

# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### DESERT LOCUST BULLETIN No. 178



During June, the Desert Locust situation extremely deteriorated and the plague developed in western Yemen and south-western Saudi Arabia with heavy hopper band infestations as well as the formation of swarms. Although large scale control operations commenced by ground and by air, many escapees are expected to migrate during the forecast period through the Gulf of Aden and the Red Sea towards the summer breeding areas of East Africa where the seasonal rains begin. In Eastern Africa, the seasonal western movement is in progress, as indicated by numerous swarms, some of them copulating, widespread from north-eastern Sudan to Northern Kordofan, and by swarms also reported to have passed through the coastal plains of south-eastern Egypt. On the Eritrean coast, heavy infestations of late instar hoppers turned into hopper bands, with substantial numbers of fledglings and immature adults currently appearing.

As ecological conditions will probably continue to dry out west of the Arabian Peninsula and on the Red Sea coasts of Africa, most of adults resulting from these populations are expected to migrate westwards on a large scale, and there is a serious potential of an invasion continuing in western Sudan and extending this summer into West Africa, starting primarily in Chad and eastern Niger during the forecast period.

In south-western Asia, monsoon rains have commenced in Rajasthan of India and, although only low densities of adults were reported from a few places, small scale breeding is almost certainly in progress in several places. In Iran, there was an unconfirmed press report of locust infestations east of Teheran during May.

The seasonal rains commenced at some places in West Africa; Hodh el Garbi in southern Mauritania received early heavy rains which will almost certainly cause small scale breeding early July. A few isolated adults were reported only from north-eastern Mali, but others are also likely to be present in areas of northern Niger and Chad where, if so, seasonal breeding will commence when the rains begin. In North-West Africa, localized infestations of hoppers and adults were controlled within irrigated cultivations in Adrar region; no locust activity was reported from other places where conditions remain dry.

Whenever possible, survey and early interventions are strongly recommended to monitor the situation. Further large scale control operations are expected to be needed in some countries of Western and Central Regions during this summer and FAO/ECLO will continue to appraise donors and locust-affected countries of the locust situation as it develops. Please contact FAO/ECLO directly and as soon as possible for further details or any new information, possibly by phone, fax or telex.

The FAO Desert Locust Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by telefax, telex, FAO pouch, or mail by the Locust, Other Migratory Pests, and Emergency Operations Group, AGP, FAO, 00100 Rome, Italy.

**Telephone:** (39-6) 5797-4021 or -4578

**Telefax:** (39-6) 5797-5271

**Telex:** 610181 FAO I



## WEATHER AND ECOLOGICAL CONDITIONS

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 June, several small depressions were present during the entire first decade over the western part of the Arabian Peninsula and have apparently resulted in light rains recorded at a few places south of the Asir mountains (18 mm at Khamis Mushait on the 4th); the Tihama of Yemen received also some rains during the last decade and there were strong northerly winds in the interior at times during the second fortnight. As a result of heavy rains during the previous month, unusually green vegetation was reported to persist and be widespread in Yemen on the western edge of the Ramlat Sabatayn in Wadi Bayhan and near Ataq by the end of June. Although no details were available from other places of the Peninsula, a similar situation is likely to exist in adjacent areas of Wadi Najran and west of the Empty Quarter.

Conditions were dry in south-eastern desert of Egypt, except in Wadi Diib up to mid-month. No reports of rainfall were received from the Red Sea coast of Sudan where conditions are likely to be dry. In areas of current infestations on the Eritrean coastal plains north of Massawa, patches to large areas of green vegetation persisted and the soil was moist in some wadis. However, no rains were reported from Eritrea, Ethiopia, Djibouti and northern Somalia and conditions may be drying out in most places.

In the Sahel of West Africa and Sudan, the ITCZ located by 15°N at the beginning of the month, commenced its seasonal movement and reached several times up to 20°N over northern Mali and northern Niger, and 22°N on the 18th over north-eastern Mauritania. On the 28th-29th, Aioun El Atrous received a total of 63 mm (average 19 mm for June) and Nioro on the Mauritanian border 19 mm. Elsewhere, Kassala and Gedaref in Sudan received some light rains early during the second decade (10 and 14 mm respectively) and Timbuktu in Mali reported 33 mm on the 18th; some light rains were also recorded outside the summer breeding area.

In South-West Asia, depressions were present over the Region by mid-month and the first monsoon rains fell in Rajasthan of India with 57 mm received in Jaisalmer on the 15th. By the same period, there were reports of 70 mm at Kolayrat, 19 mm at Churu, 20 mm at Pokaran in Rajasthan and 43 mm at Palampur in Gujarat district; Bikaner recorded a total of 21 mm on the 15th-25th and Jodhpur 49 mm on the 25th-29th. This will almost certainly result in widespread favourable breeding conditions. Conditions were reported to be dry in Pakistan.

In North-West Africa, conditions continued to be reported as dry and there was no indication of rains in southern Algeria.



## AREA TREATED IN JUNE 1993

Algeria	3.5 ha
Sudan	no details
Eritrea	c.a. 3000 ha
Yemen	c.a. 40,000 ha
Saudi Arabia	no details
(Ethiopia	African Migratory Locust)



## WEST AFRICA

### MAURITANIA

No locust activity was observed during June.

### MALI

During June, isolated adults were seen at Gao and at Aguelhoc (1928N/0052E) in Adrar des Iforas.

### NIGER

No locust activity was observed during June.

**No locust information had been received from other countries in the region up to 30 June.**

## NORTH-WEST AFRICA

### MOROCCO

No locust activity was reported during May.

### ALGERIA

Localized infestations of mixed hoppers and adults, over a total area of 3.5 ha and up to 1-5 per sq.m., were reported and treated within irrigated cultivations in Adrar region at two locations by Tsabit (2822N/0015W) during the first decade of June.

### LIBYA and TUNISIA

No locust activity was observed during May.

## EASTERN AFRICA

### SUDAN

During the first half of June, several additional swarms, some of them maturing or mature and over a total area of 3300 ha, were reported again from the Northern Province, near Dongola on the 8th-10th and near Berber on the 12th-14th. Two mature/copulating swarms were also reported from Northern Kordofan at Sodiri (1425N/2905E) over 10 ha and El Wiz (1500N/3009E) over 25 ha on the 12th-15th. Control operations were in progress.

### ERITREA

Early June, small numbers to high densities of 1st-4th instars hoppers, up to 400 per sq.m and sometimes with fledglings and immature adults, were reported within a total of 6700 ha from several locations including cropping areas along the coast north of Massawa, primarily from Wadi Wachiro (1540N/3915E) to north of Agbanazuf plain (by 1605N/3910E) on the 4th-10th; scattered yellow adults were also seen laying in Wadi Shelshela (1545N/3910E). By the end of the month, these populations concentrated and started to form several dense 4th-5th instars bands with substantial numbers of fledglings/immature adults on the 25th-28th; ground control operations were in progress. Some of these infestations continued to be mixed with *Locusta*.

### ETHIOPIA

Only isolated Desert Locust immature adults were seen within considerable infestations of all stages of *Locusta* near Dire Dawa on 11-12 June. Infestations reported to be controlled further north in Welo near Kobo (1212N/3940E) and Sardo (1158N/4118E) are probably also mainly of *Locusta*.

### DJIBOUTI

During June, isolated adults, mixed with other species, were seen at times in the capital.

**KENYA, TANZANIA and UGANDA**

No locust activity was reported during June.

**SOMALIA**

No locust information have been received up to 30 June.

**NEAR EAST****SAUDI ARABIA**

During June, 20 immature swarms were reported from Asir mountains and Wadi Najran by the Yemen border on the 20th and control operations started immediately. Further details are awaited.

**YEMEN**

During the second fortnight of June, the situation continued to deteriorated with small to medium sized 5th instar bands reported within large areas of green vegetation west and south-west of Ramlat Sabatayn, primarily between Marib (1526N/4520E), Harib (1456N/4530E) and Wadi Bayhan, probably extending north of Naqub (1459N/4543E), and further east near Shabwa (1522N/4702E) and Ataq. Additional reports indicated that numerous 2nd-4th instars hopper bands were present within about 1200 sq.km in the northern highlands between Wadi Al-Jawf and Khabb oasis (1643N/4544E) and, to a lesser extend, at several locations near Sadah (1657N/4530E). A similar situation has almost certainly developed also in Wadi Najran. As a result, swarms commenced to form from the 16th onwards in many of the areas mentioned, and increasing numbers of swarms moved into high central valley of northern Yemen between Sadah and Baquim (1724N/4329E), one up to 25 sq.km. The swarms are, for the most part, immature; however, one mature swarm was seen as well as hopper bands infestations present at an unknown number of locations. Small solitarious infestations of hoppers and adults were observed on the Tihama where some recent rains occurred, and scattered adults were present near Mukalla and, perhaps, near Thamud.

**EGYPT**

During June, incoming immature swarms of unknown size were observed on the southern Red Sea coastal areas between Halaib (2213/3640)E and Shalatein (2308N/3540E) on the 7th, and then moved southwards on the 9th. Some adults were reported to persist in these areas, primarily scattered mature yellow adults in Wadi Diib, up to the 20th.

**No locust information had been received from other countries in the region up to 30 June.**

**SOUTH-WEST ASIA****PAKISTAN**

During the second half of May, low densities of solitarious adults were reported from 8 locations of coastal and interior areas of the Makran, near Quetta and in Uthal district, with a maximum density of 300 adults per sq.km in Turbat district at Sisidi (2521N/6208E) on the 23rd.

During the first half of June, similar populations persisted on the coastal areas of the Makran, with a maximum density of 525 adults per sq.km in Gwadar district at Rumra (2524N/6344E) on the 9th.

**INDIA**

In addition to the situation previously reported during the second half of May (Bulletin 177), isolated adults were observed at 4 locations out of 28 surveyed in Bikaner and Barmer districts of Rajasthan, with a maximum density of 100 adults per sq.km in Bikaner district at Guda (2753N/7251E) on the 28th.

During the first half of June, similar populations were present at 3 locations out of 28 surveyed in Jaisalmer district, with a maximum density of 225 adults per sq.km at Phulia (2622N/7029E) on the 7th.

**IRAN**

There was an unconfirmed radio report of locust infestations treated within 3,500 ha of pasture east of Teheran in Semnan Province during May. Further details are awaited.

**No locust information had been received from other countries in the region up to 30 June.**



## FORECAST UNTIL MID-AUGUST 1993

### WEST AFRICA

#### MAURITANIA

Low numbers of adults are almost certainly present in Hodh El Gharbi; if so, small scale breeding will commence during the first half of June in areas of recent rains near Aioun and the Malian border. Similar populations are likely to be present also in Trarza, Tagant and Hodh el Chargui and start to breed when the seasonal rains begin. Surveys should be undertaken in areas of recent rains.

#### MALI

Low numbers of adults present in Adrar des Iforas and probably in Tamesna are likely to start to breed when the seasonal rains begin.

#### NIGER

Low numbers of adults are likely to be present in Tamesna and Air and start to breed when the seasonal rains begin. During the second half of the forecast period, there is a strong possibility of substantial numbers of adults appearing in the eastern part of the country as a result of westwards movement from currently infested areas in Eastern Africa.

#### CHAD

As a result of westwards movement from currently infested areas in Eastern Africa, some swarmlets/swarms can appear at any time starting from eastern regions where surveys should be undertaken; these may drift towards the interior and start to breed on a moderate to large scale when the seasonal rains begin. Otherwise, low numbers of adults are likely to be present in Lake, Kanem, Batha, Biltine and Ouaddaï and start to breed when the seasonal rains begin.

#### BURKINA FASO, CAMEROON, GAMBIA, GUINEA BISSAU, GUINEA CONAKRY and SENEGAL

No significant developments are likely.

### NORTH-WEST AFRICA

#### ALGERIA

Low numbers of adults are likely to appear in the south in Tamanrasset region and start to breed when the seasonal rains begin.

#### MOROCCO, TUNISIA and LIBYA

No significant developments are likely.

### EASTERN AFRICA

#### SUDAN

As previously suggested, the invasion of Sudan from the north-east continues to spread out westwards, with a strong possibility of additional incoming swarms in the north-east. Despite of control operations, some swarms may continue to mature and breed locally on the Red Sea coast, near Kassala and in the Northern Province if ecological conditions resulting from heavy rains recorded mid-April remain favourable. However, considerable adult movement westwards towards primarily Northern Kordofan and Northern Darfur is more certain to occur, where large scale breeding will commence in any area of significant rainfall.

#### ERITREA

Swarms that will continue to form north of Massawa may be increased by any incoming swarm from the east onto the coastal plains. Although some may persist and breed locally by mid-July onwards, most part is expected to migrate westwards into the interior, where substantial breeding will commence with

the onset of seasonal rains.

### **ETHIOPIA**

Some sawrmllets/swarms are likely to appear from north-east and spread into the Welo plain and from the Railway area to the Harar Region, where, if so, substantial breeding will commence with the onset of seasonal rains. Otherwise, low numbers of adults may persist and breed on a small scale in areas of recent rains.

### **SOMALIA**

The situation remains unclear and the infestations previously reported may be *Locusta*. However, there is a strong possibility of incoming Desert Locust swarms through the Gulf of Aden; no seasonal rains are expected along the coastal plains and these swarms are likely towards south through the interior following the movements of the RSCZ.

### **DJIBOUTI**

Some incoming Desert Locust swarms are likely to appear through the Gulf of Aden; however, no breeding is likely to occur.

### **KENYA**

Some numbers of adults may reach the northern part of the country by the end of the forecast period.

### **TANZANIA and UGANDA**

No significant developments are likely during the forecast period.

## **NEAR EAST**

### **SAUDI ARABIA**

Despite of intensive control operations, some escapees may be present in the central interior and probable current infestations in Wadi Najran and adjacent areas of the interior are likely to have resulted in several swarms. If so, additional swarms are expected to form in these areas during the forecast period and to migrate following the movements of the RSCZ. Survey and control operations should continue to monitor the situation.

### **YEMEN**

Numerous swarms will continue to form and are expected to move into the central highlands between Sadah and Taiz, into Wadi Hadhramaut and, if rainfall occurs, onto the Tihama where they could start to lay by the end of the forecast period. If no more rains fall in the eastern desert between Al-Jawf and Shabwah, ecological conditions will become dry and infestations will decline by the end of the forecast period.

### **EGYPT**

Some incoming swarmlets/swarms are likely to appear on the coastal plains of the south-eastern desert; however, no breeding is likely to occur unless unusual rainfall.

### **OMAN**

Scattered adults may be present on the Batinah coast. There is a possibility of some numbers of adults arriving from the west during the second half of the forecast period.

### **UAE**

Scattered adults may be present in the Fujayrah. There is a possibility of some numbers of adults arriving from the west during the forecast period.

### **BAHRAIN and QATAR**

Some numbers of adults arriving from the west may appear during the forecast period.

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

No significant developments are likely during the forecast period.

## SOUTH-WEST ASIA

**IRAN**

The situation in Semnan region is unclear. Otherwise, isolated adults may be present on the coastal plains of Baluchistan and may be augmented during the second half of the forecast period by any additional numbers of adults arriving from the west.

**PAKISTAN**

Adult numbers are likely to increase in the summer monsoon breeding areas of Cholistan and Tharparkar where they may start laying on a small scale as from mid-June if rainfall occurs. First hoppers may appear during the second half of the forecast period. Some additional numbers of adults arriving from the west may appear by the end of the forecast period.

**INDIA**

Small scale breeding has almost certainly commenced in those areas in Rajasthan that received recent and significant rainfall, and low numbers of hoppers will appear during the entire forecast period. Some additional numbers of adults arriving from the west may appear by the end of the forecast period.

**AFGHANISTAN**

No significant developments are likely.



In Sudan, German bilateral assistance provided 20,000 litres of pesticide, 2 vehicles, protective clothing and spare parts.

In Eritrea, German bilateral assistance will fund aerial services by DLCO-EA; Sweden bilateral assistance will fund vehicles.

USAID funded a regional project through FAO to provide pesticides for Sudan (pesticide transfer from Morocco), Eritrea and Ethiopia.

In Yemen, FAO supported survey and control operations through a TCP project (pesticides, GPS, logistics and expertise); France foresees equipment of ULV sprayers on two helicopters and some pesticides through FAO; German bilateral assistance provided 10,000 litres of pesticides and funded aerial services; UK assistance will fund aerial services, pesticides and ULV sprayers.

4 July 1993

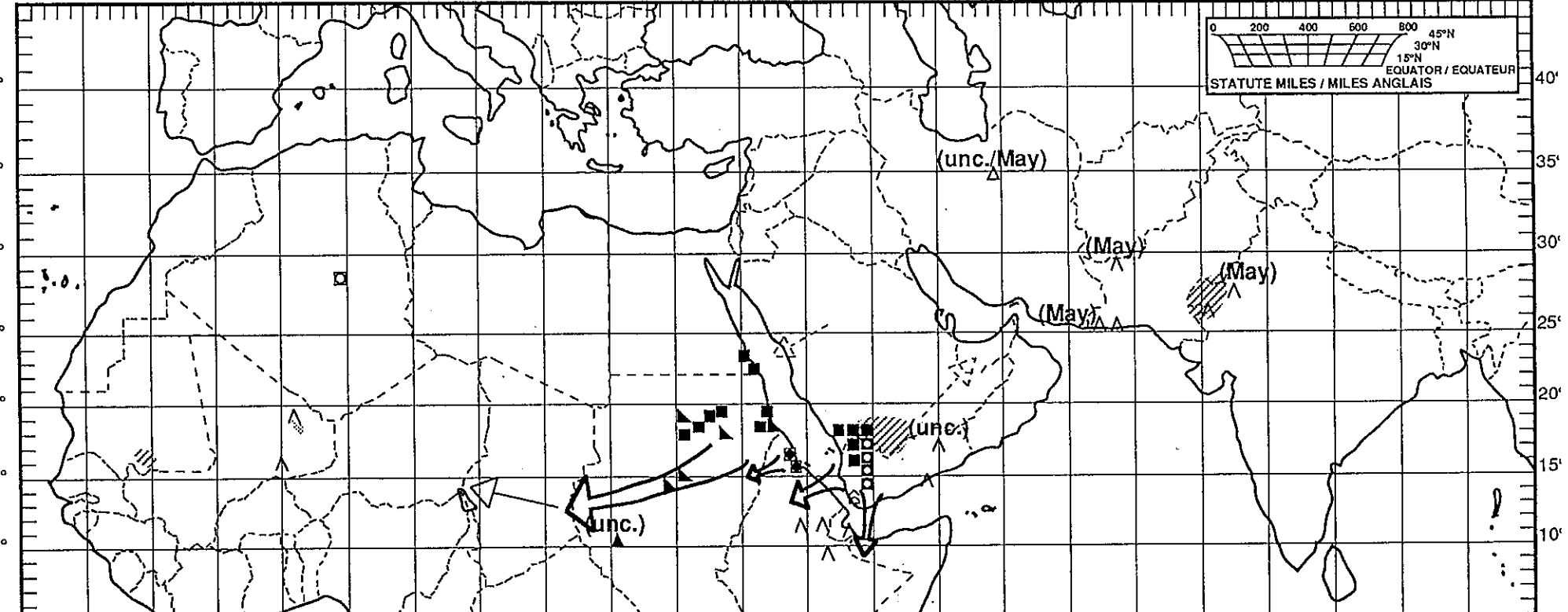


# Desert Locust: summary Criquet pèlerin: situation résumée

No. 178



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



Page 9/9  
2425 \* 1991

<b>FORECAST TO:</b> <b>PREVISION AU:</b>	<b>15.8.93</b>	<b>LIKELY PROBABLE</b>	<b>POSSIBLE POSSIBLE</b>
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:**  
**June 1993**  
**juin 1993**

	swarms or hopper bands essaims ou bandes larvaires		adults/hoppers adultes/larves	
	in groups en groupes	density low/unknown densité faible/inconnue	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°