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## Locusts, other migratory pests and emergency operations group

# DESERT LOCUST SITUATION SUMMARY AND FORECAST

No. 5 January 1979

### SUMMARY

The main infestations were in the traditional winter-spring breeding areas bordering the Red Sea and in the Horn of Africa, where a number of swarms produced in the "Short Rains" breeding area reached the Railway Area of Ethiopia and central southern Somalia. Control measures were in progress in Saudi Arabia, Sudan and Ethiopia. Satellite imagery revealed that heavy and widespread rain fell in Red Sea coastal areas, in the interior of Saudi Arabia, in northern and central Algeria and Tunisia, and in Mauritania and Senegal. The rains around the Red Sea will provide conditions favourable for further breeding so that production of more swarms in the next two-three months is anticipated.

In the Near East there were 57 reports of mainly maturing or mature swarms in Saudi Arabia. There was renewed hatching on the southern and central Tihamas from eggs laid in December and further hatching is expected in areas where swarms laid in January. Aerial and ground control operations continued until late January, when the previously infested areas were reported clear of swarms and hopper bands. Only scattered locusts were reported from the Yemen Arab Republic and the People's Democratic Republic of Yemen.

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In Eastern Africa a number of reports suggested that some swarms produced in the "Short Rains" breeding area had already moved some 550 km. west south west towards north eastern Kenya. The latest report was of an immature swarm 45 km. south west of Ischia Baidoa on 10 February, flying south west. Other swarms from the "Short Rains" breeding area moved north west and reached the Railway Area east and west of Diredawa about 22 January. Some of the swarms were mature in late January and are likely to have started to lay in the Railway Area and Danakil depression and may shortly lay on the coastal plains of northern Somalia, in Djibouti and northern Red Sea coastal areas of Ethiopia and perhaps in coastal areas of Yemen Arab Republic and the People's Democratic Republic of Yemen.

In South West Asia only scattered locusts were reported from India and Pakistan in January, but a late report of an immature swarm seen on 12 December was received from southern Iran.

Only scattered locusts were reported from Algeria in North West Africa and from Mali in West Africa.

DESERT LOCUST SITUATION - JANUARY 1979

WEST AFRICA

Weather (based on Meteosat rainfall analysis for 1-28 January 1979)

Several countries in West Africa experienced another period of unusual off-season rainfall. During the second and third weeks of January 1979, moderate and locally heavy rains fell over large parts of Senegal, the Gambia, Mauritania and north-central Mali. Upper Volta, Niger and Chad were observed to be dry throughout the month.

The rains in West Africa were caused by two separate weather systems which affected the countries on 7, 8 January and 16, 17, 18 January 1979.

MAURITANIA

Ecological conditions Widespread rain was recorded in southern and central Mauritania between 14 and 19 January, several stations recording more than 20 mm. Tragus was reported green east of Nema. Areas of green vegetation reported by nomads in December north of Aioun el Atrouss, near Aouker and towards the south of the Adrar remained green.

No surveys were undertaken and no locusts were reported.

MALI

Ecological conditions No rainfall was recorded north of 17°N, and the vegetation was reported to be dry.

Adults Two locusts were captured at lights in Wadi Tissedjeren (2058N, 0140E).

No locusts were reported from NIGER or CHAD.

NORTH WEST AFRICA

Weather

Substantial rains fell over large parts of Morocco, North and Central Algeria and Tunisia from frontal systems moving across North West Africa during the first and second weeks of January. Confirmation of widespread and locally heavy rains has been received from central and western Algeria. Southern Algeria and most of Libya received no rain during this period.

ALGERIA

Ecological conditions There was widespread heavy rainfall, particularly in western and central Algeria. Several wadis were in flood around Béchar. Patches of green vegetation were recorded in several parts of central, western and southern Algeria.

Adults 24 immature adults were seen in Wadi In Tamerouelt (2221N, 0308E) on 4 January.

No reports have been received from LIBYA, MOROCCO or TUNISIA.

## EASTERN AFRICA

### Weather

During January good rains fell over many parts of Eastern Africa. Moderate rainfall was observed over northern coastal Somalia, Djibouti and large parts of Western Ethiopia. The Ogaden was observed to be dry throughout the month.

Northern Kenya and large areas of Uganda were observed to have received moderate and locally heavy rains during the last week of January.

### SUDAN

Ecological conditions Ecological conditions were reported to be generally favourable for further breeding on the Red Sea coast.

Hoppers Further hatching occurred in early and mid-January in 11 blocks in the Tokar delta over a total area of 1,000 hectares. Over 13,000 groups of first to third instar hoppers had been located by 25 January.

Adults Immature adults were seen in three blocks in the Tokar delta totalling 220 hectares at densities of 480 to 840 per hectare between 9 and 20 January, and in another block some mature adults were seen with immature adults on 11 January over an area of 30 hectares, at a density of 960 adults per hectare. Solitaricolor adults were also found at densities of 480 per hectare over an area of 210 hectares in Khor Mukban (1811N, 3809E) on 24 January. No adults were reported between the Tokar delta and the Ethiopian border or between the Tokar delta and Port Sudan.

Control measures Control operations were undertaken against first to third instar hopper bands in eight blocks in the Tokar delta. Altogether 24,440 kilograms of BHC bait, 600 kilograms of BHC dust and some fenitrothion were applied.

### ETHIOPIA

Ecological conditions As a result of heavy rains in mid and late January on the Jigjiga and Railway areas and the Danakil depression, conditions were reported to be ideal for breeding.

Adults Swarms which were produced in the "Short Rains" breeding area moved north west and reached the Harar highlands and Railway Area in mid-January and started to mature. In late December a number of unconfirmed reports of swarms in the Ogaden were received. In early January there were six reports

of immature swarms from the Galadi (0658N, 4625E) district of the Ogaden. Later a dense pink swarm measuring 2 km x 1 km was reported flying north west at Lafeissa (0935N, 4305E), two dense partly mature swarms were reported from the Fafan Tug at 0915N, 4235E on 17 and 19 January, a dense mature swarm was reported 10 km west of Arraua (0958N, 4258E) on 18 January, a very dense mature swarm was reported from Ghelemso (0850N, 4030E) on 20 January. In late January numerous reports of swarms were received from the Jigjiga, Diredawa and Urso areas. Air and ground units located the following swarms. On 21 and 22 January a dense mature swarm was seen flying south south west at Jigjiga, and on 23 January an immature swarm measuring 1 sq. km. was seen at Jigjiga. A dense mature swarm measuring 3 km x 2 km was seen at Urso (0936N, 4138E) and another mature swarm of medium density and measuring 2 sq. km. was seen at Scenele (0941N, 4150E) on 22 January. On 24 January a dense immature swarm measuring 2-3 sq. km. was seen at Dinti (0915N, 4248E) and on 27 January a dense mature swarm measuring 6 sq. km. was seen at El Bah and Gaad, about 15 km north of Diredawa. Samples of the swarms at Urso and Scenele contained developed eggs.

Hoppers Hoppers were reported from the Emberemi area (1540N, 3924E) on the Red Sea coast north of Massawa in the last week of January.

Control measures The swarm at Urso was sprayed from the air with 180 litres of 96% Sumithion, the swarm at Dinti with 225 litres of 96% Sumithion and that at El Bah and Gaad with 180 litres of 96% Sumithion and 360 litres of 96% Malathion. The immature swarm at Jigjiga was sprayed with 45 litres of dieldrin through exhaust nozzle sprayers.

#### SOMALIA

Ecological conditions were reported to be very favourable for breeding along the coastal plains of northern Somalia.

Adults A number of swarms produced in the "Short Rains" breeding area moved west south west towards north-eastern Kenya but were not reported to have reached the border by the end of the month. On 1 January a thin density immature swarm measuring about 2 sq. km. was seen 21 km. north of Galkayo. There were three unconfirmed reports of medium density swarms from Mahas (0423N, 4605E), Gigliei (0425N, 4519E) and El Bahai (0448N, 4609E) on 14 January. On 21 January a very thin density immature swarmlet about one hectare in size was found settled at El Danawa (0358N, 4438E). This flew off to the west on the morning of 22 January. On 25 January an immature swarm about 4 sq. km. in size was seen 41 km. north of Bulu Burti on the Belet Uan road. On 5 February a pink swarmlet was seen at Bur Acaba (0250N, 4305E) and on 10 February a small immature swarm was reported flying south west at Bulu Baraco, 45 km south west of Ischia Baidoa. Low density adults were observed in many areas of the coastal plains of northern Somalia.

Hoppers No hoppers were reported.

Control measures No control measures were undertaken.

No locusts were reported from DJIBOUTI, KENYA, TANZANIA or UGANDA.

### NEAR EAST

#### Weather

The Near East countries received good and widespread winter rains during January. The Red Sea coast of Saudi Arabia and Yemen Arab Republic and the coast of Yemen P.D.R. experienced heavy rains on various days during the first and third weeks of January, resulting in local flooding.

During the <sup>third?</sup> second week of January an active frontal system moved southeastward across the Arabian Peninsula. This system caused substantial and widespread rain in the interior of Saudi Arabia. Another system affected the coastal and interior areas of Yemen P.D.R. in the fourth week of January. Eastern Oman was observed to have received moderate rains during the first week of the month.

The eastern part of Egypt (Sinai), Israel, Jordan and part of Syria received moderate rains from several depressions moving eastward over the area.

#### SAUDI ARABIA

Ecological conditions As a result of widespread and heavy rainfall on many days along the Tihamas and in mid-month in the interior, conditions were favourable for breeding along the whole of the Tihama and in many parts of the interior.

Adults A total of 57 reports of swarms were received from between Hali on the Qunfidah Tihama and Bir Bir Hussani (2342N, 3848E) between 1 and 25 January. Only one swarm, reported from Hali on 2 January was immature, all others were maturing or mature and were copulating and laying. Forty-five of the reports were of swarms between Hali and Lith and, where sizes were recorded, ranged from 6 to 22 sq. km. in extent. It was thought there were about 10-15 different swarms on the Tihamas, that some had already been reported in December (see Summary No. 4) but that others represented new arrivals from the west. No swarms were reported after 25 Jan. By 28 January not even scattered locusts were seen in Wadi Lith, Wasga, Shaqqah ash Shamaliyah, Wadi Doga or Sha'ira areas. There were no more reports of the swarms which reached the Bisha area in December.

Hoppers During the first half of January there was further hatching between Hali and Shaqqah al Yamaniyah and in the Mujairima and Tuffail areas south of Jeddah in Wadi Fatima and around Mecca, and further hatching was anticipated. However, on 28 January no hopper bands were observed on a survey of the Wadi Lith, Wasga, Shaqqah ash Shamaliyah, Wadi Doga or Sha'ira areas.

Control measures One aircraft and 24 ground teams equipped with exhaust nozzle sprayers and power dusters applied control measures against many of the swarms and hopper infestations between Qunfidah and Jeddah. 4,500 litres of 20%

dieldrin were applied against swarms by air between 3 and 25 January. In the Qunfidah area some 1600 bands of first and second instar hoppers had been controlled by ground teams by 21 January and 90 sq. km. were treated with 1800 litres of dieldrin from the air between 8 and 13 January. Other hopper infestations were controlled in Wadi Fatima, east of Mecca, and in the Mujairima and Tuffail areas south of Jeddah. By the end of January, the total consumption of insecticides was 50,000 litres of 29% dieldrin, 25,000 litres of 96% Malathion and 30 tonnes of BHC dust.

#### YEMEN ARAB REPUBLIC

Ecological conditions became more favourable for breeding along the Tihama as a result of showers.

Adults Immature and mature adults were present at densities of 40-50 per hectare in Wadis Hayran and Habl, at Al-Jarr (1620N, 4245E) and Baghawiyah (1500N, 4308E).

Hoppers Solitaricolor hoppers were found at various densities in cultivations in Wadis Hayran and Habl.

#### PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

Ecological conditions Following widespread light to moderate showers on eastern and western coasts, and heavy rains in the Nisab and Beihan areas of the interior during the last decade of January, ecological conditions became favourable for breeding.

Adults Only small numbers of scattered adults were recorded during the month during surveys of western and eastern coastal areas and the interior. The maximum density reported was 20 adults per hectare. One pair was seen copulating.

Hoppers One green fifth instar hopper was seen.

IRAQ was reported free from desert locusts.

No reports have been received from BAHRAIN, EGYPT, KUWAIT, LEBANON, OMAN, QATAR, SYRIA or the UNITED ARAB EMIRATES.

SOUTH WEST ASIA

PAKISTAN

Ecological conditions Light to medium rainfall was recorded in the Nushki, Khuzdar, Panjgur, Lasbela and Quetta areas during the first fortnight of January.

Adults Small numbers of adults were reported from the Wad (2721N, 6622E) area of Khuzdar during the first week of January.

INDIA

Scattered adults were reported from four localities in the Jaisalmer district of Rajasthan, the maximum density recorded being 150 per square kilometre at Odhanian in Pokaran tehsil on 16 January.

IRAN

A late report was received from Iran of an immature swarm measuring 2 km x 1 km flying north west from Bandar Lengel (2633N, 5453E) to Bastak (2714N, 5422E) and Lar (2741N, 5417E) on 12 December. The swarm was later reported to have scattered.

AFGHANISTAN

No locusts were reported.

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FORECAST FOR LATE FEBRUARY - MARCH 1979

In North West Africa breeding by scattered adults is likely to start in areas of western, central, eastern and southern Algeria and southern Tripolitania in Libya which have recently received rain.

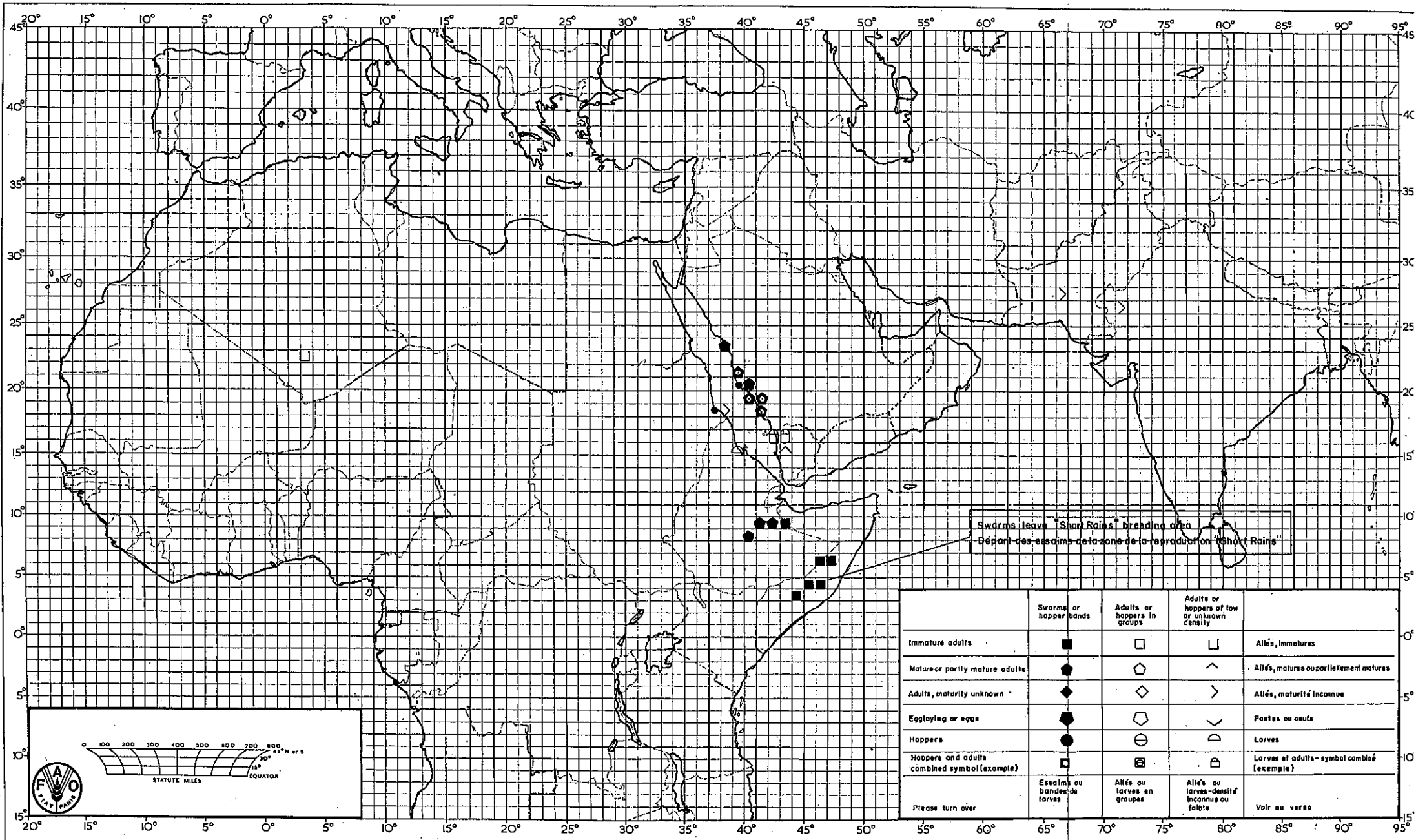
In West Africa breeding by scattered locusts may occur in southern and western Mauritania and in Western Sahara. Small numbers of adults will persist in the Adrar des Iforas and Tamesna in Mali and Tamesna and Air in Niger.

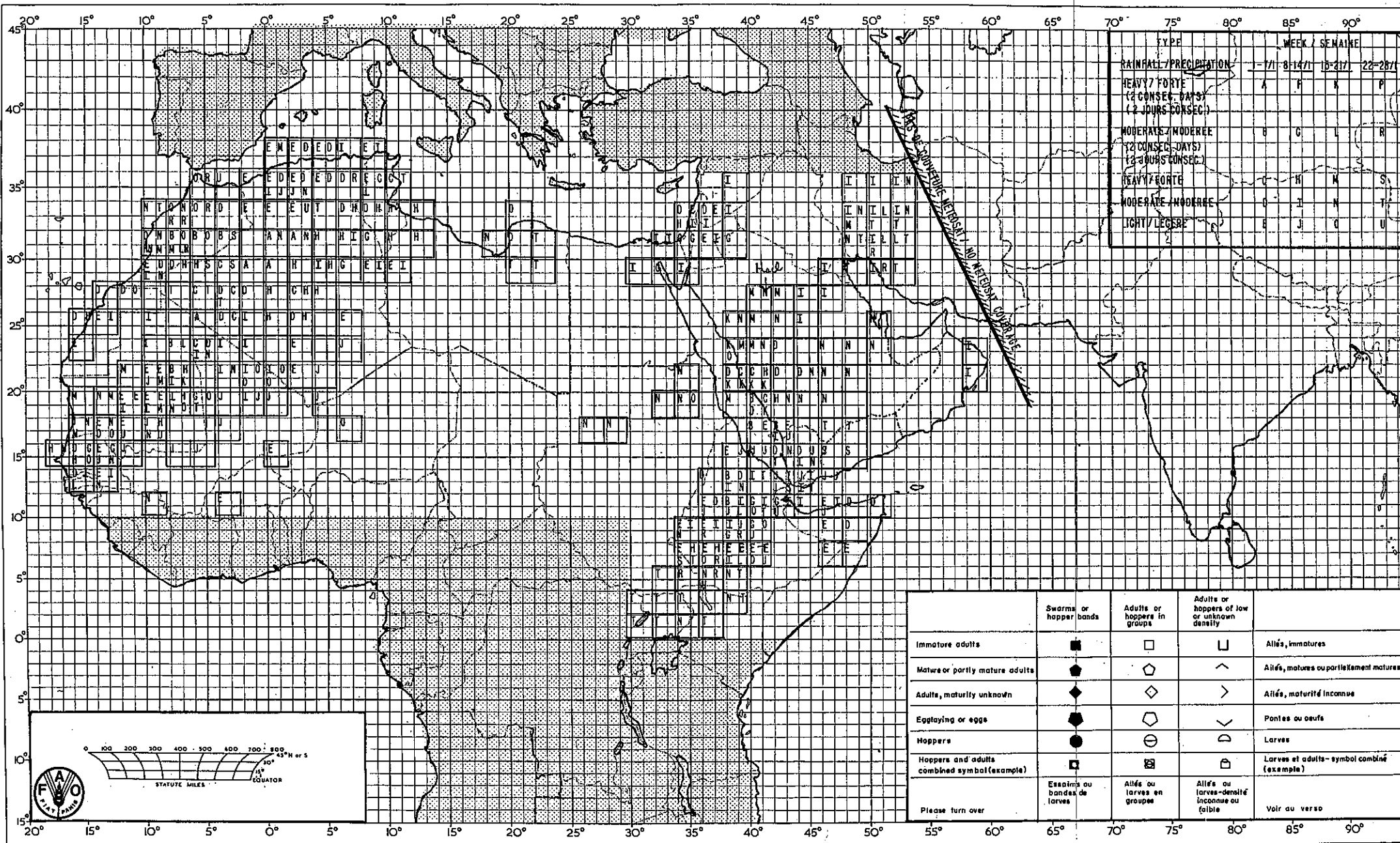
In Eastern Africa a few small swarms produced in the more southerly part of the "Short Rains" breeding area may have already reached north east Kenya. These are likely to move west towards Turkana and north west into southern Ethiopia, where they could start to breed towards the end of the forecast period. There is now only a low probability that swarms will reach the central highland areas of Kenya or north east Tanzania. Some swarms which have already reached the Railway Area of Ethiopia may already have started to breed, and breeding is likely to extend into the Danakil depression, Djibouti, the southern Red Sea coast of Ethiopia and the north-west coastal plains of Somalia. Some swarms could cross the Red Sea and Gulf of Aden. Breeding is almost certainly in progress on the Red Sea coast of Ethiopia and may result in further invasions of the Sudan, and possibly the Yemen Arab Republic and Saudi Arabia. Breeding by scattered adults has probably already started in coastal areas of northern Somalia and could be augmented in the north west by swarms.

In the Near East swarms from eastern Africa could reach coastal areas of the People's Democratic Republic of Yemen, the Yemen Arab Republic and Saudi Arabia and lay, and some could reach interior areas and lay. Swarms which reached the Bisha area in Saudi Arabia in December could have moved into central and northern Saudi Arabia. It is possible that some swarms could reach southern Jordan, southern Iraq and Kuwait and start to lay. Breeding by small numbers of adults is likely to start in Oman and United Arab Emirates.

In South West Asia breeding will almost certainly occur in coastal and more southerly interior valleys in Iran and the Mekran and Baluchistan of Pakistan and possibly lead to the production of hopper bands. Small numbers of adults will persist in the summer breeding areas of Rajasthan in India and adjacent areas of Pakistan.

Rome  
13 February 1979





TYPE RAINFALL / PRECIPITATION	WEEK / SEMAINE			
	1-7/1	8-14/1	15-21/1	22-28/1
HEAVY / FORTE (2 CONSEC. DAYS) (2 JOURS CONSEC.)	A	F	R	P
MODERATE / MODEREE (2 CONSEC. DAYS) (2 JOURS CONSEC.)		G	L	R
HEAVY / FORTE		H	M	S
MODERATE / MODEREE		I	N	T
LIGHT / LEGERE		J	O	U

	Swarms or hopper bands	Adults or hoppers in groups	Adults or hoppers of low or unknown density	
Immature adults	■	□	◻	Alliés, immatures
Mature or partly mature adults	●	◐	◑	Alliés, matures ou partiellement matures
Adults, maturity unknown	◆	◊	◈	Alliés, maturité inconnue
Egglaying or eggs	◆	◊	◈	Pontes ou oeufs
Hoppers	●	◐	◑	Larves
Hoppers and adults combined symbol (example)	◻	◻	◻	Larves et adults - symbol combiné (exemple)
Please turn over	Essaims ou bandes de larves	Alliés ou larves en groupes	Alliés ou larves - densité inconnue ou faible	Voir au verso

