

# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### DESERT LOCUST BULLETIN No. 199



**As a result of the exceptionally good rains that occurred during March in the traditional spring breeding areas and the current presence of hopper bands and swarms in adjacent areas, a potentially dangerous situation could develop in the next few months.**

Unusually heavy rains fell during the month in North-West Africa and the Arabian Peninsula. As a result, conditions are expected to be favourable for breeding during the spring in these areas. Ground and aerial control operations continued against swarms and hopper bands in Mauritania and Saudi Arabia, and to a lesser extent in Morocco, Algeria and Egypt. Those locusts that escape detection and control operations are expected to form swarms and move from northern Mauritania to the southern side of the Atlas Mountains in Morocco and Algeria, and perhaps further east, while those from the Red Sea coastal plains will most likely move towards the interior of the Arabian Peninsula. Upon arriving in these areas, adults will continue to mature and lay. By the end of the forecast period, hopper bands should start to form.

In North-West Africa, infestations could spread further east towards Tunisia and Libya early in the month, while others continued to move further north towards Morocco.

Some swarms and hopper bands were reported in the Nile Valley at several locations on both sides of the Egypt-Sudan border and in the south-eastern desert of Egypt. Control operations were undertaken.

Scattered adults were reported in several locations of Baluchistan of Pakistan and, to a lesser extent, of Iran, where breeding is expected to be in progress. Adult numbers are expected to increase in these areas during the forecast period.

The FAO Desert Locust Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by fax, telex, e-mail, FAO pouch and airmail by the Emergency Centre for Locust Operations, AGP Division, FAO, 00100 Rome, Italy.

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## WEATHER & ECOLOGICAL CONDITIONS DURING MARCH 1995

Based on field reports, METEOSAT and ARTEMIS satellite imagery, and Météo-France synoptic and rain data. Rainfall terms: light = less than 20 mm of rain; moderate = 20 - 50 mm; heavy = more than 50 mm.

During March, unusually heavy and widespread rains fell in many places of the spring breeding areas of North-West Africa, Arabia and to a lesser extent South-West Asia.

In North-West Africa, light to moderate rains, some of them unusual at this period of the year and at these amounts, fell over southern Morocco, western, southern and eastern Algeria, southern Tunisia and western Libya. These rains were associated with several eastwards moving Mediterranean depressions which also may have favoured locust movements towards the spring breeding areas of North-West Africa. Breeding conditions have improved in many areas, including those already infested with locusts.

In northern Mauritania, green vegetation is limited to areas of run-off in the El Hank and Oued El Hamra regions. Standing water was still reported in some places. By the end of the month, clouds were again present over the infested areas of the extreme north, which may have produced some rains. Elsewhere, the ITCZ reached as far north as southern Mauritania at times and some light rain unexpectedly fell in Aioun el Atrous. In Niger, a few green areas are likely to persist in Tamesna.

Unless further rainfall occurs, ecological conditions will continue to dry out along the coastal plains on both sides of the Red Sea. However, some clouds were present over the southern Red Sea coast of Eritrea to the Railway area of Ethiopia and northern Somalia. Rain fell at several locations and were, at times, unusually heavy. Favourable conditions are almost certainly persisting in several areas although NDVI imagery suggested these were shrinking in northern Somalia at the beginning of the month.

Unusually widespread rains, some heavy, occurred several times over the Arabian Peninsula, from Yemen and the south-western edge of the Empty Quarter to Oman and the Emirates. Other rains fell in northern Saudi Arabia. For example, Sharurah in the Empty Quarter received 79 mm in two days and Marmul in the Dhofar region of southern Oman 144 mm in three days. As a result, breeding conditions are expected to become favourable in many areas.

Some of the cloud masses which occurred in the Near East extended to the spring breeding areas of South-West Asia where significant rains fell at several places of Baluchistan of Iran and Pakistan as far east as Karachi. As a result of these as well as earlier rains during February, ecological conditions are almost certainly favourable.



## AREA TREATED IN MARCH 1995

Algeria	9,620 ha	(1-31 March)	Morocco	354 ha	(23-28 February)
Egypt	4,500 ha	(19-26 February)		3,135 ha	(1-20 March)
	12,900 ha	(1-27 March)	Niger	2,950 ha	(5-13 February)
Mali	no details		Saudi Arabia	137,599 ha	(19 Feb. - 15 March)
Mauritania	3,676 ha	(21-28 February)	Sudan	825 ha	(1-13 March)
	42,493 ha	(1-19 March)			



## DESERT LOCUST SITUATION

Please see the last section of this Bulletin for a definition of terms used in reporting the current locust situation.

### WEST AFRICA

#### MAURITANIA

During the last decade of February, ground and aerial control operations continued in the extreme north in the El Hank (ca. 2400N/0800W) area against mature adults, some of which forming small swarms and laying, and an increasing number of hopper bands. 3,676 ha were treated during the period.

Adult infestations continued to decline during the first decade of March, although some were still seen laying in the El Hank and, to a much lesser extent, Oued El Hamra (ca. 2630N/0830W) areas. All instar hoppers were present in El Hank area and hatchlings appeared in Oued El Hamra during the second decade. No new adults were reported yet during this period and control operations continued only against hopper bands. By the end of the month, infestations were reported to be present within a total of ca. 50,000 ha, including previously unreported areas. Despite bad weather conditions at times by mid-month, control operations substantially increased and treated a total of 42,493 ha from 1-19 March.

#### MALI

In the extreme north-west, numerous first to third instar hopper infestations were reported and treated along 100 km in areas adjacent to infested areas of Mauritania. Further details are awaited.

#### NIGER

In early February, mature gregarious adults, some of them laying, persisted in areas of widespread green vegetation near In Zinkad (1805N/0551E) in Tamesna. Ground and aerial control operations treated 2,950 ha up to the 13th. Hatchlings were first reported forming dense patches near In Zinkad and 6 km north of In Abangharit (1754N/0602E) over a few tens of hectares on 27 February-2 March.

**No locust information has been received from other countries in the region up to 31 March.**

### NORTH-WEST AFRICA

#### ALGERIA

During the first decade of March, increasing reports of numerous mature adults were received from the Tindouf (2741N/0808W), Adrar (2753N/0017W), In Salah (2711N/0229E) and Tamanrasset (2244N/0533E) areas, as well as several places along the Libyan border between south of Djanet (2326N/0904E) and west of In Amenas (2802N/0809E). Additional laying was reported between the Adrar and In Salah areas. Some small hopper bands were reported near Tamanrasset (2255N/0406E) and in the Asedjrad area (2437N/0126E).

During the following two decades, mature gregarious adults continued to spread further north, primarily north of Tademait Plateau near El Golea (3035N/0252E) and in areas of recent rains near Tabelbala (2124N/0316W) where they started to lay. By the end of the month, more hopper patches and bands continued to appear in the Asedjrad and Tamanrasset areas, hoppers were reported for the first time near In Salah, and more laying was in progress in the Tabelbala area.

A total of 9,620 ha were treated during the month.

#### MOROCCO

Small loose swarms and scattered adults continued to be reported near Goulmine (2858N/1004W) and to a lesser extent Errachidia (3156N/0427W) on 24-26 February. 354 ha were treated. Scattered adults were reported near Laayoune (2640N/1150W).

During the first two decades of March, additional scattered adults and several small loose swarms were reported from the southern side of the Atlas Mountains along the Oued Draa valley, south of Remlia (3041N/0426W), in Oued Zguid area (ca. 2950N/0715W), near Tata (2945N/0758W) and Goulmine.

Although adults were reported to be mature and at times present in areas of recent rains, no breeding was reported.

Ground and aerial control operations treated a total of 3,135 ha during the period.

## **TUNISIA**

Isolated immature and mature adults were reported from the south and the west at Borj el Khadra (3015N/0934E), Chbika (3424N/0756E) and Hazoua (3345N/0736E) during the first week of March.

**No locust information has been received from other countries in the region up to 31 March.**

## **EASTERN AFRICA**

### **SUDAN**

No locusts were reported along the Nile between Dongola (1910N/3027E) and Wadi Halfa (2155N/3122E) on 20 February - 6 March. However, scattered adults commenced to be seen within this area in early March. There were then reports of high density laying adults, some of them unconfirmed, and first to second instar hoppers at some places between Kosha (2048N/3033E) and Wadi Halfa up to the 13th. 825 ha were treated.

### **SOMALIA**

During a survey carried out north of Borama, isolated adults were reported at Tugga Dobo (1016N/4317E) on 15-19 March.

**No locust information has been received from other countries in the region up to 31 March.**

## **NEAR EAST**

### **SAUDI ARABIA**

During March, control operations continued against adult and hopper infestations present north of Jeddah in the Badr (2344N/3846E) and Masturah (2307N/3851E) areas, as well as south of Jeddah between Lith (2009N/4017E) and Qunfudah (1908N/4105E). One swarm was reported at Madinah on the 26th and there were a few small swarms possibly east of Qunfudah on the 29th. Ground and aerial control operations treated a total of 137,599 ha on 19 February - 15 March. Further details are awaited.

### **EGYPT**

During the last decade of February, several low to medium density swarms, most of them mature, were reported from several cropping areas primarily along the Lake Nasser. There were other reports further east near the Sudanese border, and in the central desert at El Zayat (2513N/2950E). 4,500 ha were treated by ground on 19-26 February.

During March, similar adult infestations were persisting within the same areas. First to third instar hopper bands were reported in the extreme south-east in places adjacent to the coastal areas early in the month and fifth instar hoppers appeared from the 25th onwards. 12,900 ha, primarily of bands, were treated up to 27 March.

### **YEMEN**

Isolated adults were reported from the coastal plains west of Aden near Am Fajarah (1259N/4419E) and from west of Mukalla near Zobbad (1415N/4750E) on 24-26 February.

### **OMAN**

No locusts were reported during surveys carried out in early March.

**No locust information has been received from other countries in the region up to 31 March.**

## SOUTH WEST ASIA

**IRAN**

In late February, an isolated locust was reported on the Baluchistan coast near Chahbahar at Ramir (2517N/6046E) on the 22nd.

**PAKISTAN**

During the second half of February, the number of reports of scattered adults continued to increase on the coastal and interior areas of Makran and Lasbela. A total of 17 locations reported locusts, with a maximum density of 450 adults per sq. km in Lasbela district at Nakti (2537N/6611E) on the 19th. Most of the reports were from the western part of Baluchistan.

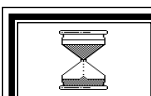
Infestations persisted during the first half of March with locusts reported at 19 locations in Baluchistan, with a maximum density of 1,125 adults per sq. km seen at Ishukan (2502N/6204E) near the Iranian border on the 8th. No breeding was reported so far.

**INDIA**

During the second half of February, isolated adults were reported in Jaisalmer district, at a maximum density of 120 per sq. km at Sadhna (2729N/7042E) on the 16th.

No locust activity was reported during the first half of March.

**No locust information has been received from other countries in the region up to 31 March.**

**FORECAST UNTIL MID-MAY 1995**

Forecasting terms used in this section to indicate the chances of a particular event happening are indicated below; every term is arranged within each category from most to least probable:

high probability	will, probably, almost certain, likely, expected
medium probability	may, might
low probability	possibly, perhaps, unlikely

## WEST AFRICA

**MAURITANIA**

New swarms will start forming early in the forecast period in the currently infested areas of the extreme north. However, infestations are expected to decline throughout the forecast period as conditions become dry and adults move northwards.

**MALI**

New swarms will start to form on a small scale in the extreme north-west between Taoudenni and the Algerian border. Most of these are expected to move north during the forecast period.

**NIGER**

New swarms are expected to form on a small scale in Tamesna. These will probably persist in those areas that remain green during the forecast period. However northward movements associated with any Mediterranean depressions that occur cannot be excluded.

**BURKINA FASO, CAMEROON, CAPE VERDE, CHAD, GAMBIA, GUINEA BISSAU, GUINEA CONAKRY, and SENEGAL**

No significant developments are likely.

## NORTH WEST AFRICA

### MOROCCO

Additional swarms are likely to arrive into areas south of the Atlas Mountains from further south. Laying is likely to have already started in areas of green vegetation and is expected to continue during the forecast period. Hatching is expected to commence early in the forecast period and consequently a few small hopper bands are likely to form.

### ALGERIA

Breeding is likely to increase in central regions as a result of the good rains during March. Consequently, an increase in the number of hopper bands is expected. Further north, increased numbers of adults should appear and continue to lay south of the Atlas Mountains where hopper bands are expected to appear in early April.

### TUNISIA

There is a possibility that additional adults could appear in the south and perhaps breed if rainfall occurs during the forecast period.

### LIBYA

Adults and perhaps a few small swarms are almost certainly present in the Hammada Al Hamra and Fezzan areas as a result of an eastward movement last month. These are likely to breed and there is a possibility that a few hopper bands could form during the forecast period.

## EASTERN AFRICA

### SUDAN

Some additional hopper infestations are expected to appear and form a few bands in the Nile area north of Dongola, whereas adult numbers are likely to decrease. Infestations along the Red Sea coastal plains and adjacent interior areas will continue to decrease during the forecast period if no additional rainfall occurs.

### ERITREA

If no further rains occur, infestations will decrease along the coastal plains and small numbers of locusts are expected to concentrate in those areas where vegetation remains green.

### SOMALIA

Small to moderate numbers of locusts are probably present at places along the coastal plains of northern Somalia and breeding in those areas where conditions are favourable. A movement further east along the plains could occur during the forecast period. However, due to the continuing insecurity, it is difficult to determine the scale of such infestations and movements.

### DJIBOUTI, ETHIOPIA, KENYA, TANZANIA and UGANDA

No significant developments are likely.

## NEAR EAST

### SAUDI ARABIA

Despite large scale control operations, the possibility of escapees cannot be excluded. If this is the case, adults and swarms are expected to move towards the northern interior or perhaps eastwards toward Wadi Dawasir and Sharurah where good rains fell during March. Consequently, conditions are expected to be favourable in the north as well as further south for breeding and hopper bands may form during the forecast period.

### YEMEN

There is a moderate probability that adults and perhaps few swarms may appear and breed on the western edge of the Empty Quarter in Ramlat Dahn and Ramlat Sabatayn. Adults may be present and breeding on a small scale in areas of recent rain in Shabwah and Wadi Hadhramaut areas.

## **OMAN**

Adults are likely to be present and breeding in Dhofar north-east of Thumrait which recently received exceptional rains as well as in the Sharqiya and Buraimi areas and along the Batinah. Depending on the scale of such infestations, hoppers can be expected to appear and, by the end of the forecast period, a few small swarms may form.

## **UAE**

Adults are likely to be present and breeding in the Al Ain area and perhaps in the other Emirates where good rains fell during March.

## **QATAR**

A few adults may be present and breeding in areas of recent rainfall.

## **EGYPT**

Infestations along the Red Sea coastal plains and adjacent interior areas and Western Desert will continue to decrease during the forecast period if no additional rainfall occurs. There is a possibility of a further northward movement as far as the Sinai if Mediterranean depressions continue to occur during the forecast period.

## **BAHRAIN, IRAQ, ISRAEL, JORDAN, KUWAIT, LEBANON, SYRIA and TURKEY**

No significant developments are likely.

## **SOUTH WEST ASIA**

### **IRAN**

Adult numbers are expected to increase along the coastal plains and adjacent interior areas of Baluchistan. These may breed during the forecast period in areas of recent rains.

### **PAKISTAN**

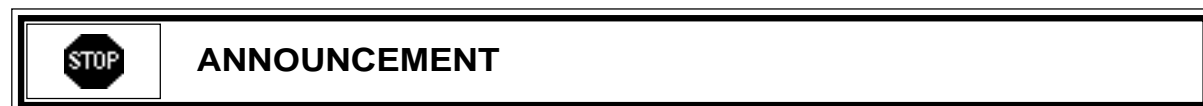
Adult numbers will most likely increase along the coastal plains and adjacent interior areas of Baluchistan. These are expected to breed during the forecast period in areas of recent rains.

### **INDIA**

Adults will persist in a few places of Rajasthan.

### **AFGHANISTAN**

No significant developments are likely.



We wish to announce with deep regret the death of Dr. F.A. Schulz on 11 March 1995 in Berlin, Germany, who has served since 1990 as Chairman of UNDP/FAO Scientific Advisory Committee. FAO wishes to express its condolences to his family and his government.



## GLOSSARY OF TERMS

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

### Non-gregarious adults and hoppers

isolated	very few present and no mutual reaction occurring; 0 - 1 adult per 400 m foot transect (or less than 25 per ha). Other terms: a few.
scattered	enough present for mutual reaction to be possible but no ground or basking groups seen; 1 - 20 adults per 400 m foot transect (or 25 - 500 per ha). other terms: some, low numbers.
group	forming ground or basking groups; more than 20 adults per 400 m foot transect (or more than 500 per ha).

### Adult swarm and hopper band sizes

very small	swarm: less than 1 sq. km	band: 1 - 25 sq. m.
small	swarm: 1 - 10 sq. km	band: 25 - 2,500 sq. m.
medium	swarm: 10 - 100 sq. km	band: 2,500 sq. m - 10 ha
large	swarm: 100 - 500 sq. km	band: 10 - 50 ha
very large	swarm: more than 500 sq. km	band: more than 50 ha

### 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.

3 March 1995



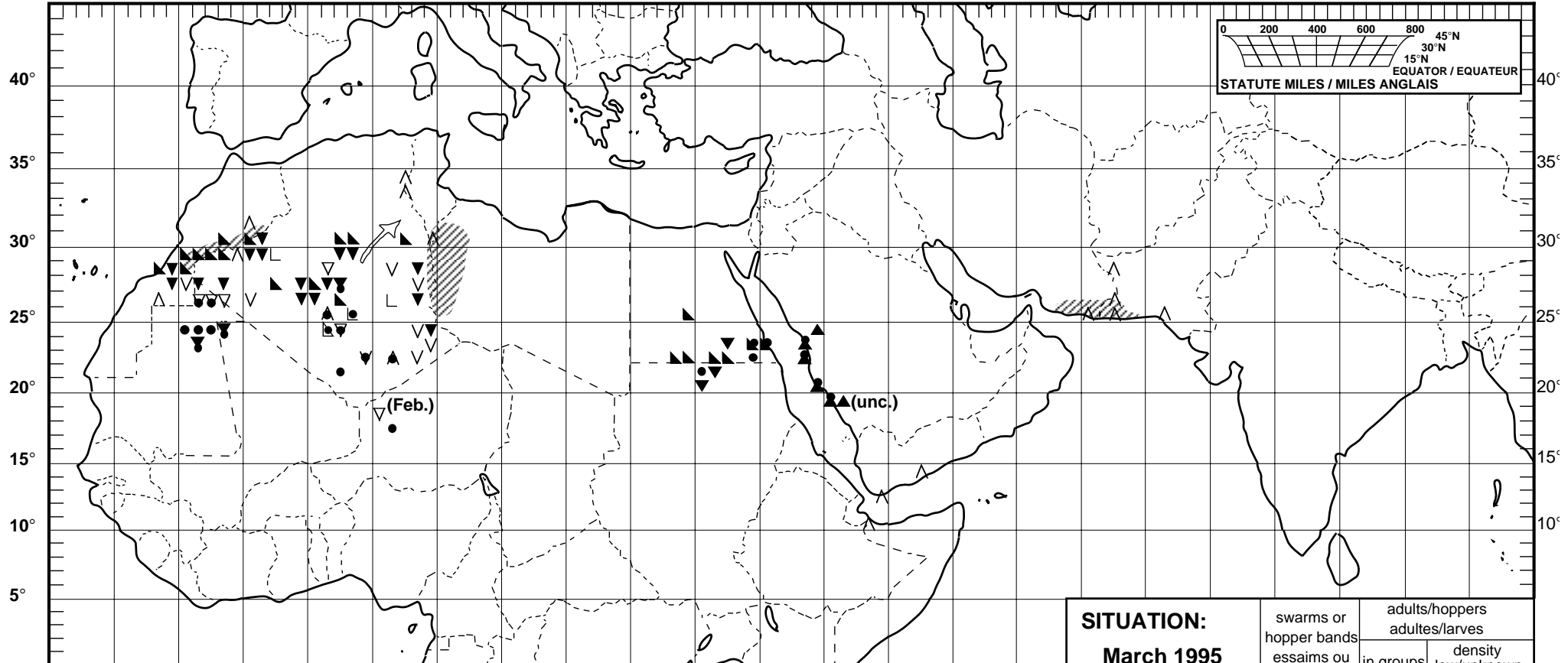
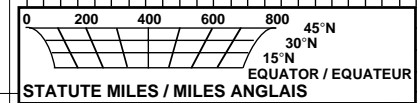


# Desert Locust: summary Criquet pèlerin: situation résumée

No. 199



20° 15° 10° 5° 0° 5° 10° 15° 20° 25° 30° 35° 40° 45° 50° 55° 60° 65° 70° 75° 80° 85° 90° 95°



FORECAST TO: PREVISION AU: 15.5.95	LIKELY PROBABLE	POSSIBLE POSSIBLE
current undetected breeding reproduction en cours et non détectée		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

**SITUATION:**  
**March 1995**  
**mars 1995**

	swarms or hopper bands essaims ou bandes larvaires	adults/hoppers adultes/larves	
		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)	◼	◼	◼

15° 20° 25° 30° 35° 40° 45°