



# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### DESERT LOCUST BULLETIN No. 203



#### GENERAL SITUATION DURING JULY 1995 FORECAST UNTIL MID-SEPTEMBER 1995

New infestations of Desert Locust were reported in the eastern part of the Sahel and in Eastern Africa in late June and throughout July. Several swarms first appeared in eastern Chad on 29 June. Some of these moved further east into western Sudan from 6 July onwards, reaching Khartoum on the 15th and the western lowlands of Eritrea on 22nd. By the end of the month, a swarm had moved into the northern highlands of Eritrea. These swarms varied in size from 6 to 9 sq. km and were in the process of maturing. Those that arrived in Eritrea were reported to have previously laid. The origin of these swarms is uncertain but based on the prevailing winds, recent atmospheric disturbances and previous breeding during the spring, they probably arrived from North-West Africa or perhaps some may have moved south-west from southern Egypt. It is difficult to know with any precision the scale of the current infestations. However, based on information received to date, it appears that only a limited number of swarms are involved which suggests that breeding will result in the formation of a small number of hopper bands during the forecast period. Surveys are in progress in these areas to further assess the situation.

Seasonal rains have commenced in most of the Desert Locust summer breeding areas of the Sahel of West Africa and Sudan. Moderate to heavy rains were reported in southern Mauritania, western Mali, eastern Chad, central and eastern Sudan and western Eritrea. Lighter rains fell in central Mauritania, parts of northern Mali and Niger, central Chad and north-western Sudan. Breeding has already commenced in southern Mauritania, northern Senegal and probably western Mali. Hoppers and perhaps a few small bands will appear in these areas during the forecast period. Small scale breeding is expected to occur in parts of the remaining areas during the coming months.

Moderate to heavy rains fell along the southern Tihama of Saudi Arabia and in Yemen. Locust adults are expected to appear in these areas during the forecast period and breed on a small scale. Unusually widespread and heavy rainfall occurred in Oman, UAE and in adjacent areas of eastern Saudi Arabia and southern Yemen as a result of a storm originating over the Indian Ocean. At present, this may be only of minimal significance since no locusts have been previously reported in these areas.

In South-West Asia, the summer monsoon commenced in mid July in the breeding areas along the Indo-Pakistan border. Heavy rainfall was reported throughout Rajasthan of India where scattered adults are present. Small scale breeding will occur during the forecast period, although no significant developments are expected.

The FAO Desert Locust 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 Locust, Other Migratory Pests and Emergency Operations Group, AGP Division, FAO, 00100 Rome, Italy. It is also available on the Internet.

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## WEATHER & ECOLOGICAL CONDITIONS DURING JULY 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 July, the seasonal rains commenced in most parts of the summer breeding areas of the Sahel of West Africa and Sudan as a result of the northward movement of the Inter-Tropical Convergence Zone (ITCZ). At the beginning of July, the ITCZ was located near 15N and during the next two dekads it fluctuated between 15-20N with a few surges as far north as 23N. During the third dekad, the ITCZ moved further north and fluctuated between 20-25N.

Consequently, cold cloud activity increased over many breeding areas and moved progressively northwards during the month. For example, light clouds were present over southern Mauritania as far north as Kiffa and Nema during the first dekad and extended to Akjoujt, Tidjikja and Tichit during the second and third dekads. Substantial clouds were present during the third dekad over the entire south as far north as Magta Lahjar, Aioun El Atrous and Nema. In Mali, substantial cloud activity occurred between Niore and Nara during the second dekad. Light clouds were present throughout the month over Tombouctou, the southern Adrar des Iforas and Menaka of Mali and parts of the southern Tamesna and Air of Niger. In eastern Chad, substantial clouds were present over Biltine region during the first two dekads of July. In Sudan, light clouds moved progressively northwards from Kutum and Hamrat Esh Sheikh during the first dekad to W. Howar and Dongola during the third dekad. Substantial clouds were present from Hamrat El Wuz to Atbara during the third dekad. As a result, light to moderate rains were reported in southern Mauritania, western, central and northern Mali, eastern Chad and western Sudan. Ecological conditions are favourable for breeding in the R'Kiz area of south-western Mauritania, from Nema in southern Mauritania to Yelimane in western Mali, in eastern Chad and in the western lowlands of Eritrea. Conditions are expected to be improving in Northern Kordofan of Sudan and in parts of the Adrar des Iforas of Mali, Tamesna of Niger, and Northern Darfur and Northern provinces in Sudan.

There were no reports of significant rainfall or indication of cold cloud activity in North-West Africa south of the Atlas Mountains. Consequently, ecological conditions were reported to be drying out and unfavourable for breeding in the Sahara.

Substantial cold cloud activity also occurred over the Tihama of Yemen during the first and third dekads of July. Light clouds were also present throughout the month over the southern Tihama of Saudi Arabia. On 21-23 July, a disturbance originating in the Indian Ocean resulted in the buildup of a substantial cloud mass over the eastern Arabian Peninsula which moved west towards the interior. Heavy widespread rains were reported from Oman and UAE and may have extended into the interior of eastern Yemen, the Empty Quarter of Saudi Arabia and to a lesser extent the coastal plains from Bab El Mandeb to Oman.

In South-West Asia, the monsoon started in the summer breeding areas of Rajasthan during the second half of July. Moderate to heavy rains were reported from Bikaner, Jodhpur and Jaisalmer. As a result, breeding conditions are expected to be improving in most parts of Rajasthan.



## AREA TREATED

Algeria	113 ha	(1-20 July)
Egypt	180 ha	(19 June - 5 July)
Mauritania	200 ha	(1-20 July)
Morocco	6,025 ha	(21-30 June)
	400 ha	(1-10 July)



## 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

On 2 July, swarms were first reported copulating in the summer breeding area of the south on 30 ha south of Timbedra (1614N/0810W). Five other swarms, at densities of 4-12 locusts per sq. m., were seen nearby in the Djigueni (1547N/0839W) area on the 9th covering a total of 1,730 ha. Another swarm of 10 sq. km. was seen on the 20th flying south-west near R'Kiz (1655N/1515W). However, most of the infestations reported during July consisted of scattered maturing adults with densities up to 1,000 per ha and several groups of up to 8 adults per sq. m. These were dispersed over a large area south of 17N extending from Rosso (1631N/1547W) to the Malian border east of Nema (1637N/0715W). Adults were first seen copulating in the R'Kiz area on the 15th and south of Aioun El Atrous on the 17th. Laying was first reported on the 15th south of Timbedra. Due to the low density infestations, control operations were only carried out against one swarm on 200 ha in the Djigueni area on the 11th.

#### SENEGAL

During 23-29 June, mature adults at densities of 3-40 per sq. m were seen copulating in the Senegal River Valley near Podor (1639N/1458W) on 4,000 ha and a low density maturing swarm was reported on 60 ha at Linguere (1522N/1511W). Isolated mature adults were reported at Matam (1542N/1312W) on the 29th.

During the first half of July, there were several reports of laying adults, at densities of 100-800 per ha, and a few low density swarms near Podor and Richard Toll (1625N/1545W) covering a total of about 3,000 ha. Hopper bands were reported on 3 ha at one location near Podor on the 11th.

#### MALI

During the last dekad of June, scattered adults were present in the Tilemsi Valley at densities of 25-500 per ha. Isolated adults and fragments of swarms at densities of 2-50 per ha were reported at several locations between Yelimane (1508N/1034W) and Nioro (1511N/0937W).

During the first dekad of July, infestations persisted in the above areas. There were new reports of isolated adults and swarm fragments at densities of 2-50 per ha from Nara (1510N/0717W), Mourdiah (1435N/0725W), the Niger River Valley near Mopti at Tenenkou (1428N/0455W) and Gourma Rharous (1658N/0150W).

#### NIGER

Locusts were reported in parts of the Air and Tamesna up to 19 July. No further details are available.

#### CHAD

On 29 June, a swarm and scattered solitary adults were reported in the eastern region at Arada (1502N/2038E) and near Am-Zoer (1412N/2123E). On 4 July, a swarm was seen near the Sudanese border at Adre (1428N/2212E) and west of Guereda (1430N/2205E). There were reports of a swarm on the 9th between Biltine and Abeche flying north-east, on the 10th north of Biltine, and on the 24th west of Guereda. Isolated mature adults were seen in the Arada area on 10-13 July and immature adults were reported in central Chad east of Salal (1448N/1712E) on the 25th at densities up to 1 per sq. m.

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

### NORTH-WEST AFRICA

#### MOROCCO

During the last dekad of June, ground and aerial control operations were undertaken against late instar hopper bands at ten locations and against small immature swarms at 24 locations south of the Atlas Mountains in the Guelmim (2858N/1005W), Errachidia (3127N/0424W), Bouarfa (3233N/0126W), Tata (2948N/0758W) and Ouarzazate (3035N/0655W) regions. Swarm sizes ranged from 4-900 ha and hopper bands ranged from 3-140 ha. A total of 306 ha of hoppers and 5,719 ha of swarms were treated.

During the first dekad of July, a few residual populations of immature adults were treated primarily in the Guelmim region and to a lesser extent in the Tata and Errachidia regions covering a total of 400 ha.

#### **ALGERIA**

During the first dekad of July, control was carried out on 58 ha against immature adults with densities up to 20 per sq. m. at six locations primarily in the Bechar area and to a lesser extent in the Ouargla and Adrar areas.

During the second dekad, scattered maturing adults at densities up to 150 per ha were present at a few locations in the extreme south near the Malian border east of Bordj Beji Moktar (2121N/0056E) as well as at one location in the central Sahara. Control operations were undertaken on 55 ha against copulating and laying adults on the 17th at W. Adjedem (2035N/0142E) in the south.

#### **TUNISIA**

A late report indicated that a few patches of solitary second to fifth instar hoppers at densities of 20-30 per sq. m. were present on 4 ha in W. Nekrif (3224N/1028E) on 7 June. Low densities of immature adults were seen on the 26-29th in W. Nekrif and in the El Borma (3141N/0913E) area.

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

#### **EASTERN AFRICA**

##### **SUDAN**

No locusts were seen during surveys along the Red Sea coast and subcoastal areas during the second half of June.

Low densities of mature solitary adults were first reported on 21 June in the summer breeding areas of Northern Darfur west of El Fasher (1338N/2522E). On 6 July, a high density immature swarm of 6 sq. km. was seen at W. Umm Shidek (1436N/2423E) which moved further east the following day. There were reports of an immature swarm on the 10th at El Fasher moving north-east, on the 11th at Umm Baru (1502N/2343E) and on the 15th flying over Khartoum from the west. The latter swarm was estimated to be about 9 sq. km in size and later dispersed. During the second half of July, scattered mature solitary adults at densities up to 120 per ha were reported at several locations in Northern Kordofan north of El Obeid and west of Khartoum, and in the eastern region near Derudeb (1729N/3547E).

##### **ERITREA**

A few dense mature swarms were first reported arriving in the western lowlands from the west on 22 July in the Agordat (1536N/3707E) area. Swarms were also seen in the highlands on 1,500 ha of crops in the Asmat (1610N/3803E) area on the 24th. There was evidence that these swarms had already laid.

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

#### **NEAR EAST**

##### **EGYPT**

Scattered mature adults were present along the Red Sea coastal plains near Abu Ramad (2221N/3626E) and Shalatein (2308N/3536E) on 28 June. In late June and early July, small scale control ground operations treated mid instar transient hoppers and adults in two cropping areas along the west bank of Lake Nasser covering a total of 180 ha.

##### **KUWAIT**

No locusts were seen during surveys in June.

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

## SOUTH-WEST ASIA

**PAKISTAN**

During the second half of June, locust numbers increased slightly in the summer monsoon breeding areas where isolated adults were reported at 21 locations of Bahawalpur, Rahimyar Khan, Sukkur and Lasbela districts. A maximum of four adults was seen at Rahmania Toba (2853N/7208E) of Bahawalpur on 23 June. There were also reports of isolated adults at a few locations in the winter/spring breeding areas of Baluchistan.

During the first half of July, isolated adults were first reported from Tharparkar and Nara deserts and there were further reports of adults in the Cholistan desert and Lasbela district. Locusts were seen at a total of 30 locations, primarily in Bahawalpur district, with a maximum of six reported at Kandewari (2531N/6605E) in Uthal district on 6 July.

**INDIA**

During the second half of June, a maximum of five adults were reported at four locations in Jaisalmer and one location in Jalore districts of Rajasthan.

During the first half of July, isolated adults were seen at Rampura (2629N/7253E) in Jodhpur district on 14 July.

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



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**

Hatching will commence early in the forecast period and continue during August primarily between southern Trarza and southern Hodh El Chargui. Most hopper infestations are expected to be generally small, low density and widely dispersed throughout these regions. By the end of the forecast period, new generation adults should start to appear; some of these may move further north into Tagant, Brakna and Trarza if rainfall occurs.

**SENEGAL**

Hatching will continue early in the forecast period along the Senegal River Valley resulting in scattered hoppers and a few bands forming. New generation adults could start to appear from late August onwards. Additional movement from the north is not likely during the forecast period.

**MALI**

Scattered adults, and perhaps a few undetected groups or small swarms, will persist and breed in areas of recent rains in the Tilemsi Valley and adjacent areas of the Adrar des Iforas and possibly Tamesna. In the south-west, laying is expected to have occurred along the Mauritanian border and in the Central Delta where hoppers should appear and form new generation adults by the end of the forecast period.

**NIGER**

Scattered adults, and perhaps a few undetected groups or small swarms, will persist and breed in areas of recent rains west of the Air mountains and in southern Tamesna. Consequently, numbers will increase as hoppers appear during the forecast period.

## **CHAD**

Breeding on a small, possibly moderate, scale is expected to be in progress in areas that received rainfall in the Ouaddai and Biltine regions. As a result, hoppers are likely to be present and new generation adults could appear during the second half of the forecast period. Scattered adults will persist and breed if rains fall in Kanem. Low numbers of adults are expected to appear in Batha and southern BET and breed if rains occur.

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

No significant developments are likely.

## **NORTH-WEST AFRICA**

### **MOROCCO**

As ecological conditions continue to dry out, only a few adults are expected to persist south of the Atlas Mountains.

### **ALGERIA**

The overall situation will continue to improve. Only scattered adults are likely to persist primarily in irrigated areas in the Central Sahara and to a lesser extent in a few areas of recent rainfall in the south.

### **TUNISIA**

A few isolated adults may be present in the extreme south.

### **LIBYA**

Scattered adults are likely to be present and may persist in the south-west near El Ghat area.

## **EASTERN AFRICA**

### **SUDAN**

Small to moderate scale breeding is expected to occur during the forecast period in most areas of Northern Kordofan, parts of Northern Darfur, north of Kassala, and near Khartoum. Breeding may also occur in Wadi Howar and southern areas of the Northern Province. The resulting hoppers may form groups and perhaps a few bands by the end of the forecast period. Adults may be present in some oasis near the Egyptian border.

### **ERITREA**

Hoppers may appear in the western lowlands and parts of the northern highlands early in the forecast period as a result of undetected breeding and form small bands.

### **SOMALIA**

Scattered adults may be present on the northern coast.

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

No significant developments are likely.

## **NEAR EAST**

### **EGYPT**

Low density adult and hopper infestations may persist in a few irrigated areas in the southern Nile Valley; however, no significant developments are likely.

### **SAUDI ARABIA**

Scattered adults may appear on the southern Tihama and breed in areas of recent rains.

**YEMEN**

Scattered adults may appear and breed on the Tihama and the coastal plains near Aden. Scattered adults may be present in the Sabatayn and Wadi Hadhramaut and perhaps breed in areas of recent rains.

**OMAN**

There is a low possibility of adults present in the Sharqiya which may breed in areas of recent rains.

**BAHRAIN, IRAQ, ISRAEL, JORDAN, KUWAIT, LEBANON, QATAR, SYRIA and UAE**

No significant developments are likely.

**SOUTH-WEST ASIA**

**PAKISTAN**

Small scale breeding is likely to start early in the forecast period, resulting in low numbers of hoppers in Cholistan, Nara and Tharparkar deserts. New generation adults could appear at the end of the forecast period.

**INDIA**

Small scale breeding is likely to start early in the forecast period, resulting in low numbers of hoppers in Rajasthan and Gujarat. New generation adults could appear at the end of the forecast period.

**AFGHANISTAN and IRAN**

No significant developments are likely.



Correction: the legend for the map contained in Bulletin 202 should say situation June / juin 1995 and forecast to 15.9.95.

issued: 2 August 1995



## 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

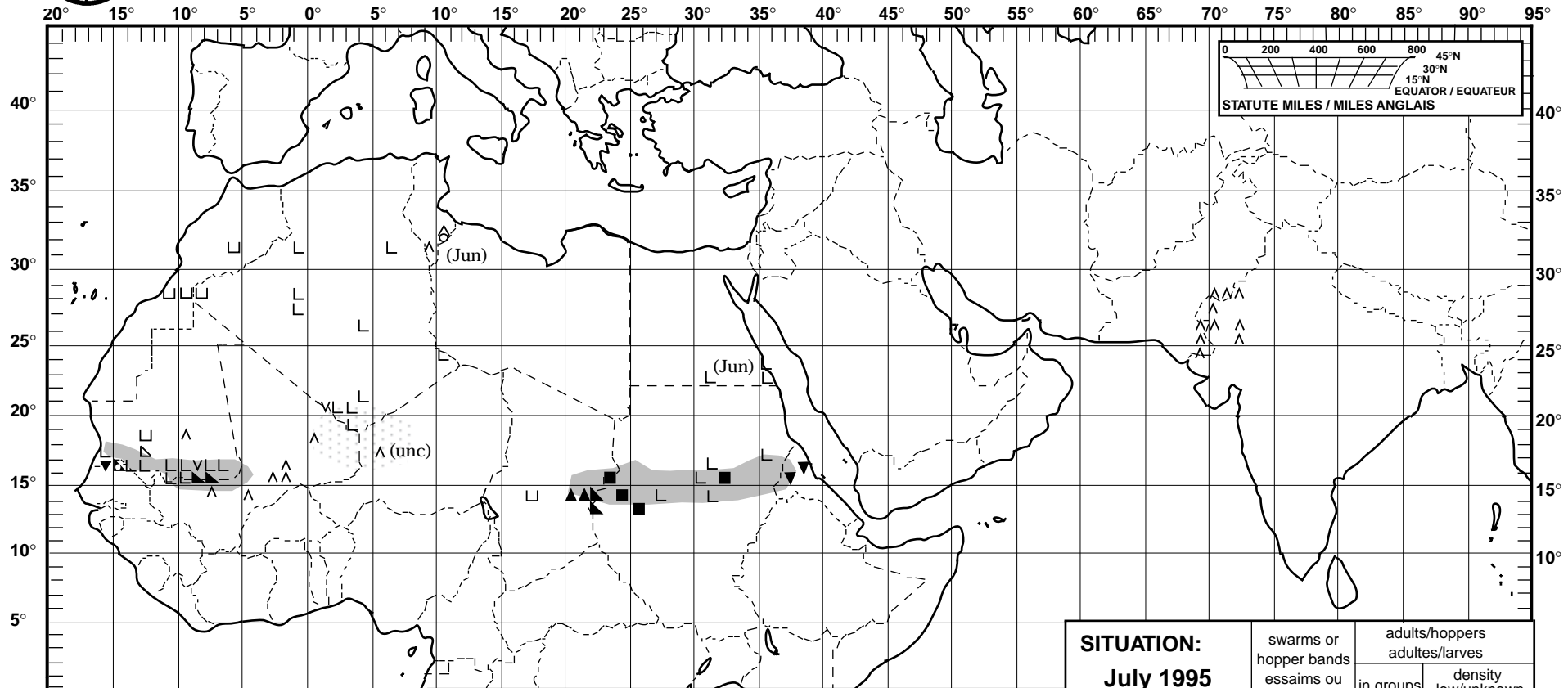
breeding	the process of reproduction from copulation to fledging.
summer	rains and breeding: July - September/October
winter	rains and breeding: October - January/February
spring	rains and breeding: February - June/July
decline	a period characterised by breeding failure and/or successful control leading 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.





# Desert Locust: summary No. 203

## Criquet pèlerin: situation résumée



FORECAST TO: PREVISION AU: 15.9.95	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: July 1995 juillet 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)	◼	◉	◑

