kobiensis (MRD)
Cestoda
Caryphyllaeidae gen. sp. (MRD)
?*Caryophyllaeus fimbriceps* (MRD)
Lytocestus adhaerens (MRD)
L. parvulus (MRD)
Senga parva (MRD)
Nematoda
Procamallanus (*Procamallanus*) *clarius* (HN)
Spinitectus clariasi (MRD)

Clarias fuscus (Lacepède) whitespotted clarias
Status: native ca tre den
Environment: freshwater
Protozoa
Ichthyophthirius multifiliis (NV)
Digenea
Masenia collata (HN)
Orientocreadium batrachoides (HN)
Phyllodistomum clariasi (HN)
Monogenoidea
Gyrodactylus fusci (HN)
Quadriacanthus kobiensis (HN)
Nematoda
Procamallanus (*Procamallanus*) *clarius* (HN)
Protoleptinae gen. sp. larva (HN)
Spinitectus clariasi (HN)
Remarks: Vietnamese authors have mispelled the specific name "*fucus*".

Clarias gariepinus (Burchell) x *C. macrocephalus* Günther hybrid catfish –
Status: exotic
Environment: freshwater
Protozoa
Apiosoma sp. (MRD)
Ichthyophthirius sp. (MRD)
Trichodina sp. (MRD)
Monogenoidea
Monogenoidea gen. sp. (MRD)
Copepoda
Ergasilus sp. (MRD)
Lernaea sp. (MRD)
Remarks: This catfish has been introduced to Viet

Nam for aquaculture.

Clarias macrocephalus Günther broadhead catfish
Status: native ca tre vang
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
Cryptobia branchialis (MRD)
Ichthyophthirius multifiliis (MRD)
Protozoa gen. sp. (MRD)
Trichodina nigra (MRD)
Myxozoa
Myxobolus clarii (MRD)
Myxobolus sp. (MRD)
Digenea
Centrocestus formosanus metacercaria (MRD)
Digenea gen. sp. (MRD)
Masenia collata (MRD)
Orientocreadium batrachoides (MRD)
Monogenoidea
Bychowskyella tchangi (MRD)
Gyrodactylus fusci (MRD)
Quadriacanthus kobiensis (MRD)
Cestoda
Caryphyllaeidae gen. sp. (MRD)
?*Paracaryophyllaeus gotoi* (MRD)
?*Paraproteocephalus parasiluri* (MRD)
Proteocephalus sp. (MRD)
Nematoda
Contracaecum rudolphii larva (MRD)
Philometra sp. (MRD)
Procamallanus (*Procamallanus*) *clarius* (HN,MRD)
Spinitectus clariasi (MRD)
Copepoda
Ergasilus sp. (MRD)
Lamproglena sp. (MRD)

Clarias sp. –
Status: unknown ca tre
Environment: freshwater
Protozoa
Epistylidae gen. sp. (MRD)
Ichthyophthirius multifiliis (MRD)
Trichodina sp. (BD)
Trichodinidae gen. sp. (MRD)
Monogenoidea
Gyrodactylus fusci (MRD)
Monogenoidea gen. sp. (MRD)
Quadriacanthus kobiensis (MRD)
Nematoda
Philometra sp. (MRD)

FAMILY CRANOGLANIDAE

Cranoglanis bouderius (Richardson) –
Syn.: *Cranoglanis multiradiatus* (Koller) ca nganh
C. sinensis (Richardson)
Status: native
Environment: freshwater
Digenea
Phyllodistomum megalovum (HP)
Monogenoidea
Dactylogyrus cranoglanis (-)[123]
Nematoda
?*Procamallanus* (*Spirocamallanus*) *bagarii* (HN)
Rhabdochona (*Rhabdochona*) *hakyi* (HN)
R. (*Rhabdochona*) *vietnamensis* (HN)
Remarks: As M. Kottelat (pers. comm.) notes that the species occurring in the Red River basin is *Cranoglanis henrici* (Valliant), the above records may involve host misidentifications.

FAMILY PANGASIIDAE[124]

Pangasius bocourti Sauvage –
Status: native ca basa
Environment: freshwater
Protozoa
Balantidium sp. (MRD)
Ichthyonyctus pangasia (MRD)
Ichthyophthirius multifiliis (MRD)
Protoopalina sp. (MRD)
Trichodina nigra (MRD)
Tripartiella bulbosa (MRD)
Myxozoa
Zschokkella parasiluri (MRD)
Digenea
Prosorhynchoides gracilescens (MRD)

[123] Sichuan River basin, Vietnamese-Chinese border.
[124] The identification of some of the pangasiid catfishes of the lower Mekong River is problematic. In some of the publications of Bui Quang Te and colleagues, the catfishes known locally as "ca basa" and "ca tra" were identified as *Pangasius pangasius* and *P. micronemus*, respectively. However, in other papers by these authors "ca basa" was identified as *P. bocourti* and "ca tra" as *P. hypophthalmus.* In compiling this checklist, we have listed the host identifications for records from *Pangasius* spp. as they originally appeared in the literature, recognizing that host misidentifications may have occurred, and that in some cases the same parasite records (often repeated in the publications of Te and colleagues) have appeared under two different host species. In the case of Te (1993b) and Te and Tam (1999), where no scientific names were associated with host common names, parasite records for "ca basa" and "ca tra" are listed under *Pangasius* sp.

Monogenoidea
Monogenoidea gen. sp. (MRD)
Thaparocleidus caecus (MRD)
T. pangasi (MRD)
Thaparocleidus sp. (MRD)
Cestoda
?*Proteocephalus osculatus* (MRD)
Nematoda
Cucullanus cyprini (MRD)
?*Dichelyne* (*Cucullanellus*) *minutus* (MRD)
Philometra sp. (MRD)
Spectatus sp. (MRD)
Acanthocephala
Pseudorhadinorhynchus vietnamensis (MRD)

Pangasius conchophilus Roberts and Vidhtayanon – ca hu
Status: native
Environment: freshwater
Protozoa
Balantidium sp. (MRD)
Ichthyonyctus pangasia (MRD)
Trichodina nigra (MRD)
Tripartiella bulbosa (MRD)
Digenea
Prosorhynchoides gracilescens (MRD)
Monogenoidea
Thaparocleidus pangasi (MRD)
Thaparocleidus sp. (MRD)
Cestoda
Lytocestus parvulus (MRD)
?*Proteocephalus osculatus* (MRD)
Nematoda
Procamallanus sp. (MRD)
Spectatus sp. (MRD)

Pangasius hypophthalmus (Sauvage) sutchi catfish
Status: native ca tra nuoi
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
A. piscicolum cylindriformis (MRD)
Balantidium sp. (MRD)
Chilodonella sp. (MRD)
Cryptobia branchialis (MRD)
Epistylis kronwerci (MRD)
Ichthyophthirius multifiliis (MRD)
Microsporidia gen. sp. (CT)
Protozoa gen. sp. (MRD)
Trichodina acuta (MRD)
?*T. gasterostei* (MRD)
T. mutabilis (MRD)
T. nigra (MRD)
T. partidisci (MRD)
T. siluri (MRD)
Trichodina sp. (CT)
Tripartiella bulbosa (MRD)
T. copiosa (MRD)
T. lata (MRD)
T. obtusa (MRD)
Trichodinidae gen. sp. (MRD)
Myxozoa
Ceratomyxa sp. (MRD)
Henneguya sp. (MRD)
Myxobolus miyairii (MRD)
Myxobolus sp. (CT,MRD)
Digenea
Prosorhynchoides gracilescens (MRD)
Monogenoidea
Dactylogyrus sp. (CT)
Monogenoidea gen. sp. (MRD)
Thaparocleidus caecus (MRD)
Thaparocleidus sp. (MRD)
Cestoda
Lytocestus parvulus (MRD)
?*Proteocephalus osculatus* (MRD)
Nematoda
?*Dichelyne* (*Cucullanellus*) *minutus* (MRD)
Philometra sp. (MRD)
Spectatus sp. (MRD)
Copepoda
Ergasilus sp. (MRD)

Pangasius larnaudii Bocourt spot catfish
Status: native ca vo dem
Environment: freshwater
Protozoa
Balantidium sp. (MRD)
Ichthyonyctus baueri (MRD)
I. pangasia (MRD)
Protozoa gen. sp. (MRD)
Trichodina nigra (MRD)
Tripartiella bulbosa (MRD)
T. obtusa (MRD)
Tripartiella sp. (MRD)
Myxozoa
Henneguya sp. (MRD)
Monogenoidea
Thaparocleidus sp. (MRD)
Nematoda
Philometra sp. (MRD)
Spectatus sp. (MRD)
Copepoda
Ergasilus sp. (MRD)

Pangasius micronemus Bleeker shortbarbel pangasius ca tra nuoi[125]
Status: native

[125] Vietnamese authors have also used the common names ca tra and ca nuoi for this species.

Environment: freshwater
Protozoa
Cryptobia branchialis (MRD)
Epistylidae gen. sp. (MRD)
Ichthyonyctus baueri (MRD)
Ichthyophthirius multifiliis (MRD)
Paratrichodina sp. (MRD)
Trichodina nigra (MRD)
T. pediculus (MRD)
Trichodinidae gen. sp. (MRD)
Tripartiella sp. (MRD)
Myxozoa
Myxobolus sp. (MRD)
Digenea
Prosorhynchoides gracilescens (MRD)
Monogenoidea
Thaparocleidus sp. (MRD)

Pangasius pangasius (Hamilton) yellowtail catfish
Status: exotic ca basa
Environment: freshwater, brackish
Protozoa
Balantidium spinibarbichthys (MRD)
Ichthyonyctus baueri (MRD)
Ichthyophthirius multifiliis (MRD)
Trichodina nigra (MRD)
Digenea
Prosorhynchoides gracilescens (MRD)
Monogenoidea
Thaparocleidus sp. (MRD)
Cestoda
Proteocephalus sp. (MRD)
Nematoda
Cucullanus chabaudi (-)
?*Hysterothylacium fluviatile* larva (HN)
Philometra sp. (AG,MRD)
Remarks: M. Kottelat (pers. comm.) notes that *Pangasius pangasius* is an Indian species and that records of this fish from outside India are unlikely to be correct, probably even for most records involving cultured fish.

Pangasius sp. –
Status: unknown ca tra
Environment: freshwater
Protozoa
Ichthyophthirius multifiliis (MRD)
Trichodina nigra (MRD)
T. pediculus (MRD)
Trichodinidae gen. sp. (DT,MRD)
Tripartiella bulbosa (DT)
Nematoda
Philometra sp. (MRD)

FAMILY PLOTOSIDAE

Plotosus canius Hamilton gray eel-catfish
Status: native ca ngat
Environment: marine, brackish, freshwater
Monogenoidea
Ancyrocephalus sp. (MRD)
Copepoda
Ergasilus thailandensis (MRD)
Remarks: Froese and Pauly (2003) note that this catfish, although occurring mostly in estuaries and lagoons, is also found in the lower parts of rivers and in coastal seas.

FAMILY SILURIDAE

Belondontichthys dinema (Peters) –
Syn.: *Wallago dinema* Peters ca tren rang
Status: native
Environment: freshwater
Protozoa
Ichthyophthirius multifiliis (MRD)
Remarks: As M. Kottelat (pers. comm.) notes that the species occurring in the Mekong River Delta is actually *Belondontichthys truncatus* Kottelat and Ng, the above record is considered to involve a host misidentification.

Ompok bimaculatus (Bloch) butter catfish
Status: native ca tren bau
Environment: freshwater, brackish
Myxozoa
Myxobolus poljanskii (MRD)
Digenea
Bacciger bacciger (MRD)
Bacciger sp. (AG,DT,TG)
Monogenoidea
Thaparocleidus sp. (MRD)
Nematoda
Contracaecum rudolphii larva (MRD)
Procamallanus (*Procamallanus*) *glossogobii* (MRD)
Procamallanus sp. (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)

Wallago attu (Bloch and Schneider) wallago
Syn.: *Wallagonia attu* (Bloch and Schneider) ca leo
Status: native
Environment: freshwater, brackish
Digenea
Bacciger bacciger (MRD)
Bacciger sp. (AG,DT,TG)
Monogenoidea

Thaparocleidus sudhakari (MRD)
T. wallagonius (MRD)
Cestoda
?*Paraproteocephalus parasiluri* (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)

FAMILY SISORIDAE

Bagarius bagarius (Hamilton) dwarf goonch
Status: native ca chien
Environment: freshwater, brackish
Digenea
Dollfustrema bagarii (HN)
Metadena bagarii (HN)
Phyllodistomum sp. (HN)
Prosorhynchus vietnamensis (HN)
Nematoda
Camallanus (*Camallanus*) *cotti* (HN)
Procamallanus (*Spirocamallanus*) *bagarii* (HN)
Rhabdochona (*Rhabdochona*) *hakyi* (HN)
Spinitectus sp. (HN)
Acanthocephala
Cathayacanthus bagarii (HN)
Remarks: Many of the above records may involve host misidentifications. According to M. Kottelat (pers. comm.), the species occurring in northern Viet Nam is *Bagarius rutilus* Ng and Kottelat, while records from the Mekong River might involve *B. bagarius*, *B. yarrelli* (Sikes) (the most common species) or *B. suchus* Roberts.

ORDER AULOPIFORMES

FAMILY SYNODONTIDAE

Saurida gracilis gracile lizardfish
(Quoy and Gaimard) –
Status: native
Environment: marine
Monogenoidea
Osphyobothrus multivitellatus (GTH)

Saurida tumbil (Bloch) greater lizardfish
Status: native ca moi thuong
Environment: marine
Digenea
Tubulovesicula marsupialia (GTO)
Monogenoidea
Osphyobothrus bychowskyi (GTO,SCS)

Trachinocephalus myops (Forster) snakefish
Status: native –
Environment: marine
Monogenoidea
Pavlovskioides litoralis (GTO)

Trachinocephalus sp. –
Status: native
Environment: marine
Digenea
Tubulovesicula angusticauda (GTO)

ORDER SYNGNATHIFORMES

FAMILY FISTULARIIDAE

Fistularia petimba (Lacepède) red cornet fish
Status: native ca Lao khong vay
Environment: marine
Digenea
Callogonotrema fistulariae (GTO)
Stephanostomum fistulariae (GTO)

ORDER SYNBRANCHIFORMES

FAMILY SYNBRANCHIDAE

Monopterus albus (Zuiew) swamp eel
Syn.: *Fluta alba* (Zuiew) luon
Status: native
Environment: freshwater, brackish
Digenea
Centrocestus formosanus metacercaria (MRD)
Clinostomum complanatum metacercaria (DT,HG,MH,MRD)
Cestoda
Senga sp. (MRD)
Nematoda
Paraseuratum sp. (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *celatus* (HN)
P. (*Pallisentis*) *nagpurensis* (MRD)

ORDER SCORPAENIFORMES

FAMILY TRIGLIDAE

Lepidotrygla sp. –
Status: native
Environment: marine

Monogenoidea
Triglicola tonkinensis (GTO)

ORDER PERCIFORMES

FAMILY AMMODYTIDAE

Bleekeria viridianguilla (Fowler) –
Status: native –
Enivronment: marine
Monogenoidea
Pseudotetraonchoides bleekeriae (GTO)
Remarks: The specific name was incorrectly given as "*anguillaviridis*" by Bykhovsky, Gusev and Nagibina (1965).

FAMILY ANABANTIDAE

Anabas testudineus (Bloch) climbing perch
Status: native ca ro dong
Environment: freshwater, brackish
Protozoa
Trichodina nigra (MRD)
Tripartiella bulbosa (MRD)
Myxozoa
Henneguya schulmani (HN,MRD)
Digenea
Coitocaecum plagiorchis (AG,MRD)
Euclinostomum multicaecum metacercaria (DT,MRD)
Orientocreadium sp. (MRD)
Monogenoidea
Heteronchocleidus sp. (MRD)
Trianchoratus gussevi (MRD)
Cestoda
Senga ophicephaliana (MRD)
Nematoda
Camallanus (*Zeylanema*) *anabantis* (MRD)
Contracaecum rudolphii larva (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Copepoda
Lamproglena chinensis (MRD)
Ergasilus sp. (MRD)

FAMILY BELONTIIDAE

Trichogaster pectoralis (Regan) snakeskin gourami ca sac ran
Status: native
Environment: freshwater
Myxozoa
?*Henneguya schizura* (MRD)
Henneguya sp. (MRD)
Zschokkella sp. (MRD)
Digenea
Clinostomum piscidium metacercaria (HG,MH,TG,MRD)
Digenea gen. sp. (MRD)
Cestoda
Proteocephalus sp. (MRD)
Nematoda
Neocamallanus trichogasterae (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)

Trichogaster trichopterus (Pallas) three spot gourami ca sac buom
Status: native
Environment: freshwater
Myxozoa
?*Henneguya schizura* (MRD)
Zschokkella parasiluri (MRD)
Monogenoidea
Trianchoratus trichogasterium (MRD)

FAMILY CARANGIDAE

Alectis indicus (Rüppell) Indian threadfin
Status: native ca ong An do
Environment: marine, brackish
Digenea
Digenea gen. sp. (GTO)
Hemiuroidea gen. sp. (SCS)
Pseudopecoeloides carangis (SCS)
Monogenoidea
Gastrocotyle sp. (GTO,SCS)
Kannaphalllus virilis (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)

Alepes melanoptera (Swainson) blackfin scad
Syn.: *Selar malam* (Bleeker) ca trao vay lung den
Status: native
Environment: marine, brackish
Digenea
Digenea gen. sp. (GTO)
Lecithocladium excisiforme (SCS)
?*L. excisum* (SCS)

Tergestia laticollis (SCS)
Cestoda
Cestoda gen. sp. (GTO)
Diphyllobothrium sp. plerocercoid (SCS)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (SCS)
Contracaecum sp. larva (GTO,SCS)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)

Atropus atropos (Bloch and Schneider) — Cleftbelly trevally — ca bao ao
Status: native
Environment: marine
Digenea
Aponurus laguncula (GTO,SCS)
Bucephalus varicus (SCS)
Digenea gen. sp. (GTO)
Dinurus selari (GTO,SCS)
Gonocerca sp. (SCS)
Gonocercella sp. (SCS)
Lecithocladium harpodontis (SCS)
Lecithochirium magnaporum (SCS)
L. microstomum (SCS)
L. monticellii (SCS)
Parahemiurus merus (SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)
Philometroides atropi (GTO,SCS)
Porrocaecum sp. larva (GTO,SCS)
Acanthocephala
Serrasentis sagittifer (SCS)
Remarks: The specific name has been mispelled "*atropus*" by all authors.

Atropus oreolatus (Schneider) — –
Status: native — –
Environment: marine
Digenea
Digenea gen. sp. (GTO)
Cestoda
Cestoda gen. sp. (GTO)
Nematoda
Anisakis sp. larva (GTO)
Nematoda gen. sp. (GTO)
Remarks: We have been unable to verify the status of this species.

Atule mate (Cuvier) — yellowtail scad
Syn.: *Selar mate* (Cuvier) — ca trao
Status: native
Environment: marine, brackish
Digenea
Bucephalus varicus (SCS)
Didymozoidae gen. sp. (SCS)
Digenea gen. sp. (GTO)
Dinurus selari (GTO,SCS)
Ectenurus selari (GTO)
Opisthomonorcheides decapteri (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Diphyllobothrium sp. plerocercoid (SCS)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO)
Hysterothylacium chorinemi (SCS)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)

Carangidae gen. sp. — –
Status: native
Environment: marine
Digenea
Aponurus laguncula (SCS)
Bucephalus varicus (SCS)
Digenea gen. sp. (GTO)
Dinurus selari (SCS)
Ectenurus selari (SCS)
E. trachuri (SCS)
Hemiuroidea gen. sp. (SCS)
Opisthomonorchis carangis (SCS)
Plerurus digitatus (GTO,SCS)
Tubulovesicula lindbergi (SCS)
Monogenoidea
Bilaterocotyloides carangis (GTO)
Heteromicrocotyla carangis (GTO,SCS)
H. polyorchis (GTO,SCS)
Heteromicrocotyla sp. (GTO)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO,SCS)
Tetraphyllidea gen. sp. plerocercoid (GTO,SCS)
Trypanorhyncha gen. sp. plerocercus (SCS)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO,SCS)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)

Carangoides chrysophrys (Cuvier) — longnose trevally — ca khe mom dai
Syn.: *Caranx chrysophrys* Cuvier

Status: native
Environment: marine, brackish
Digenea
Digenea gen. sp. (GTO)
Cestoda
Cestoda gen. sp. (GTO)
Nematoda
Anisakis sp. larva (GTO)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO)

Caranx malabaricus (Bloch and Schneider) — Malabar trevally — ca hieu
Status: native
Environment: marine
Digenea
Alcicornis baylisi (SCS)
Lasiotocus tropicus (SCS)
Didymozoidae gen. sp. (SCS)
Digenea gen. sp. (GTO,SCS)
Dinurus longisinus (SCS)
D. selari (GTO,SCS)
Lecithocladium seriolellae (SCS)
Lepidapedon megalaspi (GTO,SCS)
Opisthomonorchis carangis (GTO,SCS)
Tormopsolus carangi (SCS)
T. filiformis (SCS)
T. orientalis (GTO,SCS)
Monogenoidea
Caballeraxine chainanica (GTO)
Heteromicrocotyla carangis (GTO,SCS)
H. vaginispina (GTO,SCS)
Heteromicrocotyla sp. (GTO,SCS)
Kannaphalllus virilis (GTO,SCS)
Microcotyle sp. (GTO,SCS)
Pseudaxine trachuri (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO,SCS)
Nematoda gen. sp. (GTO)
Philometra sp. (GTO,SCS)
Porrocaecum sp. larva (GTO,SCS)
Acanthocephala
Rhadinorhynchus carangis (GTO,SCS)
R. pristis (GTO,SCS)
Serrasentis sagittifer (SCS)

Caranx sp. — –
Status: native
Environment: marine
Digenea
Alcicornis carangis (GTO,SCS)
Bucephalus varicus (SCS)
Digenea gen. sp. (GTO,SCS)
Ectenurus selari (GTO)
E. trachuri (GTO,SCS)
Lecithocladium excisiforme (GTO,SCS)
?*L. excisum* (SCS)
Tergestia laticollis (GTO,SCS)
Monogenoidea
Allodiscocotyla chorinemi (GTO,SCS)
Allopseudaxine macrova (GTO,SCS)
Pseudaxine trachuri (GTO,SCS)
Pseudaxinoides vietnamensis (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO,SCS)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Camallanus (*Camallanus*) *carangis* (SCS)
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)
Philometra sp. (SCS)
Porrocaecum sp. larva (GTO,SCS)

Decapterus muroadsi (Temminick and Schlegel) — amberstripe scad — ca nuc so
Status: native
Environment: marine
Cestoda
Nybelinia sp. plerocercoid (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO,SCS)
Porrocaecum sp. larva (GTO,SCS)

Decapterus sp. — –
Status: native
Environment: marine
Digenea
Aponurus carangis (SCS)
Digenea gen. sp. (GTO)
Dinurus selari (GTO,SCS)
Erilepturus formosae (GTO)
?*Lecithocladium excisum* (GTO,SCS)
L. harpodontis (SCS)
Lepidapedon megalaspi (SCS)
Neonotoporus decapteri (GTO,SCS)
Opisthomonorcheides decapteri (GTO,SCS)
Parahemiurus merus (SCS)

Tergestia laticollis (SCS)
Monogenoidea
Allodiscocotyla chorinemi (GTO,SCS)
A. diacanthi (GTO,SCS)
Gastrocotyle trachuri (GTO,SCS)
Gastrocotyle sp. (GTO,SCS)
Heteromicrocotyla sp. (GTO,SCS)
Pseudaxine trachuri (GTO,SCS)
Pseudaxinoides vietnamensis (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO,SCS)
Cucullanus decapteri (SCS)
Nematoda gen. sp. (GTO)
Philometra sp. (SCS)
Porrocaecum sp. larva (GTO,SCS)
Acanthocephala
Neorhadinorhynchus nudus (SCS)
Rhadinorhynchus ditrematus (GTH,GTO,SCS)

Gnathanodon speciosus (Forsskal) golden trevally
Syn.: *Caranx speciosus* (Forsskål) –
Status: native
Environment: marine
Digenea
Digenea gen. sp. (GTO)
Hemiuroidea gen. sp. (SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nematoda
Nematoda gen. sp. (GTO)

Megalaspis cordyla (Linnaeus) torpedo scad
Status: native ca song
Environment: marine
Digenea
Aponurus laguncula (GTO,SCS)
Bucephalus fragilis (SCS)
Digenea gen. sp. (GTO,SCS)
Ectenurus selari (GTO)
Hemiuroidea gen. sp. (SCS)
Lasiotocus tropicus (SCS)
Lecithocladium megalaspis (SCS)
Lepidapedon megalaspi (GTO,SCS)
Opecoelus sp. (SCS)
Pseudopecoeloides carangis (SCS)
Tergestia laticollis (SCS)
Monogenoidea
Bilaterocotyloides carangis (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)
Philometra sp. (SCS)
Porrocaecum sp. larva (GTO,SCS)

Parastromateus niger (Bloch) black pompfret
Syn.: *Formio niger* (Bloch) ca chim den
Status: native
Environment: marine, brackish
Digenea
Aponurus laguncula (GTO)
A. pyriformis (GTO)
Huridostomum formionis (GTO)
Lecithocladium apolecti (GTO)
Leiomonorchis leiognathi (GTO)
L. ovacutus (GTO)
Opechona formiae (GTO)
Phyllodistomum strictum (GTO)
Prosorchis chainanensis (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Monogenoidea
Bicotyle perpolita (GTO,SCS)
?*Monaxine formionis* (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Otobothrium sp. plerocercus (GTO)
Pterobothrium platycephalum plerocercus (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Philometra sp. (GTO)
Remarks: The black pompfret is a marine species that enters estuaries (Froese and Pauly 2003).

Scomberoides lysan (Forsskål) doublespotted queenfish ca be
Syn.: *Chorinemus lysan* (Forsskål)
Status: native
Environment: marine, brackish
Digenea
Bucephalus fragilis (SCS)
Digenea gen. sp. (SCS)
Gonocerca sp. (SCS)
Gonocercella sp. (SCS)
Lintonium vibex (SCS)
Parahemiurus merus (SCS)
Phyllodistomum carangis (SCS)
Stephanostomum ditrematis (SCS)

Monogenoidea
Allodiscocotyla chorinemi (GTO,SCS)
Vallisia chorinemi (GTO,SCS)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Buckleyella buckleyi (SCS)
Camallanus (*Camallanus*) *carangis* (SCS)
Contracaecum sp. larva (GTO)
Hysterothylacium chorinemi (SCS)
Porrocaecum sp. larva (GTO,SCS)
Acanthocephala
Serrasentis sagittifer (SCS)
Remarks: Froese and Pauly (2003) note that adults are found in clear lagoons and seaward reefs, while juveniles inhabit shallow inshore and brackish waters.

Selar crumenophthalmus (Bloch) bigeye scad
Syn.: *Caranx* ca be trao mat to
crumenophthalmus (Bloch)
Status: native
Environment: marine
Digenea
Aponurus carangis (GTO)
A. laguncula (GTO,SCS)
Bucephalus varicus (SCS)
Didymozoidae gen. sp. (SCS)
Digenea gen. sp. (GTO,SCS)
Dinurus selari (GTO,SCS)
Ectenurus selari (GTO)
E. trachuri (GTO,SCS)
Ectenurus sp. (GTO)
?Lecithocladium excisum (GTO,SCS)
L. harpodontis (SCS)
L. seriolellae (SCS)
Lecithochirium monticellii (SCS)
Proctotrema sp. (SCS)
Tergestia laticollis (SCS)
Monogenoidea
Gastrocotyle trachuri (GTO,SCS)
Heteraxine heterocerca (GTO,SCS)
Pseudaxinoides vietnamensis (GTO,SCS)
Vallisia chorinemi (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO,SCS)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Camallanus (*Camallanus*) *carangis* (SCS)
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)
Acanthocephala
Gorgorhynchus medius (GTO)

Selar sp. –
Status: native
Environment: marine
Nematoda
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)

Selaroides leptolepis (Cuvier) yellowstripe scad
Status: native ca chi vang
Environment: marine, brackish
Digenea
Digenea gen. sp. (GTO)
Dinurus selari (SCS)
Lecithocladium excisiforme (SCS)
Tergestia laticollis (SCS)
Monogenoidea
Heteromicrocotyla sp. (GTO,SCS)
Pseudaxinoides vietnamensis (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Contracaecum sp. larva (GTO,SCS)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)

Selaroides sp. –
Status: native
Environment: marine
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Seriola dumerili (Risso) greater amberjack
Status: native ca cam
Environment: marine
Digenea
Acanthocolpus orientalis (SCS)
Bucephalus paraheterotentaculatus (SCS)
Digenea gen. sp. (GTO)
Stephanostomum ditrematis (SCS)
Monogenoidea
Pseudaxinoides vietnamensis (GTO,SCS)
Tonkinaxine homocerca (GTO,SCS)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocerocid (GTO)
Nematoda
Anisakis sp. larva (GTO)

Contracaecum sp. larva (GTO,SCS)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)

Seriola sp. –
Status: native
Environment: marine
Monogenoidea
Heteromicrocotyla carangis (GTO,SCS)
Microcotyle hemiatriospinalis (GTO,SCS)
Tonkinaxine homocerca (GTO,SCS)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Seriolina nigrofasciata blackbanded trevally
(Rüppell) ca cam van
Syn.: *Seriola nigrofasciata* (Rüppell)
Status: native
Environment: marine
Digenea
Acanthocolpus orientalis (SCS)
Aponurus laguncula (GTO,SCS)
Bucephalus gorgon (GTO)
B. introversus (SCS)
Bucephalus paraheterotentaculatus (SCS)
Didymozoidae gen. sp. (SCS)
Digenea gen. sp. (GTO)
Hemiuroidea gen. sp. (SCS)
Hirudinella ventricosa (SCS)
Lecithochirium sp. (SCS)
Lecithaster stellatus (SCS)
Stephanostomum ditrematis (SCS)
S. hispidum (SCS)
S. imparispine metacercaria (SCS)
Monogenoidea
Heteromicrocotyla carangis (SCS)
Tonkinaxine homocerca (GTO)
Cestoda
Cestoda gen. sp. (GTO)
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO,SCS)
Camallanus (*Camallanus*) *carangis* (SCS)
Contracaecum sp. larva (GTO)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)
Remarks: Soviet authors have consistently mispelled the specific name as "*nigrophasciata*."

FAMILY CEPOLIDAE

Acanthocepola limbata (Valenciennes) –
Status: native ca re cau
Environment: marine
Cestoda
Oncomegas wageneri plerocercus (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)

Cepola schlegelii Bleeker –
Status: native –
Environment: marine
Cestoda
Nybelinia sp. plerocercoid (GTO)
Oncomegas wageneri plerocercus (GTO)
Otobothrium sp. plerocercus (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)

Cepola sp. –
Status: native
Environment: marine
Cestoda
Oncomegas wageneri plerocercus (GTO)
Otobothrium sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)

FAMILY CHANNIDAE

Channa lucius (Cuvier) –
Syn.: *Ophicephalus lucius* Cuvier ca day
Status: native
Environment: freshwater
Digenea
Apophallus sp. metacercaria (AG,MRD)
Monogenoidea
Trianchoratus pahangensis (MRD)
Nematoda
Procamallanus (*Procamallanus*) *malaccensis* (MRD)
Spinitectus ophicephali (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Pallisentis sp. (MRD)
Copepoda
Lamproglena chinensis (MRD)

Remarks: The generic name of the junior synonym is frequently misspelled "*Ophiocephalus*."

Channa maculata (Lacepède) –
Syn.: *Ophicephalus maculatus* Lacepède ca qua, ca chuoi
Status: native
Environment: freshwater
Digenea
Azygia hwangtsiyui (HN)
Isoparorchis hypselobagri (HN)
Monogenoidea
Gyrodactylus maculati (HN)
Nematoda
Gnathostoma hispidum larva (HN)
Neocamallanus maculati (HN)
Pingus sinensis (BK,HN)
Protoleptinae gen. sp. larva (HN)
Spinitectus ophicephali (HN)
Acanthocephala
Pallisentis (*Brevitritospinus*) *vietnamensis* (HN)
Remarks: The generic name of the junior synonym is frequently misspelled "*Ophiocephalus*."

Channa micropeltes (Cuvier) giant snakehead
Syn.: *Ophicephalus micropeltes* Cuvier ca loc bong[126]
Status: native
Environment: freshwater
Protozoa
Epistylidae gen. sp. (MRD)
Epistylis sp. (MRD)
Chilodonella piscicola (MRD)
Cryptobia branchialis (MRD)
?*Trichodina gasterostei* (MRD)
T. mutabilis (MRD)
T. nigra (MRD)
T. nobillis (MRD)
T. pediculus (MRD)
Tripartiella bulbosa (MRD)
Tripartiella sp. (MRD)
Myxozoa
Henneguya ophiocephali (MRD)
Myxobilatus sp. (AG,MRD)
?*Myxobolus oblongus* (MRD)
Myxobolus sp. (MRD)
Monogenoidea
Gyrodactylus ophiocephali (MRD)
Monogenoidea gen. sp. (MRD)
Sundanonchus foliaceus (MRD)
S. micropeltis (MRD)
Sundanonchus sp. (MRD)
Cestoda
?*Proteocephalus sagittus* (MRD)
Proteocephalus sp. (MRD)
Senga parva (MRD)
Senga sp. (MRD)
Nematoda
Contracaecum rudolphii larva (MRD)
Gnathostoma hispidum larva (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Branchiura
Argulus chinensis (MRD)
Argulus sp. (AG,MRD)
Copepoda
Lernaea cyprinacea (MRD)
Remarks: The generic name of the junior synonym is frequently misspelled "*Ophiocephalus*."

Channa striata (Bloch) snakehead murrel
Syn.: *Ophicephalus striatus* Bloch ca loc[127]
Status: native
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
Trichodina nigra (MRD)
Digenea
Azygia hwangtsiyui (MRD)
Monogenoidea
Gyrodactylus ophiocephali (MRD)
Heteronchocleidus sp. (MRD)
Trianchoratus ophicephali (MRD)
Cestoda
?*Proteocephalus sagittus* (MRD)
Senga ophicephaliana (MRD)
Senga sp. (MRD)
Nematoda
Contracaecum rudolphii larva (MRD)
Neocamallanus maculati (MRD)
N. ophicephali (MRD)
Philometra sp. (MRD)
Spinitectus ophicephali (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
P. (*Demidueterospinus*) *ophiocephali* (MRD)
Pallisentis sp. (MRD)
Branchiura
Argulus chinensis (MRD)
Argulus sp. (MRD)
Copepoda
Ergasilus sp. (MRD)
Lamproglena chinensis (MRD)
Lernaea cyprinacea (MRD)
L. lophiara (MRD)

[126] In the parasitological literature for Vietnam, the host common name is often given as "ca bong".

[127] Ca sop and ca trau are other Vietnamese common names for this species.

Remarks: The specific name is often misspelled "*striatus*," while the generic name of the junior synonym is frequently misspelled "*Ophiocephalus*."

Channa sp. –
Syn.: *Ophicephalus* sp.
Nematoda
Neocamallanus ophicephali (HN)
Pingus sinensis (HN)

FAMILY CHAETODONTIDAE

Chaetodon sp. –
Status: native
Environment: marine
Digenea
Hurleytrematoides chaetodoni (GTO)

Chaetodontidae sp. –
Status: native
Environment: marine
Nematoda
Anisakis sp. larva (GTO)

FAMILY CICHLIDAE

Oreochromis mossambicus (Peters) Mossambique tilapia
ca ro phi
Syn.: *Tilapia mossambica* (Peters)
Status: exotic
Environment: freshwater, brackish
Protozoa
Apiosoma piscicolum cylindriformis (NV)
Chilodonella piscicola (NV)
Ichthyophthirius multifiliis (NV)
Trichodina pediculus (NV)

Oreochromis niloticus niloticus (Linnaeus) Nile tilapia
ca ro phi van
Status: exotic
Environment: freshwater, brackish
Protozoa
Apiosoma minutum (QN)
Goussia sp. (NV)
Ichthyophthirius multifiliis (MRD,NV)
Paratrichodina incissa (MRD,NV)
Trichodina acuta (MRD,NV)
T. centrostrigata (MRD,NV)
?*T. domerguei* (MRD)
T. heterodentata (MRD,NV)
T. mutabilis (MRD,NV)
T. nigra (MRD,NV)
T. orientalis (MRD,NV)
T. pediculus (NV)
Tripartiella bulbosa (QN,MRD)
T. clavodonta (MRD)
T. obtusa (NV)
Myxozoa
?*Myxobolus exiguus* (MRD,NV)
Digenea
Centrocestus formosanus metacercaria (MRD,NV)
Monogenoidea
Cichlidogyrus sclerosus (MRD,NV)
C. tilapiae (MRD,NV)
Gyrodactylus niloticus (MRD)
G. sprostonae (NV)
Hirudinea
?*Piscicola geometra* (QN,MRD)
Branchiura
Argulus japonicus (MRD,NV)
Copepoda
?*Caligus lacustris* (QN)
Caligus sp. (MRD)
Remarks: According to DIAS (1998), Nile tilapia were introduced from Taiwan in 1973 and from the Philippines in 1994 for aquaculture purposes, and the species is now established in the wild.

Oreochromis sp. tilapia, red tilapia
Includes: *Tilapia* sp. auctorum ca ro phi,
Status: exotic ca ro phi do
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
Chilodonella sp. (BN)
Ichthyophthirius multifiliis (MRD)
Ichthyophthirius sp. (-)
Trichodina sp. (BD)
Monogenoidea
Cichlidogyrus sclerosus (MRD)
C. tilapiae (MRD)
Cichlidogyrus sp. (MRD)
Branchiura
Argulus sp. (HP)
Remarks: All tilapias introduced to Viet Nam are currently placed in the genus *Oreochromis*.

FAMILY DREPANEIDAE

Drepane longimana (Bloch and Schneider) concertina fish
ca khien dai
Status: native
Environment: marine, brackish

Digenea
Paradiscogaster drepanei (GTO)
Trigonotrema alatum (GTO)
Monogenoidea
Ancyrocephalus bilobatus (GTO)
Nematoda
Anisakis sp. larva (GTO)

Drepane punctata (Linnaeus) spotted sicklefish
Status: native ca hien van
Environment: marine, brackish
Digenea
Allopodocotyle epinepheli (GTO)
Aphanurus stossichi (GTO)
Aponurus laguncula (GTO)
Diploproctia drepanei (GTO)
Gonocercella pacifica (GTO)
Paradiscogaster drepanei (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Trigonotrema alatum (GTO)
Monogenoidea
Ancyrocephalus bilobatus (GTO)
A. parspinicirrus (GTO)
A. spinicirrus (GTO)
Cestoda
Grillotia sp. plerocercus (GTO)
Otobothrium sp. plerocercus (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Cucullanus sp. (GTO)
Remarks: According to Froese and Pauly (2003), this species occurs in inshore habitats on sand or mud bottoms, reefs, estuaries and harbors.

FAMILY ECHENEIDAE

Echeneis naucrates Linnaeus live sharksucker
Status: native ca chep
Environment: marine, brackish
Digenea
Didymozoidae gen. sp. (SCS)
Digenea gen. sp. (GTO)
Lecithochirium monticellii (SCS)
Stephanostomum imparispine metacercaria (SCS)
Tormopsolus echenei (GTO,SCS)
Tubulovesicula lindbergi (SCS)
Cestoda
Cestoda gen. sp. (GTO)
Tetraphyllidea gen. sp. plerocercoid (SCS)
Trypanorhyncha gen. sp. plerocercus (SCS)
Nematoda
Anisakis sp. larva (GTO,SCS)
Ascarophis sp. (SCS)
Camallanus sp. (SCS)
Contracaecum sp. larva (GTO,SCS)
Echinocephalus spinosissimus larva (SCS)
Echinocephalus sp. larva (SCS)
Nematoda gen. sp. (GTO)
Porrocaecum sp. larva (GTO,SCS)
Pseudocapillaria (*Pseudocapillaria*) *echenei* (SCS)
Raphidascaris sp. larva (SCS)
Spinitectus echenei (SCS)
Acanthocephala
Acanthocephala gen. sp. (GTO)
Serrasentis sagittifer (SCS)

FAMILY ELEOTRIDAE

Bunaka gyrinoides (Bleeker) greenback gauvina
Status: native –
Environment: freshwater
Myxozoa
Henneguya shaharini (MRD)

Oxyeleotris marmorata Bleeker marble goby
Syn.: *Philypnus marmoratus* (Bleeker) ca bong tuong
Status: native
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
Apiosoma sp. (MRD)
Epistylidae gen. sp. (MRD)
Ichthyophthirius multifiliis (MRD)
Protozoa gen. sp. (MRD)
?*Trichodina jadranica* (MRD)
T. mutabilis (MRD)
T. nigra (MRD)
T. siluri (MRD)
Trichodinidae gen. sp. (MRD)
Myxozoa
Henneguya shaharini (MRD)
Henneguya sp. (MRD)
Myxobolus sp. (MRD)
Monogenoidea
Monogenoidea gen. sp. (MRD)
Pseudodactylogyrus sp. (MRD)
Cestoda
?*Proteocephalus gobiorum* (MRD)
Nematoda
Contracaecum rudolphii larva (MRD)
Pingus sinensis (MRD)
Procamallanus sp. (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Hirudinea
?*Caspiobdella fadejewi* (MRD)

Branchiura
Argulus sp. (MRD)
Copepoda
Ergasilus philippinensis (MRD)
Ergasilus sp. (MRD)
Lernaea lophiara (MRD)
L. oryzophila (SV)
Lernaea sp. (MRD)
Remarks: The generic name is often misspelled "*Oxyleotris*", while the specific name is frequently misspelled "*marmoratus*".

Oxyeleotris urophthalmus (Bleeker) –
Syn.: *Oxyeleotris siamensis* (Günther) ca bong dua
Status: native
Environment: marine, brackish
Myxozoa
Henneguya shaharini (MRD)
Cestoda
?*Proteocephalus gobiorum* (MRD)
Acanthocephala
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Remarks: The synonymy is provided by M. Kottelat (pers. comm.).
Although Froese and Pauly (2003) indicate that this species is marine, Vietnamese records are from the Mekong River Delta, indicating that it may enter brackish waters.

FAMILY EPHIPPIDAE

Ephippus orbis (Bloch) orbfish
Status: native ca tai tuong tron
Environment: marine
Digenea
Aphanurus stossichi (GTO)
Diploproctodaeum rutellum (GTO)
Lecithocladium apolecti (GTO)
Lepocreadium sp. (GTO)
Multitestis magnacetabulum (GTO)
Opecoelus sphaericus (GTO)
Prosogonotrema clupeae (GTO)
Prosorchis chainanensis (GTO)
Pseudosteringophorus sp. (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Stephanostomum sp. (GTO)
Trigonotrema alatum (GTO)
Cestoda
Otobothrium sp. plerocercus (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)

Platax orbicularis (Forsskål) orbicular batfish
Status: native ca tai tuong
Environment: marine, brackish
Digenea
Aponurus pyriformis (GTO)
Diploproctodeum plataxi (GTO)
D. rutellum (GTO)
Multitestis magnacetabulum (GTO)
Multtubovarium amphibolum (GTO)
Opecoelus sphaericus (GTO)
Prosogonotrema clupeae (GTO)
Monogenoidea
Sessilorbis limopharynx (GTO)
Sprostoniella multitestis (GTO)
Cestoda
Grillotia sp. plerocercus (GTO)
Nybelinia sp. plerocercoid (GTO)
Otobothrium sp. plerocercus (GTO)
Pterobothrium platycephalum plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)

FAMILY GERREIDAE

Gerres filamentosus Cuvier whipfin silverbiddy
Status: native ca mom gai dai
Environment: marine, brackish, freshwater
Digenea
Bucephalus sp. (GTO)
Homalometron sp. (GTO)
Lecithocladium apolecti (GTO)
Opegaster parapristopomatis (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Monogenoidea
Ancyrocephalus macrogaster (GTO)
A. scapulasser (GTO)
Nematoda
Anisakis sp. larva (GTO)
Capillaria sp. (GTO)
Acanthocephala
Serrasentis sagittifer (GTO)
Remarks: This fish is noted by Froese and Pauly (2003) to be a marine species that may enter lakes and lower freshwater reaches of rivers. Juveniles are found in brackish mangrove estuaries and sometimes enter freshwater.

Gerres sp. –
Status: native
Environment: marine
Monogenoidea
Incisaxine dubia (GTO)
Nematoda
Anisakis sp. larva (GTO)

Acanthocephala
Serrasentis sagittifer (GTO)

FAMILY GOBIIDAE

Glossogobius giuris (Hamilton) tank goby
Status: native ca bong cat
Environment: freshwater, brackish, marine
Cestoda
?*Proteocephalus gobiorum* (MRD)
Nematoda
Cucullanus cyprini (MRD)
Procamallanus (*Procamallanus*) *glossogobii* (MRD)
Acanthocephala
Cleaveius longirostris (HN)
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
Copepoda
Ergasilus philippinensis (MRD)
Remarks: Although Froese and Pauly (2003) note that the tank goby is found mainly in freshwater and estuaries, but also enters the sea, M. Kottelat (pers. comm.) considers this species to be marine and brackish, with another species, *Glossogobius aureus* Akihito and Meguro, being more frequent in freshwater.

Rhinogobius giurinus (Rutter, 1897) –
Syn.: *Rhinogobius hadropterus* (Jordon and Snyder) ca bong da
Status: native
Environment: freshwater, brackish, marine
Nematoda
Rhabdochona (*Rhabdochona*) *hakyi* (HN)
R. (*Rhabdochona*) *vietnamensis* (HN)
Acanthocephala
Cleaveius longirostris (HN)
Remarks: M. Kottelat (pers. comm.) notes that *Rhinogobius giurinus* is a Chinese species and cautions that these records may involve host misidentifications, due to the large number of endemic species of *Rhinogobius* in Viet Nam.

FAMILY HAEMULIDAE

Plectorhinchus cinctus (Temminck and Schlegel) crescent sweetlips –
Status: native
Environment: marine
Digenea
Lasiotocus macrorchis (GTO)
L. plectorhynchi (GTO)
Lepocreadiidae gen. sp. (GTO)
Podocotyloides petalophallus (GTO)
Pseudallacanthochasmus plectorhynchi (GTO)
Monogenoidea
Diplectanum sp. (GTO)

Plectorhinchus sp. –
Status: native
Environment: marine
Digenea
Lasiotocus macrorchis (GTO)
L. plectorhynchi (GTO)
Podocotyloides petalophallus (GTO)
Monogenoidea
Encotyllabe spari (GTO)

Pomadasys hasta (Bloch) silver grunt[128]
Status: native ca sao
Environment: marine, brackish, freshwater
Digenea
Aephnidiogenes barbarus (GTO)
Lasiotocus cacuminatus (GTO)
L. chaetodipteri (GTO)
L. cryptastoma (GTO)
Monorchis diplovarium (GTO)
Proctotrema sp. (GTO)
Monogenoidea
Ancyrocephalus unicirrus (GTO)
Intracotyle orientale (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Otobothrium sp. plerocercus (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Acanthocephala
Acanthogyrus (*Acanthosentis*) *indicus* (GTO)
Serrasentis sagittifer (GTO)
Tegorhynchus multacanthus (GTO)

FAMILY HELOSTOMATIDAE

Helostoma temminckii Cuvier kissing gourami
Status: exotic ca mui (huong)
Environment: freshwater
Protozoa
Cryptobia branchialis (MRD)
Protozoa gen. sp. (MRD)
Trichodina nigra (MRD)

[128] No common name is recognized by Froese and Pauly (2003).

T. siluri (MRD)
Trichodina sp. (MRD)
Trichodinidae gen. sp. (MRD)
Tripartiella bulbosa (MRD)
Tripartiella sp. (MRD)
Monogenoidea
Gyrodactylus squaliobarbi (MRD)
Copepoda
Ergasilus sp. (MRD)

FAMILY ISTIOPHORIDAE

Makaira sp. –
Status: native
Environment: marine
Digenea
Cardicola grandis (GTO)
Cestoda
Bothriocephalus manubriformis (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)

FAMILY LEIOGNATHIDAE

Leiognathus equulus (Forsskål) common ponyfish
Status: native ca liet lon
Environment: marine, brackish, freshwater
Digenea
Didymozoidae gen. sp. (GTO)
Leiomonorchis leiognathi (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Cestoda
Otobothrium sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Acanthocephala
Tegorhynchus multacanthus (GTO)
Remarks: The common ponyfish is found in river mouths and muddy inshore areas and frequently ascends into freshwater reaches of rivers (Froese and Pauly 2003).

Leiognathus sp. –
Status: native
Environment: marine
Digenea
Aponurus laguncula (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Otobothrium sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Acanthocephala
Tegorhynchus multacanthus (GTO)

Leiognathidae gen. sp. –
Status: native
Environment: marine
Digenea
Didymozoidae gen. sp. (GTO)
Lecithocladium apolecti (GTO)
Leiomonorchis leiognathi (GTO)
Opechona formiae (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Otobothrium sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Philometra sp. (GTO)
Acanthocephala
Tegorhynchus multacanthus (GTO)

FAMILY LETHRINIDAE

Gymnocranius griseus grey large-eye bream
(Temminck and Schlegel) ca bach dieu
Status: native
Environment: marine
Digenea
Rhipidocotyle sp. metacercaria (GTO)
Monogenoidea
Encotyllabe spari (GTO)
Lethrinaxine parva (GTO)
Cestoda
Otobothrium sp. plerocercus (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Ascarophis sp. (GTO)
Cucullanus sp. (GTO)
Acanthocephala
Serrasentis sagittifer (GTO)

FAMILY LUTJANIDAE

Lutjanus lutjanus Bloch bigeye snapper
Syn.: *Lutjanus lineolatus* ca hong trung
(Rüppell)
Status: native
Environment: marine
Monogenoidea
Megalocotyle lutiani (GTO)
Nematoda
Contracaecum sp. larva (GTO)

Porrocaecum sp. larva (GTO)

Lutjanus russellii (Bleeker) Russell's snapper
Status: native ca hong cham den
Environment: marine, brackish
Monogenoidea
Lutianicola haifonensis (GTO)
Nematoda
Anisakis sp. larva (GTO)
Porrocaecum sp. larva (GTO)
Acanthocephala
Serrasentis sagittifer (GTO)
Remarks: The generic and specific names are frequently misspelled "*Lutianus*" and "*russeli*", respectively.
Froese and Pauly (2003) note that juveniles are found in mangrove estuaries and lower reaches of freshwater streams.

Lutjanus sebae (Cuvier) emperor red snapper
Status: native ca hong lang
Environment: marine, brackish
Monogenoidea
Lutianicola haifonensis (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Lutjanus sp. –
Status: native ca hong
Environment: marine
Digenea
Prosogonotrema bilabiatum (GTO)

Pristipomoides typus Bleeker sharptooth jobfish
Status: native ca hong tía
Environment: marine
Digenea
Paracryptogonimus echinostomus (GTO)
Prosogonotrema bilabiatum (GTO)
Pseudosiphoderoides longus (GTO)

FAMILY MALACANTHIDAE

Brachiostegus japonicus (Houttuyn) red tilefish
Syn.: *Latilus japonicus* (Houttuyn) –
Status: native
Environment: marine
Digenea
Trigonotrema alatum (GTO)

FAMILY MENIDAE

Mene maculata Bloch and Schneider moonfish
Status: native ca luoi bua
Environment: marine, brackish
Digenea
Dinurus sp. (GTO)
Lecithocladium sp. (GTO)
Lecithochirium sp. (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Pterobothrium platycephalum plerocercus (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)

FAMILY MUGILIDAE

Mugil cephalus Linnaeus flathead mullet
Status: native ca doi muc
Environment: marine, brackish, freshwater
Monogenoidea
Ligophorus macrocolpos (MRD)

FAMILY NANDIDAE

Pristolepis fasciata (Bleeker) catopra
Status: native ca ro bien
Environment: freshwater
Monogenoidea
Sundanonchus triradicatus (MRD)

FAMILY OSPHRONEMIDAE

Osphronemus goramy Lacepède giant gourami
Status: native ca tai tuong
Environment: freshwater
Protozoa
Apiosoma minutum (MRD)
Cryptobia branchialis (MRD)
Ichthyophthirius multifiliis (MRD)
Ichthyophthirius sp. (MRD)
Protozoa gen. sp. (MRD)
Trichodina domerguei (MRD)
?*T. jadranica* (MRD)
T. mutabilis (MRD)
Trichodina sp. (MRD)

Tripartiella bulbosa (MRD)
Myxozoa
Henneguya sp. (MRD)
Digenea
Centrocestus formosanus metacercaria (MRD)
Masenia collata metacercaria (MRD)
Remarks: The specific name has been frequently misspelled as "*gouramy*" and "*gorami*" by Vietnamese authors.

FAMILY POLYNEMIDAE

Eleutheronema tetradactylum (Shaw) fourfinger threadfin ca nhu lon
Status: native
Environment: marine, brackish, freshwater
Nematoda
Bulbocephalus deblocki (HCM)
Remarks: Froese and Pauly (2003) note that the fourfinger threadfin is found in shallow coastal waters and enters rivers; juveniles occur in estuaries.

Polynemus plebeius (Broussonet) striped threadfin
Status: native –
Environment: marine, brackish
Nematoda
Bulbocephalus petterae (HCM)

FAMILY POMACENTRIDAE

Dascyllus trimaculatus (Rüppell) threespot dascyllus –
Status: native
Environment: marine
Digenea
Hysterolecitha nahaensis (SCS)

FAMILY PRIACANTHIDAE

Priacanthus tayenus Richardson purple-spotted bigeye –
Status: native
Environment: marine
Digenea
Didymozoon polymorphis (GTO)

FAMILY RACHYCENTRIDAE

Rachycentron canadum (Linnaeus) cobia ca gio
Status: native
Environment: marine, brackish
Digenea
Aponurus carangis (GTO)
Bucephalus varicus (GTO)
Derogenes varicus (GTO)
Didymozoidae gen. sp. (GTO)
Digenea gen. sp. (GTO)
Dinurus selari (GTO)
Hemiuroidea gen. sp. (GTO)
Lepidapedon megalaspi (GTO)
Neometanematobothrioides rachycentri (GTO,SCS)
Paracryptogonimus morosovi (GTO,SCS)
Phyllodistomum parukhini (GTO)
Stephanostomum imparispine metacercaria (GTO)
Tormopsolus filiformis (GTO,SCS)
Tubulovesicula angusticauda (GTO)
Cestoda
Cestoda gen. sp. (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Iheringascaris inquies (GTO,SCS)
Nematoda gen. sp. (GTO)
Philometroides sp. (GTO)
Acanthocephala
Serrasentis sagittifer (GTO,SCS)
Remarks: The specific name has been misspelled "*canadus*" by most authors, while the generic name was occasionally misspelled "*Rhachicentron*".

FAMILY SCIAENIDAE

Sciaenidae gen. sp. –
Status: native
Environment: marine
Digenea
Erilepturus sp. (GTO)
Metadena eurystoma (GTO)
Pleorchis sciaenae (GTO)
Pycnadenoides pagrosomi (GTO)
Rhipidocotyle sp. metacercaria (GTO)
Stephanostomum sp. metacercaria (GTO)

FAMILY SCOMBRIDAE

Euthynnus affinis (Cantor) kawakawa
Status: native –
Environment: marine

Digenea
Cardicola congruenta (GTO)

Rastrelliger kanagurta (Cuvier) Indian mackerel
Status: native ca bac ma
Environment: marine
Digenea
Lecithocladium apolecti (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Scomberomorus commerson narrow- barred
(Lacepède) Spanish mackerel
Status: native ca thu au
Environment: marine
Digenea
Lintonium vibex (GTO)
Monogenoidea
Cathucotyle cathuaui (GTO,SCS)
Dawesia incisa (GTO)
Gotocotyla laticauda (GTO)
Pricea multae (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Scomberomorus guttatus Indo-Pacific
(Bloch and Schneider) king mackerel
Syn.: *Scomberomorus leopardus* (Shaw) –
Status: native
Environment: marine, brackish
Monogenoidea
Cathucotyle cathuaui (GTO,SCS)
Dawesia incisa (GTO)
Gotocotyla secunda (GTO)
Pricea multae (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)
Remarks: This species is a pelagic migratory fish inhabiting coastal waters and sometimes entering turbid estuaries (Froese and Pauly 2003).

Scomberomorus sp. –
Status: native
Environment: marine
Digenea
Phyllodistomum notosinicum (GTO)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

Scombridae gen. sp. –
Includes: "pelamida" of Lebedev, 1970
Status: native
Environment: marine
Monogenoidea
Dawesia incisa (GTO)
Pricea multae (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Anisakis sp. larva (GTO)
Camallanus (*Camallanus*) *carangis* (GTO)
Contracaecum sp. larva (GTO)
Hysterothylacium saba (GTO)
Porrocaecum sp. larva (GTO)

FAMILY SERRANIDAE

Epinephelus bruneus Bloch longtooth grouper
Syn.: *Epinephelus moara* –
(Temminck and Schlegel)
Status: native
Environment: marine
Protozoa
Brooklynella hostilis (GTO)
Trichodina sp. (GTO)
Digenea
Ectenurus selari (GTO)
Prosorhynchus epinepheli (GTO)
Monogenoidea
Benedenia epinepheli (GTO)
Benedenia sp. (GTO)
Diplectanum hargisi (GTO)
Haliotrema sp. (GTO)
Pseudorhabdosynochus epinepheli (GTO)
Remarks: Froese and Pauley (2003) note that the longtooth grouper is known only from the coasts of Korea, Japan (north to Hegura-jima Island), China (south to Hong Kong and Hainan Island), and Taiwan.

Epinephelus merra Bloch honeycomb grouper
Status: native –
Environment: marine

Digenea
Tubulovesicula angusticauda (SCS)

Epinephelus sexfasciatus (Valenciennes) sixbar grouper ca song sau soc
Status: native
Environment: marine
Protozoa
Brooklynella hostilis (GTO)
Trichodina sp. (GTO)
Digenea
Ectenurus selari (GTO)
Helicometra fasciata (GTO)
Prosorhynchus epinepheli (GTO)
Monogenoidea
Benedenia epinepheli (GTO)
Benedenia sp. (GTO)
Diplectanum hargisi (GTO)
Haliotrema sp. (GTO)
Pseudorhabdosynochus cupatum (GTO)

Epinephelus tauvina (Forsskål) greasy grouper ca song mo
Status: native
Environment: marine
Protozoa
Brooklynella hostilis (GTO)
Trichodina sp. (GTO)
Digenea
Ectenurus selari (GTO)
Prosorhynchus epinepheli (GTO)
Monogenoidea
Benedenia epinepheli (GTO)
Benedenia sp. (GTO)
Diplectanum hargisi (GTO)
Haliotrema sp. (GTO)
Pseudorhabdosynochus epinepheli (GTO)
Copepoda
Lepeophtheirus sp. (GTO)
Lernaeocera branchialis (GTO)
Isopoda
Corallana sp. (GTO)

FAMILY STROMATEIDAE

Pampus argenteus (Euphrasen) silver pomfret ca chim
Status: native
Environment: marine
Digenea
Aphanurus stossichi (GTO)
Bathycotyle sp. (GTO)
Lecithocladium pampi (GTO,SCS)
Opechona formiae (GTO)
Prosorchis chainanensis (GTO)
Monogenoidea
Bicotyle perpolita (GTO,SCS)
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Porrocaecum sp. larva (GTO)

FAMILY TERAPONTIDAE

Therapon theraps (Cuvier) largescaled therapon ca cang vay lon
Status: native
Environment: marine, brackish, freshwater
Digenea
Complexobursa vjetnamensis (GTO)
Ectenurus theraponae (GTO)
Hemiuroidea gen. sp. (GTO)
Opecoelina vixiintestina (GTO)
Remarks: The largescaled therapon inhabits coastal areas and is often found in brackish waters (Froese and Pauly 2003).

FAMILY URANOSCOPIDAE

Ichthyscopus lebeck lebeck (Bloch and Schneider) – –
Status: native
Environment: marine
Monogenoidea
Paratetraonchoides inermis (GTO)
Pavlovskioides ichthyoscopi (GTO)

FAMILY XIPHIIDAE

Xiphias sp. –
Status: native
Environment: marine
Nematoda
Anisakis sp. larva (GTO)
Contracaecum sp. larva (GTO)
Hysterothylacium incurvum (GTO)

ORDER PLEURONECTIFORMES

FAMILY PSETTODIDAE

Psettodes erumei (Bloch and Schneider) Indian spiny turbot –
Status: native
Environment: marine
Digenea
Didymozoidae gen. sp. (GTO)

Digenea gen. sp. (GTO)
Gonocercella sp. (GTO)
Monilicaecum ventricosum (GTO)
Phyllodistomum psettodi (GTO)
Rhipidocotyle laruei (GTO)
Stephanostomum imparispine metacercaria (GTO,SCS)
Stephanostomum sp. metacercaria (GTO)
Tormopsolus echenei (GTO)
Torticaecum fenestratum (GTO)
Tubulovesicula lindbergi (GTO)
Cestoda
Cestoda gen. sp. (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Anisakis sp. larva (GTO)
Camallanus sp. (GTO)
Contracaecum sp. larva (GTO)
?*Cucullanus heterochrous* (GTO)
Nematoda gen. sp. (GTO,SCS)
Philometra sp. (GTO)
Porrocaecum sp. larva (GTO)
Acanthocephala
Acanthocephala gen. sp. (GTO)
Serrasentis sagittifer (GTO)

ORDER TETRAODONTIFORMES

FAMILY BALISTIDAE

Abalistes stellaris (Bloch and Schneider) – starry triggerfish
Status: native
Environment: marine
Digenea
Diploproctodaeoides longipygum (GTH,GTO)
Diploproctodaeum macracetabulum (GTH,GTO)
Hypocreadium cavum (GTH,GTO)
H. scaphosomum (GTH,GTO)
Hypocreadium sp. (GTH)
Lintonium vibex (GTO)
Monilicaecum ventricosum (GTO)
Prosogonotrema abalisti (GTH,GTO)
Schistorchis skrjabini (GTO)
Sphincteristomum acollum (GTH,GTO)
Stephanostomum imparispine metacercaria (GTH,GTO,SCS)
Xystretum abalisti (GTH,GTO)
Monogenoidea
Monogenoidea gen. sp. (SCS)
Cestoda
Cestoda gen. sp. (GTO)
Otobothrium sp. plerocercus (GTO)
Tetraphyllidea gen. sp. plerocercoid (GTO)
Trypanorhyncha gen. sp. plerocercus (GTH,GTO)
Nematoda
Anisakis sp. larva (GTH,GTO)
Contracaecum sp. larva (GTH,GTO)
Echinocephalus spinosissimus larva (GTO)
Philometra balistii (GTH,GTO)
Philometra sp. (GTH,GTO)
Porrocaecum sp. larva (GTH,GTO)
Acanthocephala
Gorgorhynchus sp. (GTO)
Serrasentis sagittifer (GTH,GTO)

FAMILY MONACANTHIDAE

Aluterus monoceros (Linnaeus) – unicorn leatherjacket
Status: native
Environment: marine
Digenea
Hypocreadium scaphosomum (GTO)
Lintonium vibex (GTO)
Plectognathotrema ovata (GTO)
Stephanostomum imparispine metacercaria (GTO)
Tetrochetus hansoni (GTO)
Cestoda
Otobothrium sp. plerocercus (GTO)
Trypanorhyncha gen. sp. plerocercus (GTO)
Nematoda
Contracaecum sp. larva (GTO)
Remarks: The generic name has been misspelled "*Alutera*" by Russian authors.

FAMILY TRIACANTHIDAE

Triacanthus biaculeatus (Bloch) – short-nosed tripodfish
Syn.: *Triacanthus brevirostris* Temminck and Schlegel
Triacanthodes brevirostris (Temminck and Schlegel)
Status: native
Environment: marine, brackish
Digenea
Cleptodiscus sp. (GTO)
Derogenes varicus (GTO)
Diploproctodaeum macracetabulum (GTO)
Hypocreadium scaphosomum (GTO)
Lepocreadium sp. (GTO)
Schistorchis skrjabini (GTO)
Sphincteristomum acollum (GTH,GTO)

Stephanostomum imparispine metacercaria (GTO,SCS)
Torticaecum fenestratum (GTO)
Trifoliovarium triacanthi (GTO)
Xystretum abalisti (GTO)
Cestoda
Nybelinia sp. plerocercoid (GTO)
Nematoda
Contracaecum sp. larva (GTO)
Echinocephalus sp. larva (GTO)
Philometra sp. (GTO)
Porrocaecum sp. larva (GTO)
Acanthocephala
Serrasentis sagittifer (GTO)

FISHES OF UNCERTAIN TAXONOMIC AFFINITY

"Ca heo beo"
Status: unknown
Environment: freshwater
Protozoa
Trichodina sp. (HCM)

"Ca ngoi"
Status: unknown
Environment: freshwater
Protozoa
Trichodina sp. (HCM)

"Ca ong tien"
Status: unknown
Environment: freshwater
Monogenoidea
Dactylogyrus sp. (HCM)

"grouper"
Status: native
Environment: marine
Protozoa
?*Chilodonella* sp. (-)
Trichodinella sp. (-)
Digenea
Digenea gen. sp. (-)
Monogenoidea
Monogenoidea gen. sp. (-)
Copepoda
Caligididae gen. sp. (KH)

"fish"
Status: unknown
Environment: freshwater, brackish, marine
Protozoa
Apiosoma minutum (MRD)
A. piscicolum cylindriformis (MRD)
Balantidium ctenopharyngodoni (SV)
B. spinibarbichthys (MRD)
Balantidium sp. (MRD)
Capriniana piscium (MRD)
Capriniana sp. (MRD)
Chilodonella piscicola (MRD,SV)
Cryptobia branchialis (MRD,SV)
?*C. makeevi* (SV)
Epistylis sp. (MRD,SV)
Glugea sp. (MRD)
Ichthyobodo necator (SV)
Ichthyonyctus baueri (MRD)
I. pangasia (MRD)
Ichthyonyctus sp. (-)
Ichthyophthirius multifiliis (MRD,SV)
Ichthyophthirius sp. (MRD)
Paratrichodina sp. (MRD)
Trichodina acuta (MRD,SV)
T. centrostrigata (MRD,SV)
?*T. cubanensis* (SV)
?*T. domerguei* (MRD)
T. fultoni (MRD,SV)
?*T. gasterostei* (MRD)
T. heterodentata (MRD)
T. mutabilis (MRD)
T. nigra (MRD)
T. nobillis (MRD,SV)
T. pediculus (MRD)
T. rectangli (MRD)
T. reticulata (MRD)
T. rostrata (MRD)
T. siluri (MRD)
Trichodina sp. (MRD)
Trichodinella epizootica (MRD,SV)
Trichodinidae gen. sp. (BN,HH,HN,HTI,PT,VP)
Tripartiella bulbosa (QN,MRD)
T. obtusa (MRD)
Trypanosoma sp. (MRD,SV)
Myxozoa
Ceratomyxa sp. (MRD)
Henneguya schulmani (MRD)
H. shaharini (MRD)
Henneguya sp. (MRD,SV)
Myxobilatus sp. (MRD)
Myxobolus semeniformis (MRD)
Myxobolus sp. (MRD,SV)
Thelohanellus catlae (MRD)
Zschokkella sp. (MRD)
Digenea
Allocreadium sp. (MRD)
Apophallus sp. metacercaria (MRD)
Azygia sp. (MRD)
Bacciger sp. (MRD)
Centrocestus formosanus metacercaria

(MRD)
Clinostomum complanatum metacercaria (MRD)
C. piscidium metacercaria (MRD)
Coitocaecum plagiorchis (MRD)
Didymozoidae gen. sp. (SCS)
Digenea gen. sp. (MRD)
Euclinostomum multicaecum metacercaria (MRD)
Masenia collata metacercaria (MRD)
M. collata (MRD)
Orientocreadium batrachoides (MRD,SV)
Orientocreadium sp. (MRD)
Plagioporus macrolepidotus (MRD)
Prosorhynchoides gracilescens (MRD)
Singhia kruinensis (MRD)
Stephanostomum imparispine metacercaria (SCS)
?*Stephanostomum* sp. metacercaria (SV)
Monogenoidea
Ancyrocephalus sp. (MRD)
Bychowskyella pseudobagi (MRD)
B. tchangi (MRD)
Cichlidogyrus sclerosus (MRD,SV)
C. tilapiae (MRD)
Cichlidogyrus sp. (MRD)
Cornudiscoides malayensis (MRD)
C. sundanensis (MRD)
Dactylogyridae gen. sp. (MRD)
Dactylogyrus kanchanaburiensis (MRD)
D. labei (MRD)
D. lampam (MRD)
D. pseudospyrna (MRD)
D. siamensis (MRD)
D. tapienensis (MRD)
D. tonguthaiae (MRD)
D. viticulus (MRD)
Dactylogyrus sp. (MRD,SV)
Diplozoon sp. (MRD)
Eudiplozoon nipponicum (MRD)
Gyrodactylus ctenopharyngodontis (SV)
G. fusci (MRD)
G. maculati (MRD)
G. ophiocephali (MRD)
Gyrodactylus sp. (MRD)
Heteronchocleidus sp. (MRD)
Ligophorus macrocolpos (MRD)
Malayanodiscoides bihamuli (MRD)
Notopterodiscoides sp. (MRD)
Quadriacanthus kobiensis (MRD)
Pseudodactylogyrus sp. (MRD)
Sundanonchus foliaceus (MRD)
S. micropeltis (MRD)
S. triradicatus (MRD)
Sundanonchus sp. (MRD)
?*Tetraonchus* sp. (MRD)
Thaparocleidus caecus (MRD)
T. notopterus (MRD)
T. pangasi (MRD)
T. siamensis (MRD)
T. sudhakari (MRD)
T. wallagonius (MRD)
Thaparocleidus sp. (MRD)
Trianchoratus gussevi (MRD)
T. ophicephali (MRD)
T. pahangensis (MRD)
T. trichogasterium (MRD)
Cestoda
?*Caryophyllaeus fimbriceps* (MRD)
? *Caryophyllaeus* sp. (SV)
Cestoda gen. sp. (MRD)
Lytocestus adhaerens (MRD)
L. parvulus (MRD)
Lytocestus sp. (MRD)
?*Paracaryophyllaeus gotoi* (MRD)
?*Proteocephalus macrocephalus* (MRD)
Proteocephalus sp. (MRD)
Senga malayana (MRD)
S. ophicephaliana (MRD,SV)
S. parva (MRD)
Senga sp. (MRD)
Trypanorhyncha gen. sp. plerocercus (SCS)
Nematoda
Agamospirura sp. larva (MRD)
Anisakis sp. larva (SCS)
Camallanus (*Camallanus*) *alii* (MRD)
Camallanus (*Zeylanema*) *anabantis* (MRD,SV)
Capillaria sp. (MRD,SCS)
Contracaecum sp. larva (GTO,SCS)
Cucullanus cyprini (MRD,SV)
Cucullanus sp. (MRD)
?*Dichelyne* (*Cucullanellus*) *minutus* (MRD)
Dichelyne (*Cucullanellus*) sp. (MRD)
?*Hysterothylacium aduncum* (MRD)
Echinocephalus spinosissimus larva (SCS)
Gnathostoma hispidum larva (MRD)
Gnathostoma sp. larva (MRD)
Nematoda gen. sp. (MRD)
Neocamallanus maculati (MRD)
N. ophicephali (MRD)
Neocamallanus sp. (MRD)
Philometra sp. (MRD,SV)
Pingus sinensis (MRD)
Pingus sp. (MRD)
Procamallanus (*Procamallanus*) *clarius* (MRD)
P. (*Procamallanus*) *glossogobii* (MRD)
P. (*Procamallanus*) *malaccensis* (MRD)
Procamallanus sp. (MRD)
Protoleptinae gen. sp. larva (HN)
Spinitectus clariasi (MRD)
S. notopteri (MRD)
S. ophicephali (MRD)
Spinitectus sp. (MRD)
Acanthocephala

Acanthocephala gen. sp. (MRD)
Acanthocephalorhynchoides ussuriensis (MRD)
Acanthocephalorhynchoides sp. (MRD)
Dendronucleata dogieli (MRD)
Dendronucleata sp. (MRD)
Echinorhynchoides sp. (MRD)
Fessisentis sp. (MRD)
Neoechinorhynchus sp. (MRD)
Pallisentis (*Pallisentis*) *nagpurensis* (MRD)
P. (*Demidueterospinus*) *ophiocephali* (MRD,SV)
Pseudorhadinorhynchus sp. (MRD,SV)
Serrasentis sagittifer (GTO,SCS)

Hirudinea
?*Caspiobdella fadejewi* (MRD)
Hemiclepsis sp. (MRD)
Piscicola sp. (MRD)

Branchiura
Argulus chinensis (MRD)
Argulus sp. (-)

Copepoda
Ergasilus anchoratus (SV)
E. philippinensis (MRD)
E. thailandensis (MRD)
Ergasilus sp. (MRD)
Lamproglena chinensis (MRD)
Lamproglena sp. (MRD)
Lernaea cyprinacea (MRD)
L. elegans (SV)
L. lophiara (MRD)
Lernaea sp. (HN,NH,VP,MRD)

Isopoda
Alitropus typus (MRD)
Corallana grandiventra (MRD)
Isopoda gen. sp. (MRD)

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PARASITE INDEX

HOST INDEX

This publication is a checklist summarizing information on the parasites of Vietnamese fishes contained in world literature dating from the earliest known record (Billet 1898) to the end of 2003. Information is presented in the form of parasite-host and host-parasite lists and contains 453 named species of parasites (not including 4 *nomina nuda*), distributed among the higher taxa as follows: Protozoa - 48, Myxozoa - 33, Digenea - 151, Monogenoidea - 112, Cestoda - 16, Nematoda - 53, Acanthocephala - 21, Hirudinea - 2, Branchiura - 3, Copepods - 12 and Isopods - 2. Many records of parasites not identified to species level are also included. The parasite-host list is organized on a taxonomic basis and provides information for each parasite species on the environment (freshwater, brackish water, marine), the location (site of infection) in or on its host(s), the species of host(s) infected, the known geographic distribution (by administrative division) in Viet Nam and the published sources for each host and locality record. The host-parasite list is organized according to the taxonomy of the hosts, and includes, for each host, the English language and local (Vietnamese) common names, environment (freshwater, brackish water, marine), status in Viet Nam (native or exotic) and information on the known distribution in Viet Nam of the parasites. Both lists are accompanied by remarks and footnotes, as warranted, giving specific information on points of systematics, nomenclature, possible misidentifications, introductions, etc. Citations are included for all references, as well as parasite and host indices. The following new taxonomic combinations are made: *Elongoparorchis siamensis* (Oshmarin, 1965) n. comb.; *Capillaria ariusi* (Parukhin, 1989) n. comb., *Falcaustra babei* (Ky, 1971) n. comb. and *Neocamallanus trichogasterae* (Pearse, 1933) n. comb. The parasite fauna of fishes of Viet Nam has received considerable attention, particularly by scientists of the former Soviet Union, in the marine environment, and by Vietnamese and Czech freshwater scientists. Nevertheless, parasites have been recorded from only about 10 percent of the more than 1 300 species of marine and freshwater fish occurring in the waters of Viet Nam. Knowledge of freshwater fauna is hampered by a lack of descriptive work and by many probable misidentifications of parasites, owing to the tendency of Vietnamese workers to report European species from the local fish fauna.

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