

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 233
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General Situation during February 1998 Forecast until mid-April 1998

Significant Desert Locust infestations were present along both sides of the Red Sea during February. Large-scale control operations were underway in Saudi Arabia against hopper bands while smaller operations continued in Sudan and Eritrea. Unless further rains occur, most infestations in these countries are expected to decline during the forecast period. Control operations commenced in Yemen against hopper bands on the Red Sea coastal plains. New infestations of hopper bands were reported in north-western Somalia which could result in further breeding and an increase in locust numbers if they are not treated.

Central Region. Mature swarms continued to appear on the Red Sea coastal plains of **Saudi Arabia** during the first three weeks of February and laid eggs. Consequently, aerial and ground control operations were increased and treated more than 37,000 ha of swarms and 32,000 ha of hopper bands. In **Egypt**, several swarms which gradually moved northwards along the Red Sea coast were treated. In **Sudan**, control operations against hopper bands and swarms declined in coastal areas and by the end of the month,

they had ceased except in the Tokar Delta. Survey and control operations could not be carried out in an inaccessible area to the south where additional infestations are thought to be present. In **Eritrea**, operations declined against hopper bands and adult groups. In both countries, some limited breeding was still in progress although conditions were becoming dry in many areas. In **Yemen**, control operations commenced against hopper bands and adult groups that had formed on the Red Sea coastal plains. The presence of hoppers suggests that there was some undetected breeding which may have been supplemented by a few incoming swarms that were not reported. Breeding on a smaller scale is in progress on the Gulf of Aden coastal plains. In northern **Somalia**, hopper bands and a few small swarms were present along the coastal plains near **Djibouti** where breeding is expected to continue and could lead to a build-up in locust numbers. From late March onwards, any adults that escape control along the Red Sea coastal plains could move within the Red Sea Trench or east towards the interior of Saudi Arabia and possibly reach northern **Oman** where good rains have fallen and conditions are favourable for breeding.

Eastern Region. There is a low risk of adults appearing from the west from late March onwards in coastal areas of south-eastern **Iran** and western **Pakistan** where scattered solitary adults are currently present and are expected to breed.

Western Region. Scattered solitary adults were present in northern **Mauritania**.

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Weather & Ecological Conditions in February 1998

Good rains were reported in Oman while sporadic showers fell south of the Atlas Mountains in Morocco and Algeria. Breeding conditions continued to be favourable in many areas along the Red Sea coastal plains and in northern Somalia. Conditions should be improving in western Pakistan and eastern Iran.

In the **Near East**, light to moderate rain fell over northern Oman throughout February. At times, these showers extended to adjacent areas of the Persian Gulf and South-West Asia. As a result, breeding conditions are likely to be favourable in Oman along the Batinah coast and in parts of the northern interior. Although no reports of significant rainfall was received from Red Sea coastal areas, favourable breeding conditions persisted in many places along a 1,100 km stretch of coastal plains from south of Hodeidah, Yemen to Rabigh, Saudi Arabia. Conditions were not favourable for breeding along the northern coastal plains north of Rabigh. In southern Yemen, favourable conditions were reported along the coastal plains to the west and east of Aden. Light rains may have fallen during the last dekad in Ramlat Sabatyn, Yemen and adjacent areas of the Empty Quarter in Saudi Arabia. In south-eastern Egypt, green vegetation was present but was starting to dry out. Conditions were not favourable for breeding due to a lack of recent rainfall.

In **Eastern Africa**, there were no reports of significant rainfall along the Red Sea coastal plains. In Sudan, dry conditions were reported on the northern coast and in Wadi Oko/Diib. Vegetation was becoming dry near Port Sudan and Suakin but was still green in the Tokar Delta. In Eritrea, patches of green vegetation were present on the coastal plains to the north of Massawa and to the south as far as Mersa Fatma at mid month, but by the end of the month some were drying out. Light to moderate rains fell over north-western Somalia during the first half of the month where conditions are favourable for breeding in coastal and subcoastal areas as well as in coastal areas of Djibouti. In Ethiopia, dry conditions prevailed

near the Djibouti and Somali borders but were greener near Dire Dawa where recent rainfall was reported.

In **South-West Asia**, light to moderate rain fell in parts of south-eastern Iran and western Pakistan. In the latter area, Jiwani received 22 mm and Pasni 18 mm during the first half of the month. Consequently, conditions should be favourable for breeding in coastal and interior areas of both countries from March onwards. Isolated showers also fell in Rajasthan, India.

In **North-West** and **West Africa**, no significant rainfall was reported. Only a few isolated showers occurred on the southern side of the Atlas Mountains in Algeria and Morocco. Some of these extended along the south-western coast of Morocco. Light rain fell during the first dekad in northern Mauritania where, as a result, conditions are improving in parts of the Adrar and Tiris-Zemmour regions.



Area Treated

Egypt	20,000 ha	(29-31 January)
	18,500 ha	(1-18 February)
Eritrea	2,042 ha	(3-19 February)
Saudi Arabia	70,361 ha	(1-28 February)
Sudan	2,950 ha	(24-31 January)
	4,082 ha	(1-25 February)
Yemen	16,704 ha	(10-28 February)



Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• SITUATION

During February, low numbers of solitary maturing and mature adults in a few places in the north between Atar (2032N/1308W) and Bir Mogrein (2510N/1135W).

• FORECAST

Low numbers of solitary adults will continue to be present in the north from Akjoujt to El Hank where limited breeding will occur in areas of recent rainfall.

Mali

• FORECAST

Low numbers of solitary adults may be present in a few of the major wadis in the Adrar des Iforas and Tilemsi Valley and breed if rainfall occurs.

Niger

• FORECAST

Low numbers of solitary adults may be present in a few places of Tamesna.

Burkina Faso, Cape Verde, Chad, Gambia, Guinea Bissau, Guinea Conakry and Senegal

• FORECAST

No significant developments are likely.

NORTH-WEST AFRICA

Algeria

• SITUATION

No locusts were seen in January.

• FORECAST

Scattered adults may be present in a few places in the central and southern Sahara. These may breed in areas of recent rainfall or run-off.

Morocco

• SITUATION

No locusts were seen in January.

• FORECAST

Isolated solitary adults may be present in the extreme south-west and breeding in areas of recent rainfall.

Tunisia

• SITUATION

No locusts were seen in January.

• FORECAST

No significant developments are likely.

Libya

• FORECAST

No significant developments are likely.

EASTERN AFRICA

Sudan

• SITUATION

During February, locust infestations declined along the Red Sea coastal plains as a result of drying conditions in northern and central areas as well as on-going control operations. Some of the swarms and adults that could not be controlled may have moved further north and east. A few maturing swarms were present along the coastal plains near Suakin (1906N/3719E) where laying and hatchlings were reported early in the month. Most of the infestations were concentrated in the Tokar Delta where medium

densities of hopper bands of all instars and fledglings were present. Gregarious adults were seen copulating in the Delta up to 18 February, and a few small mature swarms were reported arriving from an inaccessible area to the south where there were unconfirmed reports of swarms. By the end of the month, control operations were limited to the Tokar Delta against late instar bands, fledglings and mature adults. During February, a total of 4,082 ha were treated, mostly in the Tokar Delta.

No locusts were seen and conditions were dry during surveys on the northern coastal plains and in Wadi Oko/Diib on 22-24 February.

• FORECAST

Any hopper bands currently present on the Red Sea coastal plains that escape control are expected to form small groups or swarms during the forecast period. These may persist in any areas that remain green, such as Tokar Delta. Unless further rains fall, breeding is not likely to occur on the coastal plains and adults could move north or south along the coast, east across the Red Sea or west towards the interior of Sudan.

Eritrea

• SITUATION

Late reports stated that control operations undertaken during January along the northern Red Sea coastal plains were against hopper bands and adult groups and there were no confirmed reports of swarms. During February, operations declined in all areas. Limited control was carried out during the first three weeks of the month along the coast south of Massawa near Emberemi (1540N/3923E), Foro (1519N/3933E) and Mersa Fatma (1452N/4018E) against early and late instar hopper bands, fledglings and mature adult groups. North of Massawa, groups of late instar bands were present on several hundred hectares near the Adirbabo Plains (1640N/3850E) at mid month. More than 2,000 ha were treated up to 19 February.

• FORECAST

Any infestations currently present on the Red Sea coastal plains that escape control will continue to mature and could form small groups or swarms during the forecast period. These may persist in areas that remain green and lay again. There is a low to moderate risk that some adults could move into



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adjacent coastal or highland areas where they may be supplemented by other adult groups and small swarms that could appear from Djibouti and north-western Somalia.

Somalia

• SITUATION

On 2 February, hopper bands were reported near the Djibouti border and there was an unconfirmed report of a swarm on the north-western coastal plains at Karure (1051N/4326E). During surveys undertaken on the 15-22nd, several infestations of hopper bands, scattered adults and three small swarms were seen on the coastal plains and in the valleys leading down from the escarpment between Berbera (1028N/4502E) and the Djibouti border. Hopper bands and a small mature swarm were also present on the escarpment near the Ethiopian border at Jidhi (1037N/4304E). In all, about 50 hopper bands were seen, mostly first to fourth instar, low to medium density, and about 2-3 ha in size. Low to moderate densities of solitary adults were often present with the bands. Some of the infestations on the coastal plains near the Djibouti border were mixed with Tree Locusts. A small swarm was seen on the 17th at Silil (1100N/4325E). Surveys are in progress east of Berbera to determine the extent of the infestations.

• FORECAST

Adults currently present in coastal and subcoastal areas of the north-west are expected to lay which may lead to the formation of additional hopper bands during the forecast period. Hopper bands currently present will continue to mature and are likely to form small groups and swarms. Most of these adults are expected to persist as long as conditions remain favourable but some of them could move north across the Gulf of Aden or north-west towards Ethiopia and Eritrea.

Djibouti

• SITUATION

Solitary Desert Locust adults mixed, at times, with Tree Locust were seen during surveys along the coastal plains near the Somali border on 2-3 February. At the end of the month, there was an unconfirmed report of infestations in the northern region. More details are awaited.

• FORECAST

Breeding is likely to be in progress along the coastal plains adjacent to the Somali border where hopper bands may be forming. This is likely to continue during the forecast period and may lead to the formation of small adult groups and swarms. There is a low risk that additional adults may appear from adjacent areas of northern Somalia.

Ethiopia

• SITUATION

No locusts were seen during surveys in the eastern region between Dire Dawa and Djibouti, and between Jijiga and the Somali border during the second and third weeks of February.

• FORECAST

Scattered adults and perhaps a few small groups or swarms may appear from the east near Dire Dawa and Jijiga and breed in areas of recent rainfall. Other adults may appear in the Denakil.

Kenya, Tanzania and Uganda

• FORECAST

No significant developments are likely.

NEAR EAST

Saudi Arabia

• SITUATION

During the first three weeks of February, another wave of mature swarms were reported arriving on the coastal plains of the Red Sea from the west. The swarms varied in size from 1-30 sq. km and were of moderate to high density. Many of the swarms split up into five or six swarmlets and laid upon arrival. In all, there were 42 reports of swarms, most of them (29) on the coastal plains between Qunfidah (1905N/4103E) and Al-Lith (2017N/4008E) with a smaller number near Jizan (3 reports) at Baysh (1725N/4230E), and near Rabigh (2255N/3901E) on the plains north of Jeddah (8 reports). There were also reports of a swarm in the interior that may have moved from the Egyptian coast across the northern Red Sea to Hail (2731N/4148E) and Gassim (2431N/4401E). There were no swarms reports after 20 February. Although control operations were immediately undertaken, laying could not be prevented except for in the interior where conditions were too cold.

As a result of laying that occurred from an earlier wave of swarms last month as well as from this month, first to second instar hopper bands were present along the coastal plains from Jizan to Rabigh. The bands varied in size from 100-2,500 sq. m. By the end of February, some had reached third instar. A total of 54 ground teams and three aircraft treated 37,821 ha of swarms and 32,540 ha of bands during the month.

• **FORECAST**

Any hopper bands currently present on the Red Sea coastal plains that escape control could form small groups or swarms from late March onwards. These may be supplemented by additional adult groups or swarms from the west. If no further rains occur and as temperatures increase in the interior, adults are likely to move east across the mountains towards Hail, Wadis Najran and Dawasir, and Oman. If rain falls in the interior, laying could occur by the end of the forecast period.

Egypt

• **SITUATION**

On 4-18 February, several dense immature swarms progressively moved northwards along the Red Sea coast from Garf (2458N/3415E) to Safaga (2645N/3352E), and continuing north of Hurghada to Bali (2723N/3330E). Control operations were undertaken whenever possible, treating 18,500 ha.

• **FORECAST**

A few swarms may appear from the south on the south-eastern coastal plains during periods of southerly winds in the coming weeks. Unless further rains fall, these are likely to continue further north along the coastal plains or move east across the Red Sea.

Yemen

• **SITUATION**

Locust numbers have significantly increased along the Red Sea coastal plains probably as a result of undetected local breeding, perhaps supplemented by a few small incoming swarms that were not seen. On 2-3 February, there were unconfirmed reports of four swarms appearing on the northern plains near the Saudi Arabian border. At the same time, moderate densities of second to fifth instar hopper bands (500 hoppers per sq. m.), fledglings and immature adults (4-15 per sq. m.) were present between Bajil (1458N/4314E) and Abs (1601N/4312E). Many of the adults were forming groups. Some of the infestations contained solitary Desert Locust adults mixed with *Locusta*. Crop damage was seen in a few places. Copulating adults and hatchlings continued to be reported until the end of the month. Ground control operations commenced on the 10th and treated 16,704 ha up to the 28th.

On the coastal plains west of Aden, there was an unconfirmed report on the 10th of small hopper bands between Al-Wahet (1258N/4453E) and Am Rija (1301N/4435E). This was later confirmed to be second to fifth instar gregarious hoppers at densities up to 3 per sq. m. Scattered solitary hoppers of all stages and maturing adults were also present in a few

places. On the plains east of Aden, isolated immature adults were seen at Al Harwan (1326N/4630E).

• **FORECAST**

Locust numbers are expected to increase along the Red Sea coastal plains as a result of continuing breeding. Consequently, additional hopper bands are likely to appear during March which could lead to the formation of adult groups and small swarms from late March onwards. Small scale breeding will occur in a few places along the coastal plains west of Aden and to a lesser extent east of Aden. This may be supplemented by a few adult groups or small swarms coming from northern Somalia.

Kuwait

• **SITUATION**

No locusts were reported during January.

• **FORECAST**

No significant developments are likely.

Oman

• **FORECAST**

Low numbers of adults are almost certainly present on the Batinah coast and perhaps in Sharqiya where breeding may be in progress in areas of recent rainfall. These may be supplemented by adults appearing from the west. Consequently, locust numbers are likely to increase during the forecast period. Surveys are recommended.

UAE

• **FORECAST**

Low numbers of adults are likely to be present on the Fujayrah coast where breeding may be in progress in areas of recent rainfall. These may be supplemented by adults appearing from the west. Consequently, locust numbers may increase during the forecast period. Surveys are recommended.

Bahrain, Iraq, Israel, Jordan, Qatar, Syria and Turkey

• **FORECAST**

No significant developments are likely.



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Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

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SOUTH-WEST ASIA

Pakistan

• SITUATION

During the first fortnight of February, solitary adults at densities up to 12 per location were seen along the Mekran coastal areas of Baluchistan. The highest density was reported at Sulaika (2550N/6256E) in Turbat district.

• FORECAST

Small scale breeding is expected to occur in coastal and interior areas of Baluchistan that have received recent rainfall. Consequently, locust numbers will increase during the forecast period.

India

• SITUATION

An isolated solitary adult was seen at Chandesara (2551N/7154E) of Barmer district, Rajasthan on 19 January. No locusts were reported during the first fortnight of February

• FORECAST

Only a few solitary adults are likely to be present and persist in Rajasthan.

Iran

• SITUATION

Low numbers of scattered solitary adults were present at a few places on the coastal plains east of Chabahar (2516N/6041E) on 27 January. No locusts were seen elsewhere during surveys carried out on the coastal plains west of Chabahar and in the interior up to 9 February.

• FORECAST

Small scale breeding is likely to occur in a few places along the south-eastern coastal plains between Jask and the Pakistan border and perhaps in the interior areas of Iranshahr and Saravan. This may be supplemented by adults appearing from the west. Consequently, locust numbers are expected to increase during the forecast period in those areas that have received recent rainfall. Surveys are recommended to carefully monitor the situation.

Afghanistan

• FORECAST

No significant developments are likely.

NON-GREGARIOUS ADULTS AND HOPPERS

ISOLATED (FEW)

- very few present and no mutual reaction occurring;
- 0 - 1 adult/400 m foot transect (or less than 25/ha).

SCATTERED (SOME, LOW NUMBERS)

- enough present for mutual reaction to be possible but no ground or basking groups seen;
- 1 - 20 adults/400 m foot transect (or 25 - 500/ha).

GROUP

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

ADULT SWARM AND HOPPER BAND SIZES

VERY SMALL

- swarm: less than 1 km² • band: 1 - 25 m²

SMALL

- swarm: 1 - 10 km² • band: 25 - 2,500 m²

MEDIUM

- swarm: 10 - 100 km² • band: 2,500 m² - 10 ha

LARGE

- swarm: 100 - 500 km² • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km² • band: 50+ ha

RAINFALL

LIGHT

- 1 - 20 mm of rainfall.

MODERATE

- 21 - 50 mm of rainfall.

HEAVY

- more than 50 mm of rainfall.

OTHER REPORTING TERMS

BREEDING

- the process of reproduction from copulation to fledging.

SUMMER RAINS AND BREEDING

- July - September/October

WINTER RAINS AND BREEDING

- October - January/February

SPRING RAINS AND BREEDING

- February - June/July

DECLINE

- a period characterised by breeding failure and/or successful control leading to the dissociation of swarming populations and the onset of recessions; can be regional or major.

OUTBREAK

- a marked increase in locust numbers due to concentration, multiplication and gregarisation which, unless checked, can lead to the formation of hopper bands and swarms.

PLAGUE

- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

- period of deep recession marked by the complete absence of gregarious populations.

UPSURGE

- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to-gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions.



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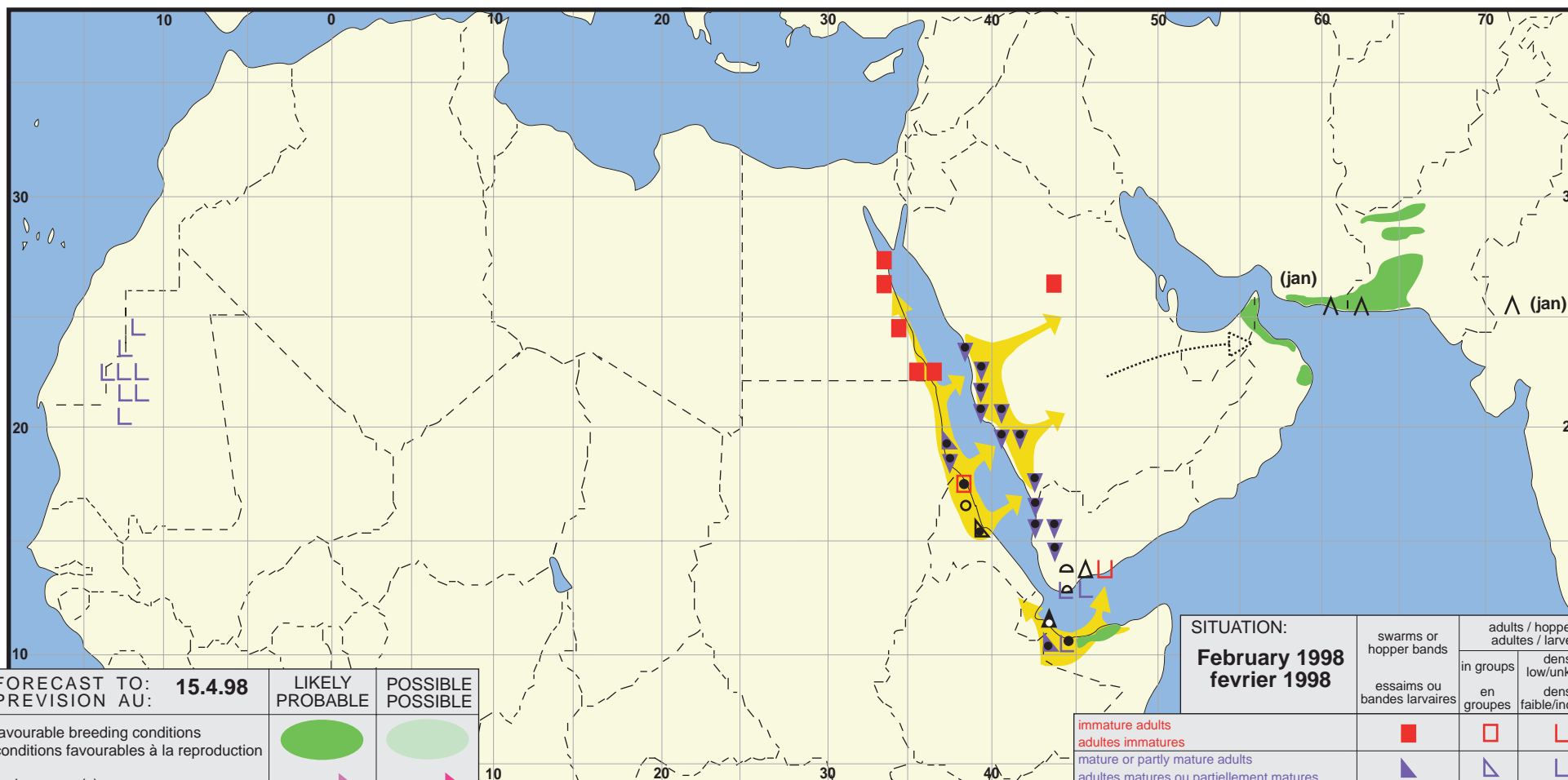
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FORECAST TO: PREVISION AU:	15.4.98	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favorables à la reproduction			
major swarm(s) essaim(s) important(s)			
minor swarm(s) essaim(s) limité(s)			
non swarming adults adultes non essaimant			

SITUATION: February 1998 fevrier 1998	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	in groups en groupes	density low/unknown densité faible/inconnue
immature adults adultes immatures			
mature or partly mature adults adultes matures ou partiellement matures			
adults, maturity unknown adultes, maturité inconnue			
egg laying or eggs pontes ou œufs			
hoppers larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			