

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 231
(5 Dec 1997)



General Situation during November 1997 Forecast until mid-January 1998

There was an increase in the number of Desert Locusts reported along the Red Sea and Gulf of Aden coastal plains during November where breeding conditions are unusually favourable as a result of good rainfall. So far, breeding has occurred primarily in Sudan and to a lesser extent in Eritrea and northern Somalia. Aerial control operations were carried out in Sudan against laying swarms. Low numbers of adults were present in Saudi Arabia and Yemen. Locust numbers will increase during the forecast period and hoppers and new adults will appear possibly forming a few bands and small swarms.

Central Region. Small scale breeding is in progress on the Red Sea coastal plains of Sudan and Eritrea, extending to northern Somalia. The heaviest breeding to date has been in Sudan where aerial control operations were required. On the eastern shores of the Red Sea, only low numbers of solitary adults have been detected so far in Saudi Arabia and

Yemen. As conditions remain extremely favourable, breeding will continue for the next few months and a second generation of adults could begin laying by mid January in some areas. Consequently locust numbers will increase and some small hopper bands and swarms could form.

Eastern Region. Unusually heavy rainfall was reported in the spring breeding areas of Baluchistan in western Pakistan and eastern Iran. Rains also fell throughout the month in coastal areas of northern Oman. Although no locusts were reported from these areas, there is a good possibility that low numbers are present and may be breeding. Surveys are recommended to clarify the situation.

Western Region. Only isolated solitarious adults were reported in northern Mauritania. No significant developments are expected during the forecast period.

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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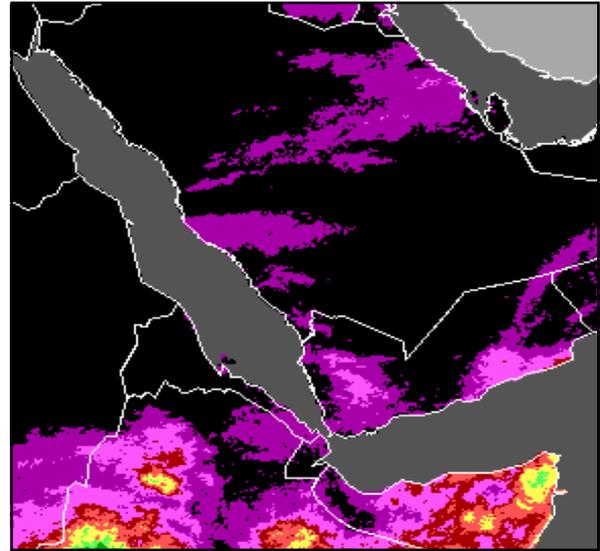
Weather & Ecological Conditions during Nov 1997

Good rains fell along the Red Sea coasts, over the Arabian Peninsula and near the Iran/Pakistan border. Conditions are extremely favourable for breeding in the Central Region.

In the **Western Region**, no significant rainfall was reported and dry conditions prevailed in desert areas. Consequently, green vegetation decreased in Mauritania (south-western Trarza, Tidjikja area, the two Hodhs), northern Mali (Adrar des Iforas, Tilemsi Valley, Kidal area) and western Niger (Tamesna). By the end of the month, a few places near Guelb Er Richat in northern Mauritania were becoming green as well as south of the Atlas Mountains along the Algeria / Morocco border. Small patches of green vegetation persisted in a few of the larger wadis in the Adrar des Iforas, Mali and in Tamesna, Niger.

In the **Central Region**, light to moderate rains were reported on the Red Sea coastal plains of Saudi Arabia (Jizan 30 mm, Jeddah 33 mm), Yemen, Eritrea and Sudan (Port Sudan 10 mm). In Eritrea, flooding occurred in some places on the coastal plains and crop damage was reported. Two weeks of steady rains were reported from Djibouti and northern Somalia. Rains also fell in the interior of Saudi Arabia (W. Dawasir 50 mm and W. Najran 29 mm) and Yemen (Seiyoun 5 mm). Rainfall was reported throughout the month in countries bordering the Persian Gulf as well as in northern Oman (Sohar 21 mm, Seeb 27 mm, Sur 54 mm). Consequently, conditions remain extremely favourable for breeding along both sides of the Red Sea. Conditions are also favourable on the coastal plains of the Gulf of Aden in Yemen and northern Somalia, along the Batinah coast of northern Oman, and in some wadis on the eastern side of the mountains in south-western Saudi Arabia and Yemen (W. Markhah to W. Dawasir). Minimum and maximum temperatures on the Red Sea coast varied from 21-33°C, respectively.

In the **Eastern Region**, light to moderate rains fell at times during the month in Baluchistan of Iran and Pakistan. Rains were heavier along the coast (Pasni



Cold-cloud image for November 1997 indicating significant activity over northern Somalia and to a lesser extent over parts of Saudi Arabia and Yemen.

low high

44 mm, Gwadar 25 mm) than in central (Turbat 29 mm, Panjur 27 mm) and interior (Dal Bandin 12 mm, Nushki 10 mm) areas. Conditions are expected to be favourable for breeding in some interior and coastal areas but low temperatures may inhibit such activity in the interior. Some rains also fell in Rajasthan, India (Jaisalmer 30 mm).



Area Treated

| | | |
|---------|----------|-----------------|
| Eritrea | 3 ha | (November) |
| Sudan | 5,575 ha | (2-25 November) |



Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• SITUATION

During November, isolated adults continued to be present near Tidjikja (1829N/1131W) and Atar (2032N/1308W). By the end of the month, many of the adults were mature and some had appeared further north in the El Hank region (2158N/0946W, 2341N/0801W).

• FORECAST

Low numbers of solitary adults will persist in the north from Akjoujt to El Hank. Limited breeding may occur if rains fall.

Mali

• FORECAST

Low numbers of solitary adults are likely to be present and will persist in a few of the major wadis in the Adrar des Iforas and Tilemsi Valley. Adults may become concentrated in the few areas that remain green.

Niger

• SITUATION

Late reports indicate that solitary adults and hoppers were present in Tamesna west of Arlit (1845N/0725E) on 10-18 October. This suggests that hatching probably commenced about mid September and continued for about a month. First to fourth instar hoppers were seen at 10 of the 48 locations checked and copulating adults were reported at another 6 places. The majority of the locusts were solitary although a few transiens adults were seen. Adult densities were up to 1,500 per ha and hoppers were present up to 10 per bush.

• FORECAST

Low numbers of solitary adults will persist 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 November.

• FORECAST

Scattered adults are likely to 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 November.

• FORECAST

Isolated solitary adults may appear in the extreme south-west during periods of warm southerly winds.

Libya and Tunisia

• FORECAST

No significant developments are likely.

EASTERN AFRICA

Sudan

• SITUATION

Surveys increased during November on the Red Sea coastal plains between Tokar (1827N/3741E) and

Port Sudan (1938N/3707E). As a result more mature adults were seen copulating and laying in the main khors between Suakin (1908N/3717E) and Tokar, and to a lesser extent north of Suakin to just north of Port Sudan throughout the month. Most of the infestations consisted of solitary adults at densities up to 3,800 per ha, but some of the adults were gregarious in appearance and there were a few small swarms reported. First to third instar hopper bands at densities of 3-7 hoppers per bush were also seen in these areas, but most of these were in Tokar Delta. By the last week of the month, some late instar hoppers and fledglings were reported in Tokar Delta indicating that undetected laying probably first occurred from early October onwards. In the northern subcoastal areas, solitary adults at densities of 1,140 per ha were seen laying on the 24th in Wadi Oko at Tomala (2002N/3552E). The plains south of Tokar Delta are not accessible for surveying. Aerial control operations treated 5,755 ha of mostly copulating swarms near Suakin, Port Sudan and Tokar on 2-25 November.

• FORECAST

Locust numbers will increase on the Red Sea coastal plains and subcoastal areas (W. Diib and K. Baraka) as breeding continues during the forecast period. New hoppers and adults will appear and may form small bands and swarms. There is a possibility that some of the adults or swarms could move across the Red Sea. A second generation of laying could commence in January especially if additional rains occur on the coastal plains.

Eritrea

• SITUATION

On the northern Red Sea coast, a small mature swarm was seen near Karora (1740N/3826E) on 5 November coming from the north. Mature adults were laying eggs near Mahmimet (1719N/3832E) and Karora during the second week. By the end of the month, about 25 bands of first to third instar hoppers were seen in crops and pastures covering about 1,000 ha. Each band was about 0.25 ha in size. There was also an unconfirmed swarm near Hasmet (1740N/3842E) on the 27th.

On the central coast, control operations started during the first week of November against patches of third to fifth instar hoppers and fledglings at Wakiro (1550N/3917E) on about 3 ha. Scattered solitary



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mature adults were seen nearby at Shelshela (1553N/3905E) on the 20th. Isolated breeding was also reported between Massawa and Foro (1516N/3936E).

• **FORECAST**

Locust numbers will increase on the Red Sea coastal plains as a result of continuing breeding. Fledging is expected from December onwards. A second generation of laying could commence in January especially if additional rains occur on the coastal plains. Regular surveys are suggested in all areas.

Ethiopia

• **FORECAST**

*Low numbers of adults mixed with *Locusta* may be present near the Djibouti/Somalia border and breeding in areas of recent rainfall.*

Somalia

• **SITUATION**

Low numbers of mature solitary adults were seen at a few places during surveys in coastal and subcoastal areas near Berbera (1028N/4502E) in early November and south-west of Bulhar (1023N/4426E) during the third week of the month. Some of these had already laid eggs.

• **FORECAST**

Small scale breeding is likely to continue in coastal and subcoastal areas of the north-west. Consequently, locust numbers will increase slightly as hoppers and new adults appear during the forecast period.

Djibouti

• **FORECAST**

Low numbers of adults may be present along the coastal plains and breeding in areas of recent rainfall.

Kenya, Tanzania and Uganda

• **FORECAST**

No significant developments are likely.

NEAR EAST

Saudi Arabia

• **SITUATION**

Low numbers of immature and mature solitary adults were present on the Red Sea coastal plains between Jizan (1656N/4233E) and Khulais (2209N/3920E) at densities of up to 50 per ha on 8-20

November. The majority of the adults were immature and were seen between Al Birk (1814N/4133E) and Jeddah.

• **FORECAST**

Small scale breeding is expected to occur along the Red Sea coastal plains from Jizan to Rabigh and perhaps as far north as Al-Wejh. Consequently, hoppers and should be present during the forecast period and new adults could start to appear by mid January. Populations may be supplemented by incoming adults and perhaps a few small swarms from Eastern Africa.

Yemen

• **SITUATION**

Isolated immature adults at densities of 25 per ha were seen on the Red Sea coastal plains near between Hodeidah (1450N/4258E) and Bajil (1458N/4314E) on 19 November. No locusts were reported elsewhere on the plains.

• **FORECAST**

Small scale breeding is expected to occur on the Red Sea coastal plains in areas of recent rainfall. Consequently, hoppers should appear by the end of the forecast period. Low numbers of adults may be present on the Aden coastal plains and could breed in areas where rains have fallen.

Egypt

• **FORECAST**

Small scale breeding is almost certainly in progress in the south-east along the coastal plains and subcoastal wadis where earlier rains fell. If this is the case, low numbers of hoppers and new adults are expected to appear during the forecast period. Regular surveys should be carried out in the above areas.

Oman

• **FORECAST**

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

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

• FORECAST

No significant developments are likely.

SOUTH-WEST ASIA

Pakistan

• SITUATION

No locusts were reported during November.

• FORECAST

Low numbers of adults are likely to be present in a few coastal and interior areas of Baluchistan. Breeding may occur but hatching and hopper maturation, especially in the interior, may be inhibited by low temperatures. Surveys are recommended to detect any breeding.

India

• SITUATION

No locusts were reported during November.

• FORECAST

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

Iran

• FORECAST

Low numbers of adults are likely to be present in a few coastal and interior areas of Baluchistan. Breeding may occur but hatching and hopper maturation, especially in the interior, may be inhibited by low temperatures. Surveys are recommended to detect any breeding.

Afghanistan

• FORECAST

No significant developments are likely.



Other Locusts

Significant infestations of African Migratory Locust (*Locusta migratoria capito*) mixed with Red Locust (*Nomadacris septemfasciata*) continue to be present in **Madagascar**. Breeding on a large scale is in progress in the north-west, central and south-west of the country. An assessment mission in early December estimated that about 4 million hectares could be infested of which about 500,000 ha need to be treated in the next six weeks. Five aircraft are in position for control operations but survey aircraft are lacking. There is also a shortfall of about 20,000 litres of barrier pesticides. FAO experts in country are

coordinating operations which are trying to reduce locust populations and minimize damage to subsistence crops and rice-growing areas.

In **Chad** aerial control was carried out during November against bands and swarms of African Migratory Locust (*Locusta migratoria migratoria*) between the Logone and Chari Rivers. By the end of the month, the situation had improved. In **Cameroon**, there have been several unconfirmed reports of African Migratory Locust swarms in the north; further details are awaited.



Announcements

Due to the upcoming holiday period, the next issue of the Desert Locust Bulletin (No. 232) will combine December and January and be issued during the first week of February 1998. An update will be distributed on 18 December and again on 20 January.



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).



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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.

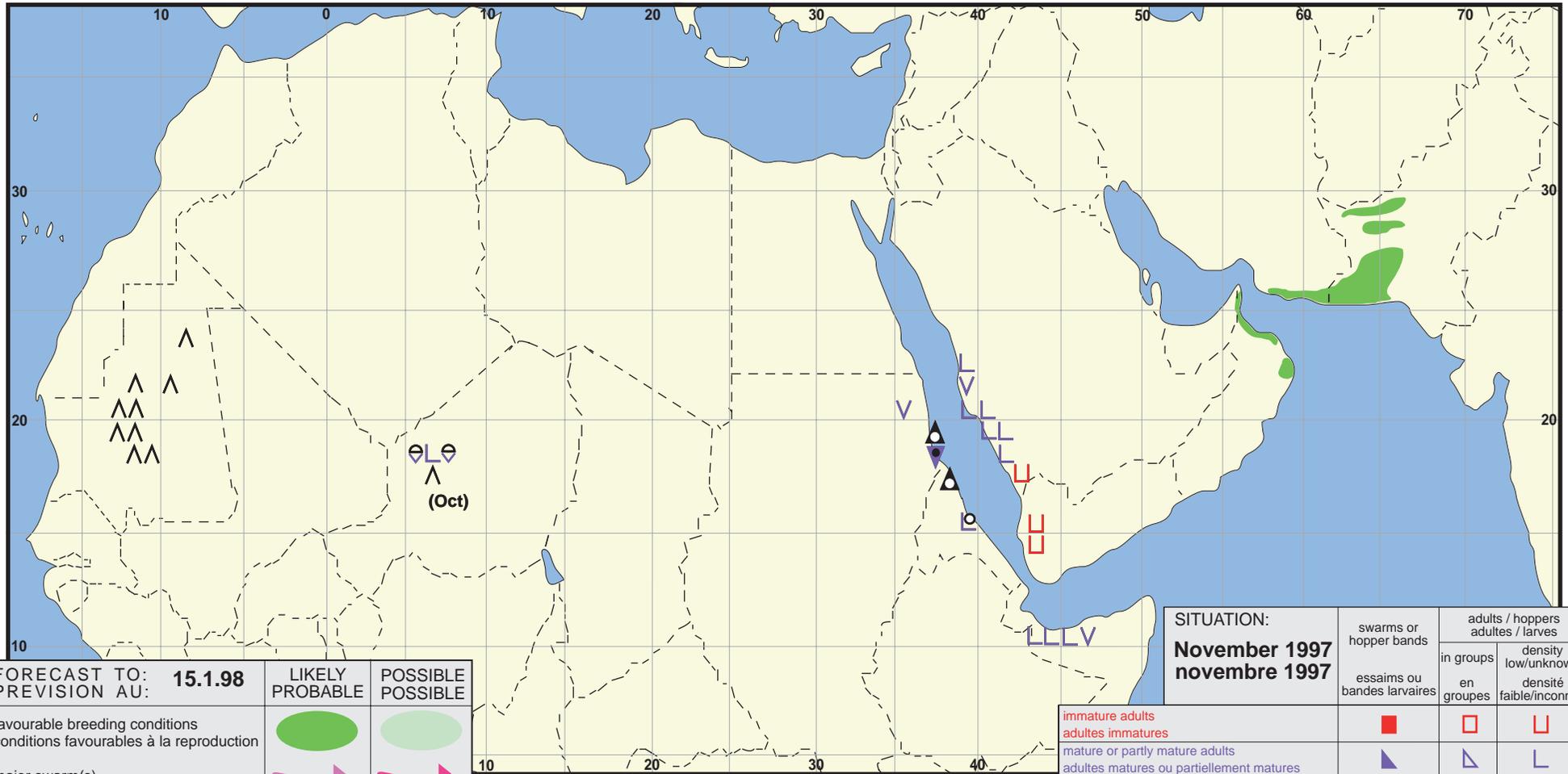
UPSURGE

- 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.



Desert Locust summary Criquet pèlerin situation résumée

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| | | |
|---|--------------------|----------------------|
| FORECAST TO: PREVISION AU: | 15.1.98 | |
| | 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: November 1997 novembre 1997 | 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) | | | |