

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 255
(10 January 2000)



General Situation during December 1999 Forecast until mid-February 2000

The Desert Locust situation continued to remain serious during December in West Africa. Control operations were carried out against hopper bands and adults in Mauritania and Mali. Although the number of gregarious populations has been reduced in both areas, relatively large numbers of individual locusts remain. Winter breeding started in the extreme north of Mauritania and is likely to continue and extend into adjacent areas of Morocco. As further breeding is unlikely in Mali, remaining locust adults may move further north and west. Limited control operations were carried out in northern Sudan. Winter breeding may have started on the Red Sea coast where low numbers were reported in Sudan and Saudi Arabia. Elsewhere, the situation remained calm.

Western Region. During December, adult populations continued to move northwestwards in Mauritania. Hoppers in bands and groups with immature adults were controlled over 370 ha in western Mauritania between Nouakchott and the border with southern Morocco. Maturing locusts were reported in the far northwest of Mauritania from mid-December and laying started at one site. Some adults probably moved into southern Morocco where low numbers of

immature adults were reported. In northern Mali, control operations were carried out against groups of hoppers and fledglings from 20 November onwards. Although 3,806 ha of the densest infestations had been treated by mid December, numerous infestations at lower densities remained uncontrolled. In Niger, unconfirmed reports of hopper bands and adult groups were received from south-eastern Aïr. Locust numbers are expected to increase in northern Mauritania and southern Morocco as a result of a continuation of breeding in these areas. This will be supplemented by any adults or groups arriving from northern Mali where conditions have become dry. Some adults may also appear in southern Algeria from Mali or perhaps Niger.

Central Region. In northern Sudan, mature adults and hoppers were treated east of the Atbara River in late November and in early December. Rain continued to fall on the Red Sea coast where scattered mature adults were present. No locusts were reported from south-eastern Egypt where heavy rains fell on 20 December. Scattered locusts were reported in Saudi Arabia. No locusts were reported from Djibouti. Small scale breeding may have already started and will continue in the above coastal areas.

Eastern Region. No locusts were seen during surveys carried out in Iran, Pakistan and India in December. No significant developments are expected.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by fax, e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00100 Rome, Italy. It is also available on the Internet.

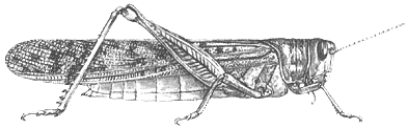
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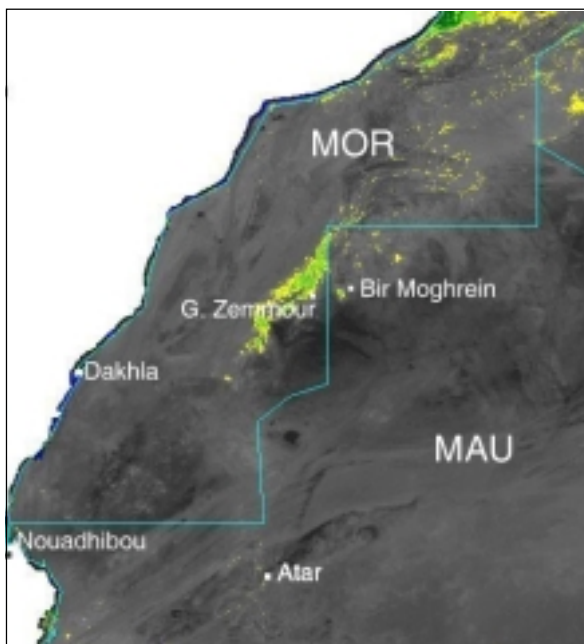
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Weather & Ecological Conditions in December 1999

Light to moderate rains fell over north-western Mauritania where vegetation is developing in the winter breeding area. Vegetation is also developing in southern Morocco. Elsewhere in West and North-West Africa, conditions are only suitable for Desert Locust survival. On the Red Sea coastal plains, conditions are improving and becoming favourable for breeding. Dry conditions prevailed in the winter breeding areas of South-West Asia.

In **West Africa**, light to moderate rains were reported during the third dekad in the locust infested areas of Mauritania. Ground teams reported green vegetation in the extreme north-west where satellite imagery for the second dekad of December also indicated newly vegetated areas. Imagery suggested that vegetation is still present in parts of Timetrine and in the main wadis of the Adrar in north-eastern Mali. Ground teams reported that the area was becoming dry and unfavourable for further breeding. In northern Niger, imagery suggested that green vegetation is still present in central Tamesna and in the Air mountains.



Satellite imagery suggests that there is a large area of vegetation developing in the interior of the Saharan Provinces, Morocco, close to Galtat Zemmour, extending to north-western Mauritania. [Source: SPOT VEG, 11-20 December 1999].

In **North-West Africa**, light rains fell over the northern Sahara of Algeria and satellite imagery suggests that vegetation is developing in the west near Tindouf. In Morocco, light rains were recorded in the south (15 mm at Sidi Ifni and 4 mm at Tan Tan during the first dekad, 1.5 mm at Dakhla during the third dekad). Imagery indicates that vegetation is present in the interior of the Saharan Provinces near Galtat Zemmour between 24-26N and 13-12W which extends into northern Mauritania where ground teams recorded green vegetation.

In **Eastern Africa**, clouds were often present over the coastal plains of Sudan. Light to moderate rains totalling 122 mm were reported at Port Sudan during the second dekad. Green vegetation was reported along the plains in late November and ecological conditions are expected to be very suitable for breeding. Cloud cover was much less frequent over northern Eritrea and south-eastern Egypt.

In the **Near East**, light to moderate rains were reported in Saudi Arabia from Jeddah to the Yemeni border. Consequently, ecological conditions along the coastal plains are expected to become suitable for breeding.

In **South-West Asia**, dry conditions persisted in the locust breeding areas.



Area Treated

Mauritania	370 ha (1-31 Dec)
Mali	3,380 ha (24 Nov to 10 Dec)
Sudan	325 ha (19-20 Nov and 8-12 Dec).



Desert Locust Situation and Forecast

(see also the summary on the first page)

WEST AFRICA

Mauritania

• SITUATION

Summer breeding ended during December in Tagant and Brakna (17-18N/12-13W). During the first dekad, scattered fledglings were seen in these areas and the remaining isolated adults had matured by the end of the month. Further north, winter breeding continued in Trarza and Inchiri (18N/15-16W). During the first two dekads, control was carried out against fledglings and first to fifth instar hopper bands and groups.

At the end of the month, control was mainly against late instar hopper and fledgling groups in the Taziaset (20N/15W) and in Banc d'Arguin (19N/16W) areas. A total of 370 ha were sprayed. Some adults from the surviving populations were maturing by the end of the month. During the second half of December, immature and maturing adults at densities up to 600/ha were reported from the extreme north of Tiris Zemmour (24-25N/10-11W). At one site, low density mature adults were in groups and one female was laying.

• **FORECAST**

Fledging and adult maturation will continue during the forecast period in Inchiri and Trarza. Although cool temperatures may slow down locust maturation and hinder adult movement into adjacent areas, numbers will almost certainly increase in Tiris Zemmour near the Moroccan border as a result of small-scale breeding which could extend into El Hank if rainfall occurs. This may be supplemented by a few groups or perhaps small swarms from northern Mali. Some adults may cross into southwestern Algeria and adjacent parts of Morocco.

Mali

• **SITUATION**

Second to fifth instar hopper groups and fledglings were present in the Timetrine region (19N/00W) from 15 November to 12 December, and hopper bands were reported at three sites in mid November. Low density hoppers were widespread further south in Timetrine (18N/0W) and in the Tilemsi valley (18-19N/00E). Control began on 20 November against the densest populations in Timetrine. By 10 December, 3,806 ha had been treated and a further 7,000 ha were expected to be sprayed by the end of the month. Extensive populations at densities of less than 10,000/ha were untreated as were denser populations where nomads were grazing their herds.

• **FORECAST**

Fledging will continue during the forecast period. Further breeding is not expected as the soil has become dry. Some of the scattered fledglings may form groups and very small swarms as the vegetation dries out. Those escaping control are expected to emigrate northwest towards the breeding areas in northern Mauritania. During periods of warm southerly winds, others may move northwards into south-central Algeria with some reaching south-western Algeria and Morocco.

Niger

• **SITUATION**

In mid-December, there were unconfirmed reports from the valleys and depressions in south-eastern Aïr of pasture being damaged by hopper bands and adult groups. Results of a survey to these areas that began on 20 December are awaited.

• **FORECAST**

Fledglings will continue to appear during the forecast period. Some may concentrate in patches of green vegetation and form groups or small swarms. When conditions become dry, these are expected to move northwards into southern Algeria but only during periods of warm southerly winds. Some of these could move north-west, perhaps reaching the breeding areas of northern Mauritania and Morocco.

Chad

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

Senegal

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

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

• **FORECAST**

No significant developments are likely.

NORTH-WEST AFRICA

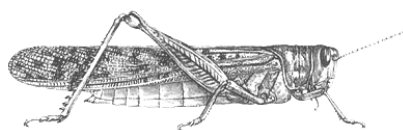
Algeria

• **SITUATION**

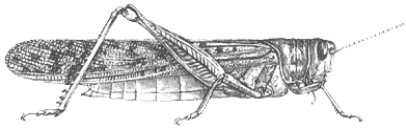
No reports received in December.

• **FORECAST**

Low numbers of hoppers and adults seen in the extreme south, and also south of Tindouf, in November are likely to have persisted and small-scale breeding may be in progress or start as temperatures rise during the forecast period. Low to moderate numbers of adults, possibly including groups and some small swarms, may appear in these areas from Mali and Niger.



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Morocco

• SITUATION

Scattered immature adults were reported on 7 December at Haouza (2635N/1024W) and on the 9th at Guelmim (2859N/1004W). Further south, low numbers of immature adults were reported on the 3rd and 16th at Gueltat Zemmour (2436N/1246W) and on the 20th at Bir Guendouz (2136N/1617W).

• FORECAST

Small-scale breeding is likely to start among populations already present. This may be augmented by adults and possibly a few groups or small swarms arriving from Mauritania, Mali or Niger. Cool temperatures could delay adult maturation and subsequent hatching as well as limit migration.

Libyan Arab Jamahiriya

• SITUATION

No locusts were reported in December.

• FORECAST

No significant developments are likely.

Tunisia

• SITUATION

No locusts were reported in November.

• FORECAST

No significant developments are likely.

EASTERN AFRICA

Sudan

• SITUATION

Mature adults and second to fifth instar hoppers were treated at three sites in Northern Province east of the Atbara River (17N/34E) on 19 and 20 November. Similar infestations were treated at another three sites on 8-12 December.

In late November, scattered mature adults at densities between 100 and 200/ha were seen during surveys on the Red Sea coastal plains between Hoshiri (2019N/3713E) and Sitarab (1835N/3730E), just north of the Tokar Delta. Scattered mature adults at higher densities (200-300/ha) were seen during surveys in the same areas in December.

• FORECAST

Winter breeding has probably started on the Red Sea coast between Port Sudan and the Eritrean border as well as in the northern inland areas of Wadi Oko/Diib. As unusually heavy rains have fallen, locust

numbers will increase in these areas with hoppers appearing during the forecast period. Gregarisation is unlikely at this point but may occur if another generation of breeding takes place after February.

Eritrea

• SITUATION

No reports received.

• FORECAST

Small-scale breeding may be in progress in a few wadis and low-lying areas along the Red Sea coastal plains from Massawa to Karora. If good rains fall, this may extend to other areas on the plains.

Somalia

• SITUATION

No reports received.

• FORECAST

Low numbers of adults are likely to be present in a few places on the plateau between Borama and Erigavo. These may move to the north-western coast and breed on a small scale if rainfall occurs.

Ethiopia

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No locusts were reported during a survey in the south of the country between 5 and 12 December.

• FORECAST

Low numbers of adults may appear and breed on a small scale on the coastal plains between Djibouti and the Somali border if rainfall occurs.

Kenya, Tanzania and Uganda

• FORECAST

No significant developments are likely.

NEAR EAST

Saudi Arabia

• SITUATION

Scattered adults were reported at eight locations in the Makkah Region (2157N/3933E) and three locations in Qunfidah district (1925N/4103E) during December.

• FORECAST

Locust numbers are likely to increase during the forecast period from small-scale on the coastal plains between Makkah and the Yemeni border where conditions are reported to be favourable.

Yemen

• SITUATION

No reports received.

• FORECAST

Low numbers of adults are likely to be present and to have started breeding on the Red Sea coastal plains.

Egypt

• SITUATION

No locusts were reported between Shalatein (2308N/3536E) and Wadi Diib (2205N/3555E) where heavy rain and flooding occurred on 20 December.

• FORECAST

Locust numbers are likely to increase in the extreme south-east where small-scale breeding is expected to occur in areas of recent rainfall near Shalatein and Wadi Diib.

Kuwait

• SITUATION

No reports received in December.

• FORECAST

No significant developments are likely.

Oman

• SITUATION

No locusts were reported from 4 –20 November.

• FORECAST

If additional rainfall occurs, scattered locusts may appear on the Batinah coast north of Muscat and start to breed on a small scale at the end of the forecast period.

United Arab Emirates

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

SOUTH-WEST ASIA

Iran

• SITUATION

No locusts were seen during surveys carried out in Hormozgan Province near Jask (2540N/5746E) at five sites between 11 and 15 December and at five different sites between 18 and 22 December.

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

No locusts were reported in December.

• FORECAST

Scattered locusts may be present in the winter-spring breeding areas. No significant developments are likely.

India

• SITUATION

No locusts were seen during surveys in December.

• FORECAST

No significant developments are likely.

Afghanistan

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



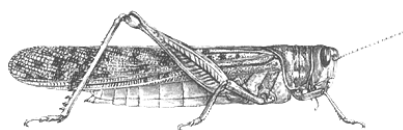
Announcements

Locust reporting. Affected countries are kindly reminded to make sure that locust situation reports are sent to FAO HQ by the 25th day of the month so the information can be included in the FAO bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

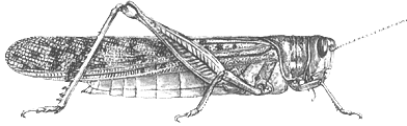
Reporting by email. Affected countries are encouraged to send completed FAO Locust Survey Forms with a brief interpretation of the results by email to eclo@fao.org. Please do not send this information to individual staff at FAO HQ.

FAO Commission for Controlling the Desert Locust in South-West Asia. The 22nd session of the Commission and the 13th session of the Executive Committee to be held in Tehran, I.R. Iran, in January 2000 has been postponed. The revised dates will be announced shortly.

Western Region. A technical and legal consultation on the restructuring of bodies responsible for Desert Locust management in Western and North-Western Africa will be held in Rabat, Morocco, in March 2000.



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EMPRES (Central Region). The planning workshop for Phase II will be held in Cairo, Egypt, on 26-30 March 2000.

International Train-the-Trainers Course on Locust Survey and Control. A workshop sponsored by the Department for International Development of the U.K. in collaboration with FAO/EMPRES, and organized by the Natural Resources Institute, U.K., will be held in Oman from 22 January to 2 February 2000.



Glossary of terms

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

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.

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.

PLAGUE

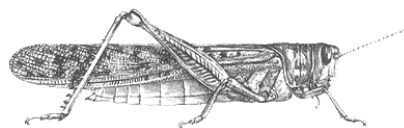
- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

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



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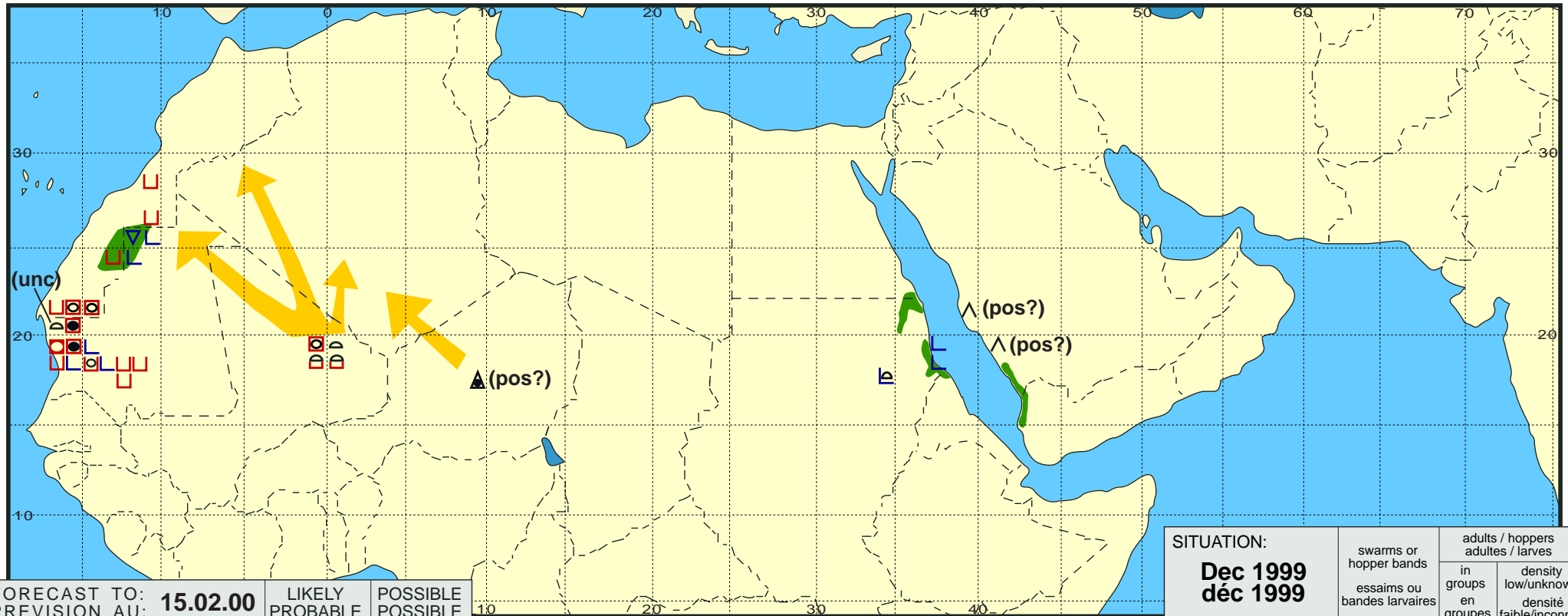
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.02.00	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: Dec 1999 déc 1999	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)			

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)			