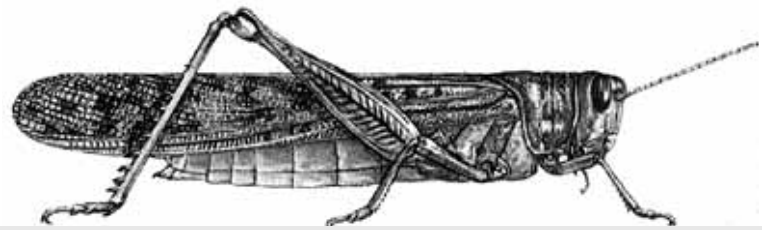

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations **No. 326**

(2 Dec 2005)

General Situation during November 2005 Forecast until mid-January 2006

The Desert Locust situation remained generally calm during November. The most significant activity during the month was along the Indo-Pakistan border where small hopper bands and swarms formed. Although control operations were undertaken in both countries, there is a risk that a limited number of swarms will move from Rajasthan to western Pakistan while a few other small swarms could move further south or east in western India. Very few locusts remain in the summer breeding areas of the Sahel in West Africa except for western and central Mauritania where locust numbers increased slightly as small-scale breeding continued in November. Local breeding also occurred in southeast Algeria and southwest Libya. Small-scale breeding commenced in the winter breeding areas along the Red Sea in Sudan and Yemen. During the forecast period, locust numbers are expected gradually to increase along both sides of the Red Sea and in northern Mauritania.

Western Region. Small-scale breeding occurred during November in western and central **Mauritania** for the third consecutive month. Consequently, there has been a gradual increase in locust numbers as well as a shift from solitarious to transiens locusts. During the second half of November, hoppers were concentrating in a few places and increasing in density and one hopper band was reported at the end of the month. Intensive surveys should be maintained to detect any further changes in locust populations. Scattered solitarious adults mixed with a few transiens adults were present in parts of northern **Mali** and isolated adults were reported in **Chad**. Local breeding continued in southeastern **Algeria** and occurred in southwest **Libya**. Ground control operations were undertaken in both countries.

Central Region. Small-scale breeding commenced during November in the winter breeding areas along the Red Sea coast in **Sudan** between Tokar Delta and the Eritrean border, and on the Red Sea and Gulf of Aden coastal plains in **Yemen**. Breeding is expected to occur on the northern coast in **Eritrea** where scattered adults were reported in November and will continue in Sudan and Yemen. Consequently, locust numbers will gradually increase in these countries during the forecast period. An immature swarm was seen in early November in West Darfur, Sudan but there were no further reports thereafter. There was also a report of immature gregarious adults near Taif, **Saudi Arabia** but only a few adults were seen during follow-up surveys. Dry conditions prevailed elsewhere in the region.

Eastern Region. Numerous small hopper bands were present during November in one area on both sides of the border in Rajasthan, **India** and Cholistan, **Pakistan**. Small immature swarms started to form early in the month and by the end of November, a few had moved out of the infested areas to eastern and central Rajasthan. Although ground control operations were undertaken in both countries, a few more small swarms are expected to form. Most of these swarms are likely to move west to the Indus Valley and eventually reach Baluchistan in western Pakistan while a few swarms could move east towards Delhi or south to Gujarat.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by 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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DLIS: www.fao.org/ag/locusts

No. 326

DESERT LOCUST BULLETIN

Weather & Ecological Conditions in November 2005

Ecological conditions have become dry in most of the summer breeding areas in the Sahel in West Africa and Sudan, and along the Indo-Pakistan border. Breeding conditions improved in the winter breeding areas in northern Mauritania and in some places along the Red Sea coastal plains.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its retreat southwards, oscillating between 10N and 5N in November. Consequently, vegetation was nearly dry in most of the summer breeding areas in the Sahel except for small patches of green vegetation in a few places in the Timetrine region in northern Mali, in parts of the Tamesna Plains on both sides of the Mali/Niger border, and in some of the wadis in eastern Chad as far north as Fada. Breeding conditions remained favourable in western and central Mauritania as a result of October rainfall. Ecological conditions improved in the winter breeding areas in northwest and northern Mauritania and in adjacent areas of Western Sahara where moderate rain fell on 20-21 November. So far, vegetation has become green only in relatively limited areas. During the last week of November, light rain fell in eastern Algeria and western Libya. Ecological conditions remained generally favourable in southern Algeria and in parts of southwest Libya.

In the **Central Region**, moderate to heavy rainfall was reported along the Red Sea coastal plains in Sudan between Tokar Delta and the Eritrean border during the last decade of November. Consequently, ecological conditions were favourable for breeding there and were improving on the northern coast of Eritrea near Mehimet where it rained in October and in early November. By contrast, dry conditions prevailed on the northern coast in Sudan and in adjacent areas in southeastern Egypt. In Yemen, moderate rains fell on the northern Red Sea coast near the Saudi Arabian border but vegetation remained dry on the border itself. Breeding conditions were more favourable further south on the coast between Midi and Bajil. In southern Yemen, vegetation was drying out along the Gulf of Aden coast but remained green further inland near the mountains. Dry conditions prevailed in Djibouti and northern Somalia.

In the **Eastern Region**, hot and dry weather prevailed during November. Consequently, vegetation was drying out in the summer breeding areas along both sides of the Indo-Pakistan border. This became increasingly evident by the end of the month when locusts started to leave breeding areas in India between the Rajasthan Canal and the Pakistani border.

Area Treated

Nearly 8,300 ha were treated in November, mainly against hopper bands and swarms along the Indo-Pakistan border.

Algeria	905 ha (1-22 November)
India	6,201 ha (November)
Libya	100 ha (November)
Pakistan	1,266 ha (16-30 October)
	1,056 ha (1-15 November)

Note: Reporting delays and discrepancies may affect the accuracy of these figures.

Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• **SITUATION**

During November, small-scale breeding continued for a third consecutive month west and east of Tidjikja (1833N/1126W) and northwest of Moudjeria (1752N/1219W) where hoppers of all instars were present mixed with fledglings and maturing adults. Breeding also continued in the Aftout Fai area north of Boutilimit (1732N/1441W) where third to fifth instar hoppers and adults were seen. Locust densities gradually increased in both areas and an increasing number of transiens hoppers were seen. By mid-month, solitarious and transiens hoppers were grouping at one location in Aftout Fai at densities of 8,400 hoppers/ha on 50 ha while densities reached up to 3,000 hoppers/ha near Tidjikja. On 30 November, there was a report at one place in the Aftout Fai of three small third to fifth instar hopper bands at densities of up to 5 hoppers/m^2 and of less than 500 m^2 in size. In the northwest, local breeding occurred in Inchiri where isolated mature adults

and a few individual second to fourth instar hoppers were present. In the north, a few mature solitarious adults were seen in Tiris-Zemmour near Zouerate (2244N/1221W) and Bir Moghrein (2510N/1135W).

• **Forecast**

Unless further rainfall occurs, breeding is expected to come to an end near Tidjikja and hoppers and adults could concentrate and form small groups and perhaps a few small bands in the remaining green vegetation. On the other hand, breeding may continue in the Aftout Fai and Inchiri areas, and is expected to commence in Tiris Zemmour near Zouerate and Bir Moghrein. Consequently, locust numbers are likely to continue to increase further during the forecast period. Intensive surveys should be maintained in all of these areas.

Mali

• **Situation**

During November, isolated immature and mature adults were present in a few places in Timetrine. Scattered solitarious hoppers and immature adults mixed with a few transiens adults were seen in a few places on the Tamesna Plains at densities up to 300 adults/ha. No locusts were seen in the Adrar des Iforas.

• **Forecast**

Low numbers of locusts are expected to persist in the few places that remain green in Timetrine, the Adrar des Iforas and Tamesna.

Niger

• **Situation**

No reports were received during November.

• **Forecast**

Low numbers of locusts are likely to persist in the few places that remain green in Tamesna.

Chad

• **Situation**

During the last decade of October, the situation was reported to be calm. Isolated solitarious mature adults were present during the first two decades of November in a few places in BET and Wadi Fira regions in the northeast. Further details are awaited.

• **Forecast**

As vegetation continues to dry out, locust numbers will decline and only isolated adults are likely to persist in the few areas that remain green in Ouaddai and Fada.

Senegal

• **Situation**

No locusts were reported during the first two decades in November.

• **Forecast**

No significant developments are likely.

Benin, Burkina Faso, Cameroon, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea Bissau, Guinea, Liberia, Nigeria, Sierra Leone and Togo

• **Forecast**

No significant developments are likely.

Algeria

• **Situation**

During November, local breeding continued in the southeast of the country east of Tamanrasset (2250N/0528E). Isolated breeding also occurred further south near the Niger border and in the eastern part of the country near Illizi (2630N0825E). Solitarious hoppers of all instars at densities up to 5 hoppers/bush, mixed with immature adults were present in these places. Ground control operations treated 905 ha from 1 to 22 November. No locusts were seen during surveys carried out in other parts of the country.

• **Forecast**

As ecological conditions become unfavourable, locusts may concentrate in the few areas that remain green in the southeast, increase slightly in density and, at most, form a few small groups.

Morocco

• **Situation**

No reports were received during November.

• **Forecast**

Scattered adults may be present in parts of Western Sahara and small-scale breeding could occur in areas of recent rainfall.

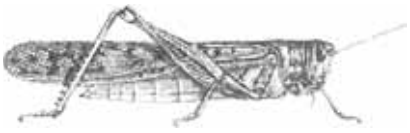
Libyan Arab Jamahiriya

• **Situation**

Small-scale breeding occurred during November in the southwest where solitarious first to third instar hoppers at densities of 3-10 hoppers/m^2 were seen near Ghat in Wadi Taselet (2432N/1057E) at mid-month. Ground control teams treated 100 ha.

• **Forecast**

Low numbers of locusts are likely to persist and breed on a small scale in areas that remain favourable in the southwest.



Tunisia

• **SITUATION**

No locusts were reported during October and November.

• **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

• **SITUATION**

On 5 November, a medium-density immature swarm was seen in West Darfur near Zalingei at Nartite (1258N/2402E) covering an area of 150 ha. Due to insecurity, follow-up surveys could not be conducted.

On the Red Sea coastal plains, isolated mature adults were present in Tokar Delta and in a few places further south towards the Eritrean border during the first half of November. Isolated second to fourth instar hoppers were seen in the Tokar Delta and adult densities gradually increased to 450 adults/ha during the remainder of the month. Scattered mature adults were seen further north along the coast in the Arbaat area (1958N/3723E). No locusts were seen elsewhere on the northern coastal plains or in the adjacent areas of the interior along Wadi Oko/Diib.

• **FORECAST**

Small-scale breeding will continue along the Red Sea coastal plains between Suakin and the Eritrean border. Limited breeding could occur in a few places on the coast north of Port Sudan. Consequently, locust numbers are likely to increase slightly along the coast during the forecast period.

Eritrea

• **SITUATION**

Isolated immature and mature adults were present during November on the Red Sea coastal plains in the north near Mehimet (1723N/3833E) and in the centre near Wakiro (1550N/3917E).

• **FORECAST**

Small-scale breeding is expected to occur in a few places along the Red Sea coast between Massawa and the Sudanese border. Consequently, locust numbers are likely to increase slightly during the forecast period.

Ethiopia

• **SITUATION**

No locusts were seen during surveys carried out in the Dire Dawa and Somali regions between the Awash Valley and the Somali border on 11-16 November.

• **FORECAST**

No significant developments are likely.

Djibouti

• **SITUATION**

No locusts were reported during November.

• **FORECAST**

No significant developments are likely.

Somalia

• **SITUATION**

No locusts were seen on the plateau between Boroma (0956N/4313E) and Burao (0931N/4533E) during surveys carried out on 18-24 November.

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

No locusts were seen during surveys carried out in November along both sides of Lake Nasser, on the Red Sea coast and in the adjacent interior between Marsa Alam and the Sudanese border.

• **FORECAST**

Isolated adults may appear in the winter breeding areas along the Red Sea coast between Shalatyn and the Sudanese border and eventually breed if rainfall occurs.

Saudi Arabia

• **SITUATION**

On 2 November, there was an unconfirmed report of immature gregarious adults near Taif (2115N/4021E) that may be linked to the unconfirmed swarm last month. However, only isolated immature solitarious adults were seen nearby at one location during follow-up surveys. No locusts were seen elsewhere in the region.

• **FORECAST**

Isolated adults may be present on the southern coastal plains of the Red Sea near Jizan and small-scale breeding could occur in areas where conditions are favourable.

Yemen

• **SITUATION**

During November, solitarious immature and mature adults were present in three areas on the northern and central Red Sea coast: between Hodeidah (1450N/4258E) and Bajil (1458N/4314E), west of Suq Abs (1600N/4312E) and near Midi (1619N/4248E).

Isolated fourth instar hoppers were seen near Bajil on the 6th.

On the Gulf of Aden coastal plains, solitarious second to fourth instar hoppers, at densities up to 5 hoppers/m^2, mixed with a few adults were present at two places near Zinjibar (1306N/4523E) on 26 November, and isolated adults were present near Lahij (1303N/4453E).

• **FORECAST**

Small-scale breeding will continue in a few places along the Red Sea and Gulf of Aden coasts causing locust numbers to increase slightly. The extent of the breeding will depend on rainfall that occurs during the forecast period.

Oman

• **SITUATION**

No locusts were seen in early November in the Dhahera region in the northern interior.

• **FORECAST**

No significant developments are likely.

Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, UAE and Uganda

• **FORECAST**

No significant developments are likely.

EASTERN REGION

Iran

• **SITUATION**

No locusts were seen during surveys carried out on the southern coast near Bander-e Lengheh (2634N/5452E) and Jask (2540N/5746E) on 26 October and again on 18-19 November. During the latter survey, locusts were also absent near Bushehr (2854N/5050E).

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

During the second half of October, some 250 small hopper bands of all instars were present along the border with India east of Rahimyar Khan (2822N/7020E) in the Cholistan Desert where breeding occurred in September and early October. Ground control teams treated 1,266 ha. Scattered mature solitarious adults at densities of up to 20 adults/ha were reported in a few places in the Nara, Tharparkar and Cholistan deserts.

During the first half of November, a 1 km^2 immature swarm was reported in the Cholistan Desert near the Indian border at Chalanwala (2801N/7152E) on the 12th. Ground control operations treated 1,056 ha in nearby areas against about 140 third to fifth instar hopper bands and four groups of immature adults.

• **FORECAST**

An increasing number of adults including a few groups and small swarms are likely to appear from adjacent areas of Rajasthan and progressively move towards the west through the central Indus Valley and eventually reach Baluchistan.

India

• **SITUATION**

During the first half of November, fourth and fifth instar hopper bands and immature adult groups and swarms were reported at 123 locations in Jaisalmer and Bikaner districts. The infestations were concentrated in a relatively small area of about 100 km by 50 km between the Rajasthan Canal and the Pakistani border. The hopper bands were very small with densities of 20-50 hoppers/m^2 while the swarms were less than 1 km^2 in size with densities of 15-25 adults/m^2. By the end of the month, most of the hoppers had reached fifth instar. A few small immature swarms were reported about 200 km east near Nagaur (2712N/7348E) on 22-25 November and about 75 km south near Jaisalmer (2652N/7055E) on the 30th. This suggests that adults are starting to move out of the infested areas as ecological conditions become dry. Ground control operations treated 6,201 ha during November.

• **FORECAST**

Additional small adult groups and swarms are expected to form during the first half of December in currently infested areas. As ecological conditions continue to dry out, these populations will probably move towards the west although there is a slight risk that a few could move northeast towards Punjab, east towards Delhi, or south towards Gujarat, depending on the wind. In any case, the situation should improve by the end of the forecast period.

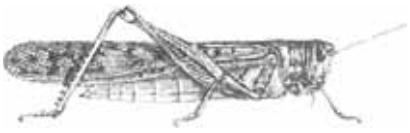
Afghanistan

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.



No. 326

DESERT LOCUST BULLETIN

Announcements

Locust reporting. During locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent twice/week and affected countries are encouraged to prepare decadal bulletins summarizing the situation. During recession periods, countries should report at least once/month. All information should be sent by e-mail to the FAO/ECLO Desert Locust Information Service (eclo@fao.org). Information received by the end of the month will be included in the FAO Desert Locust 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.

Desert Locust Mapper. The Locust Group has launched an updated version of the Desert Locust Mapper that allows users to access locust data, both historical and current, and display swarm, band, hopper and adult infestations on maps at different scales. See: www.fao.org/ag/locusts (Mapper)

Desert Locust environmental brochure. FAO has produced a brochure for the general public and donor community entitled Fighting the Locusts… Safely, available for download at www.fao.org/ag/locusts (Publications – documents). It is being translated into French and Arabic.

Publications on the Internet. New FAO publications and meeting reports are available for downloading at www.fao.org/ag/locusts (Publications):

- Report of the 3rd session of the FAO Commission for Controlling the Desert Locust in the Western Region (French, Arabic)
- Report of the 27th Executive Committee meeting of the FAO Commission for Controlling the Desert Locust in the Central Region (English, Arabic)

DLCC. The next session (38th) of the Desert Locust Control Committee (DLCC) has been postponed until 15-19 May so that a comprehensive report of an independent evaluation of the recent Desert Locust campaign can be presented and discussed.

2005-2006 events. The following meetings are tentatively scheduled:

- **EMPRES/CR.** 13th Liaison Officers meeting, Sana'a (Yemen), 11-15 December 2005
- **EMPRES/WR.** 4th Liaison Officers meeting, Algiers (Algeria), 25 February - 1 March (tentative)
- **EMPRES/WR.** Steering committee meeting, Algiers (Algeria), 4-6 March (tentative)
- **CRC.** 25th Session, Dubai (UAE), April
- **DLCC.** 38th Session, Rome, 15-19 May
- **FAO Locust Group.** Extended Group meeting, Rome, 22-24 May
- **CLCPRO.** 2nd Session, end May or early June
- **SWAC.** 25th Session, Afghanistan or Iran, October

John Francis Ambrose. It is with deep regret that we announce the death of Captain John Francis Ambrose in late November. Captain Ambrose played a key role in the operational capacity of the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) for many years and, in the last few months, acted as Director of the Organization. We would like to express our sincere condolences to his family and his government.

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 km^2 • band: 1 - 25 m^2

SMALL

- swarm: 1 - 10 km^2 • band: 25 - 2,500 m^2

MEDIUM

- swarm: 10 - 100 km^2 • band: 2,500 m^2 - 10 ha

LARGE

- swarm: 100 - 500 km^2 • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km^2 • 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.

REGIONS

WESTERN

- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Senegal, Tunisia; during plagues only: Burkino Faso, Cape Verde, Gambia, Guidea Bissau and Guinea Conakry.

CENTRAL

- locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during plagues only: Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

EASTERN

- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.

Desert Locust Summary
Criquet pèlerin - Situation résumée

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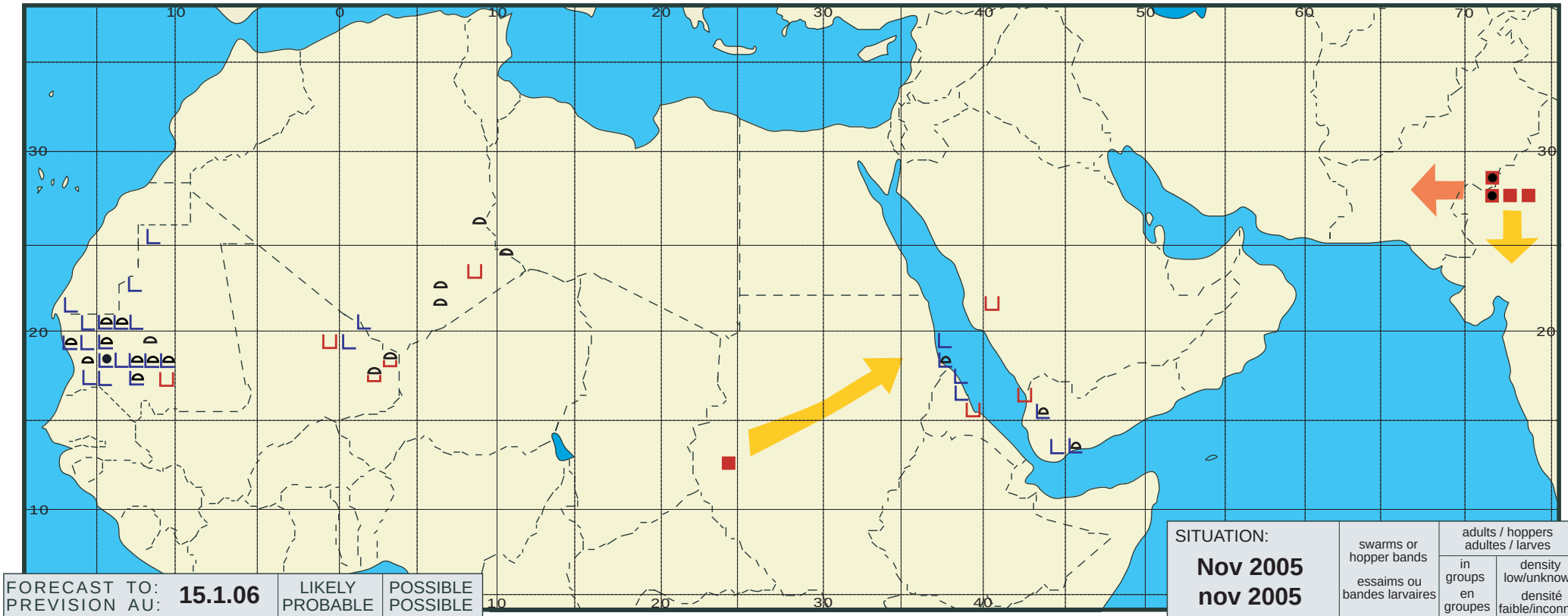

FORECAST TO: PREVISION AU: **15.1.06**	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

SITUATION: **Nov 2005** **nov 2005**	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	◣	◺	L
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)	◘	◙	⊕