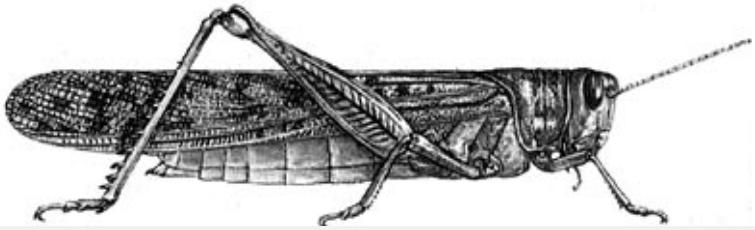

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations **No. 311**

(3 Sept 2004)

General Situation during August 2004
Forecast until mid-October 2004

The Desert Locust situation deteriorated further in August in the Sahel in West Africa. Swarms continued to arrive from Northwest Africa and laid eggs in Mauritania, Senegal, Mali, Niger and Burkina Faso. Hatching occurred and numerous hopper bands formed during August. Swarms also reached Chad and the Cape Verde Islands and there was one unconfirmed report from Darfur, Sudan. By the end of the month, the first generation of summer swarms were starting to form in Mauritania. Significant crop damage was reported in many countries. A substantial number of swarms will form in the Sahel during September. Most of these swarms are likely to move towards Northwest Africa in October while some swarms could move further south in West Africa. Control operations are underway but need strengthening to prevent the situation from developing into a plague.

Western Region. Large-scale hatching and band formation occurred during August in southern **Mauritania**, northern and central **Senegal**, **Mali** and **Niger** where swarms continued to arrive and lay eggs. Many of the infestations were in cropping areas in the Sahelian zones of these countries where damage to pasture, cereals and vegetables was reported. Some mature swarms reached northern **Burkina Faso** and laid eggs that hatched and hoppers formed bands. Swarms also reached **Chad** in late July and early August where they probably laid eggs. Several swarms arrived for the second consecutive month in **the Cape Verde Islands** but breeding was not reported. A substantial number of new swarms will form during September in the Sahel. Although some of these swarms could remain in place and eventually breed again, most of the swarms are likely to start moving towards the west and northwest in October, posing a significant threat to Northwest Africa. Some of the summer swarms could reinvade Senegal and move further south, the so-called “Southern Circuit” migration, to **Gambia**, **Guinea Bissau** and **Guinea**. Even though 100,000 ha were treated during August in the Sahel, aerial control operations need to be increased in affected countries. In Northwest Africa, the situation improved in early August and only a few small residual populations remained in **Morocco** and **Algeria**.

Central Region. Scattered adults persisted in parts of the summer breeding areas in the interior of **Sudan** and **Yemen** during August. Small-scale breeding occurred in Yemen and is probably in progress in Sudan. The situation in Darfur remains unclear but it is by no means as serious as in West Africa. At most, only a few swarms are likely to have reached the region and laid eggs. Nevertheless, all efforts should be made to clarify and monitor the situation.

Eastern Region. Isolated adults were present in the summer breeding areas in **Pakistan** near the Indian border during August. Small-scale breeding is likely to be underway but no significant developments are likely.

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.
Telephone: +39 06 570 52420 (7 days/week, 24 hr)
Facsimile: +39 06 570 55271
E-mail: eclo@fao.org
Internet: www.fao.org
DLIS: www.fao.org/news/global/locusts/locuhome.htm

No. 311

DESERT LOCUST BULLETIN

Weather & Ecological Conditions in August 2004

Good rains continued to fall during August in the summer breeding areas in the Sahel in West Africa while showers were sporadic in Sudan. Good rains also fell in the interior in Yemen and along the Indo-Pakistan border. Breeding conditions were favourable in all of these areas.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) generally oscillated around 19N over the Sahel during August and occasionally reached southern Algeria (24N). At the end of the month, it remained over northern Mauritania and southern Algeria (22N) for several days. Consequently, light to moderate rain fell throughout the summer breeding areas in the Sahel from Mauritania to Chad as well as in southern Algeria for the second consecutive month. Breeding conditions remained favourable in southern Mauritania (south of 18N), northern and central Senegal, and in the Sahelian zone and southern part of Tamesna in Mali and Niger. Conditions were improving in northern Mali (Timetrine, Tilemsi Valley, Adrar des Iforas) and in eastern Chad. Unusual rain fell in northern Mauritania on the 25th at Bir Moghrein (20 mm) and Zouerate (21 mm).

In the **Central Region**, light to moderate rain fell in the summer breeding areas in the interior of Sudan (White Nile, Northern Kordofan, Darfur) and Yemen (Marib to Ataq) for the second consecutive month. The rainfall distribution in western Sudan was patchy in Darfur and Kordofan where some areas were drier than normal. Light to moderate rain also fell in the summer breeding areas in the lowlands of western Eritrea. Light to moderate rain, heavy at times, also fell along the Red Sea coastal plains in Yemen. Consequently, breeding conditions were already favourable or improving in many areas in the three countries. Good Karan (summer) season rains fell on the plateau in northwestern Somalia and in adjacent areas in eastern Ethiopia where breeding conditions were favourable. Light to moderate rain fell in parts of Oman.

In the **Eastern Region**, good rains associated with the monsoon fell during the first half of August in Rajasthan, India. Rainfall was heavier in adjacent areas of Tharparkar and Cholistan deserts in Pakistan where Bahawalpur reported 124 mm and Mirpurkhas 222 mm during the fortnight. Consequently, breeding conditions remained favourable in India and were improving in Pakistan.

Area Treated

Nearly 114,000 ha were treated in August of which 101,000 ha were in the summer breeding areas, bringing the total treated so far this summer to 119,000 ha. In all, nearly 6.5 million ha have been treated since the beginning of the upsurge in October 2003.

Algeria	140,384 ha	(21-31 July)
	7,019 ha	(1-20 August)
Burkina Faso	200 ha	(9-26 August)
Mali	16,403 ha	(1-31 August)
Mauritania	34,636 ha	(1-31 August)
Morocco	5,433 ha	(1-31 August)
Niger	4,397 ha	(1-31 August)
Senegal	45,611 ha	(1-24 August)

Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• **SITUATION**

During the first half of August, swarms were seen moving towards the south in Tiris Zemmour, Adrar, Inchiri and Nouakchott. Large-scale breeding was in progress throughout the month south of 18N where swarms continued to mature and lay eggs. Hatching and hopper band formation, at densities up to 800 hoppers/m^2, were in progress over a large area of the south, affecting all regions and extending from the Atlantic coast to the two Hodhs (south of 17N) in the southeast. The heaviest infestations were mainly concentrated along the Senegal River Valley where swarms were moving back and forth between Mauritania and northern Senegal. By the end of August, many hopper bands had reached third instar in the southwest (Gorgol, Brakna, Trarza) and fifth instar in the southeast (two Hodhs, Assaba) where substantial fledging had commenced. On the 31st, an immature swarm was seen near Timbedra

(1614N/0809W), which suggests that summer generation swarms were starting to form. Significant damage, up to 40 percent, was reported to pasture, cereal, and vegetable crops in nearly all of the infested regions. Residents in some towns and villages had to leave their homes because of hopper bands. Control operations treated 34,636 ha during August, of which 13,750 ha were treated by air.

• **Forecast**

A substantial number of swarms are expected to form in the summer breeding areas in the south. Some of these swarms may persist in areas that remain favourable, mature and lay eggs from late September onwards. If so, hatching and band formation could commence by the end of the forecast period. Some swarms are likely to move towards western, central and northwestern parts of the country and eventually breed while other swarms could move into northern Senegal.

Senegal

• **Situation**

During August, swarms continued to mature and lay eggs along the Senegal River Valley and in adjacent areas in the north and centre of the country north of 15N. A few egg-laying swarms reached as far south as Ndebele (1421N/1610W) on the 24th, and a mature swarm was seen in Dakar on the 31st, coming from infested areas further north. Hatching and band formation were in progress throughout the month and, by the end of August, hopper bands had reached second and third instar. Control operations treated 45,611 ha on 1-24 August.

• **Forecast**

Late hatching may still occur in some areas early in the forecast period. Hopper bands will continue to develop and new swarms could start forming by late September in the north and centre of the country. There is a high risk that the new swarms will be supplemented by additional immature swarms coming from the north and east. These swarms could progressively move southwards in the country during October. This is likely to coincide with the southern movement of the Inter-Tropical Convergence Zone.

Mali

• **Situation**

During August, swarms from Northwest Africa continued to be appear throughout the Sahelian zone from Kayes (1426N/1128W) in the west to Gao (1616N/0003W) in the east where they laid eggs. Some infestations were also present south of the Niger River to the Burkina Faso border. Hatching started on 1 August and increased throughout the month, causing numerous hopper bands to form at densities up to 1,000 hoppers/m^2. By the end of August, a few bands had reached fifth instar.

In the north, local populations were reported to be regrouping and were supplemented by several swarms appearing from the north. Adult groups and swarms were seen laying in parts of the Adrar des Iforas, the Tilemsi Valley, Timetrine and in the southern Tamesna near Menaka (1554N/0218E), and scattered hoppers were reported by the end of August. Control operations treated 16,403 ha during August.

• **Forecast**

Hopper bands will continue to develop during September in the Sahelian zone between Kayes and Gao. A substantial number of swarms are expected to form from about mid-September onwards in these areas. Some of these swarms may persist in areas where conditions remain favourable while others could move towards the west and northwest. Hatching will increase in the north, causing hopper groups and bands to form in the Timetrine, Tilemsi Valley, Adrar des Iforas and Tamesna. By the end of the forecast period, new swarms could start to form in the north.

Burkina Faso

• **Situation**

On 9-10 August, several mature swarms, at densities of 3-5 adults/m^2, appeared from the north and in the extreme northeast of the country and laid eggs between Djibo (1409N/0138W) and Dori (1403N/0002W). In all, some 20 villages reported swarms. There were new reports of swarms a few days later in the same area at densities up to 50 adults/m^2. By 26 August, hatching had occurred and second instar hopper bands, at densities up to 200 hoppers/m^2, were present near Deou (1436N/0043W). Control operations treated 200 ha up to 26 August.

• **Forecast**

An increasing number of hopper bands will form in the north where swarms were seen laying eggs in August. This could lead to the formation of new swarms from late September onwards.

Niger

• **Situation**

During August, numerous mature swarms from spring breeding areas in Northwest Africa continued to arrive on the Tamesna Plains south of Tassara (1650N/0550E) where they laid eggs. Some swarms were said to be large. Hatching commenced on 9 August and small hopper bands formed at densities

up to 10,000 hoppers/m^2. By the end of the month, some of the hoppers had reached fifth instar. Control operations treated 4,397 ha during August.

In the Air Mountains, scattered maturing solitarious and transiens adults were present in many wadis in the west and centre while only isolated adults were seen in the east. Some of the adults were copulating during the first week of August. In the northern part of the Sahel, adult groups at densities of up to 150 adults/m^2 were laying eggs and second to fifth instar hopper bands were present north of Zinder (1346N/0858E) during the last week of August.

• **Forecast**

Hopper bands will continue to develop in Tamesna and in the Sahelian zone and new swarms will start to form during September, first in the Sahel and then in Tamesna. Infestations are likely to spread into the northern part of Tamesna as well as into the Air Mountains. Some swarms may move towards the west and northwest by the end of the forecast period.

Chad

• **Situation**

Late reports indicated that several swarms appeared in late July in the west and centre of the country. On the 23rd, two swarms were seen coming from the west near Lac Chad at Mahana (1339N/1524E). On the 28th, a mature swarm was seen flying towards the southeast in Batha about 100 km north of Ati (1311N/1820E).

During August, a swarm was seen in the east near Kalait (1550N/2054E) flying towards the northeast on the 4th. Isolated immature adults were seen during surveys in nearby areas between Kalait and Fada (1714N/2132E) on the 5-13th. In the west, isolated mature adults were present at several places north of Lac Chad between Mao (1406N/1511E) and Nokou (1435N/1446E). One swarm was also reported in the area.

• **Forecast**

Breeding is likely to be in progress in the west near Lac Chad and in the northeast between Biltine and Fada. If so, hopper bands may be present in some areas during the forecast period and new swarms could start forming from early October onwards.

Cape Verde Islands

• **Situation**

On 5 August, a second wave of several swarms appeared in the eastern part of the archipelago. Swarms at densities up to 50 adults/m^2 were reported in northern Boa Vista, southern Maio, in the interior of Santiago, and on Fogo Island. These probably arrived on strong northeasterly winds from the western Africa coast.

• **Forecast**

There is a low to moderate risk of a few swarms arriving from summer breeding areas in West Africa during periods of easterly winds.

Nigeria

• **Situation**

A report of locusts in the north in mid-August was confirmed to be Tree Locust.

• **Forecast**

No significant developments are likely.

Gambia

• **Forecast**

Swarms are likely to arrive from the north from October onwards as the Inter-Tropical Convergence Zone moves southward.

Guinea Bissau

• **Forecast**

Some swarms could arrive from the north from October onwards as the Inter-Tropical Convergence Zone moves southward.

Guinea

• **Forecast**

Some swarms could arrive from the north from October onwards as the Inter-Tropical Convergence Zone moves southward.

Benin, Cameroon, Cote D'Ivoire, Ghana, Liberia, Nigeria, Sierra Leone and Togo

• **Forecast**

No significant developments are likely.

Algeria

• **Situation**

The situation in the spring breeding areas improved dramatically in early August. During the first decade of the month, only small residual populations of immature adult groups were present in the north near Sidi Bel Abbes (3617N/0056E). Similar populations were reported during the second decade in the west near Bechar (3135N/0217W) and Tindouf (2741N/0811W), and in the Central Sahara near Adrar (2753N/0017W). In the extreme south, numerous adults were reported

along the border with Mali and Niger. Control operations treated 7,019 ha on 1-20 August.

• **Forecast**

Small-scale breeding is expected to occur in the south in areas of recent rainfall between Tamanrasset and the borders of Mali and Niger. This could lead to the formation of hopper groups and bands in some areas. By the end of the forecast period, some swarms could appear in the southern and central Sahara from summer breeding areas in the Sahel.

Morocco

• **Situation**

The situation in the spring breeding areas improved dramatically in early August. Only small residual infestations of immature adults and swarms remained in a few places along the southern side of the Atlas Mountains near Ouarzazate (3057N/0650W) and Tata (2947N/0800W), and in the northeast near Oujda (3440N/0155W). Further south, small immature groups and swarms were seen near Guelmim (2859N/1003W) and the Awssard region (2240N/1410W) in the extreme southwest. Control operations treated 5,433 ha during August.

• **Forecast**

Low to moderate numbers of swarms are likely to appear in the Western Sahara from summer breeding areas in Mauritania from late September onwards. By the end of the forecast period, some of these may lay eggs in areas where breeding conditions are favourable. There is a risk that some swarms could reach as far north as the Draa Valley.

Libyan Arab Jamahiriya

• **Situation**

No reports received.

• **Forecast**

A few swarms from the summer breeding areas in the Sahel could appear in the southwest between Ghat and Ghadames from the end of the forecast period onwards.

Tunisia

• **Situation**

No reports received.

• **Forecast**

No significant developments are likely.

CENTRAL REGION

Sudan

• **Situation**

Scattered mature adults were present at three places north of En Nahud (1246N/2828E) in Northern Kordofan on 26-28 August. No locusts were seen north of El Obeid or in White Nile State. There was an unconfirmed report on 30 August of swarms in Northern Darfur 48 km from Tine (1501N/2249E).

• **Forecast**

Scattered adults are likely to be present and breeding on a small-scale in parts of Northern Kordofan and adjacent areas of White Nile and Khartoum States. Consequently, locust numbers could increase slightly during the forecast period. Although the threat of adult groups and swarms appearing in Darfur from Northwest Africa has now diminished, some locusts may have already arrived from adjacent areas of eastern Chad and could be breeding in areas of recent rainfall. All attempts should be made to clarify the situation in Darfur.

Eritrea

• **Situation**

No locusts were seen in the western lowlands near the Sudanese border during surveys carried out on 17-24 August.

• **Forecast**

Low numbers of locusts are likely to appear and breed on a small scale in the western lowlands.

Somalia

• **Situation**

No locusts were seen during surveys carried out on the plateau and escarpment between Boroma, Hargeisa and Berbera on 10-15 August.

• **Forecast**

Isolated adults may be present and could breed in areas of recent rainfall on the escarpment and plateau between Burao and Boroma.

Ethiopia

• **Situation**

No locusts were seen during surveys carried out between Dire Dawa and the Somali border on 1-4 August.

• **Forecast**

No significant developments are likely.

Djibouti

• **Situation**

No reports received.

• **Forecast**

No significant developments are likely.

Egypt

• **Situation**

No Desert Locusts were seen during the first half of August in the Western Desert.

• **Forecast**

Isolated Desert Locust may be present in some cropping areas and farms in the southern Western Desert and along the Lake Nasser shoreline. No significant developments are likely.

Saudi Arabia

• **Situation**

No locusts were reported during August.

• **Forecast**

No significant developments are likely.

Yemen

• **Situation**

Isolated mature adults and first to fourth instar hoppers were present at a few places in the summer breeding areas in the interior desert near Ataq (1435N/4649E) in mid August. No locusts were reported elsewhere between Al-Jawf and the Hadhramaut.

• **Forecast**

Small-scale breeding will cause locust numbers to increase slightly in the interior between Marib and Hadhramaut. Isolated adults may be present and persist in a few places on the Red Sea coastal plains.

Oman

• **Situation**

No locusts were reported in the northern and southern interior during August.

• **Forecast**

No significant developments are likely.

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

• **Forecast**

No significant developments are likely.

EASTERN REGION

Iran

• **Situation**

No locusts were seen on 27 August on the southeastern coast west of Chabahar.

• **Forecast**

No significant developments are likely.

Pakistan

• **Situation**

During the second half of July, isolated mature adults were present at a few places near the Indian border in Khairpur and Cholistan Deserts.

During the first half of August, isolated mature adults persisted in the above areas and similar populations were found in the southern part of Tharparkar Desert.

• **Forecast**

Locust numbers will increase in the summer breeding areas along the Indian border where small-scale breeding is expected to occur in areas of rainfall. No significant developments are likely.

India

• **Situation**

No locusts were reported during the second half of July and first half of August.

• **Forecast**

Scattered adults are likely to be present and breeding on a small-scale in areas of recent rainfall in Rajasthan. No significant developments are likely.

Afghanistan

• **Situation**

No reports received.

• **Forecast**

No significant developments are likely.

Announcements

Locust reporting. Affected countries are kindly reminded to make sure that all locust situation reports are sent to FAO HQ by the 28th day of the month so the information can be included in the FAO 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.

Reporting by e-mail. After each survey or control operation, affected countries should send completed *FAO Desert Locust Survey and Control Forms* or the RAMSES output file with a brief interpretation of the results by e-mail to eclo@fao.org.

Locust archives. Desert Locust reports received by FAO from affected countries from 1952 to the present are available on a series of four CDs in PDF. Please contact the Locust Group for more details.

Upsurge photos. Pictures of the current upsurge in the Western Region are available on the Internet at: www.fao.org/news/global/locusts/outbreakpix04.htm

Publications on the Internet. New FAO publications and meeting reports are available for downloading at www.fao.org/news/global/locusts/pubslist.htm:

- Contingency planning spreadsheets and simulations for outbreaks, upsurges and plagues (English, French)
- 8th Desert Locust Control Committee Technical Group meeting report (English, French)
- FAO Desert Locust Standard Operating Procedures (SOP) for survey, control and aerial operations (English, Arabic)
- FAO Desert Locust Guidelines – Arabic version in PDF is now available for downloading

2004-05 events. The following meetings are scheduled:

- **Donor meeting / Media briefing.** The FAO Director-General will chair a donor meeting and a media briefing, Rome, 21 September
- **EMPRES/CR.** 12th Liaison Officers meeting, Hurghada (Egypt), 9-13 October
- **Pesticide Referee Group.** 9th meeting, Rome, 18-21 October
- **Desert Locust Control Committee.** Extraordinary session, Rome 29 November – 2 December
- **EMPRES/WR.** 3rd Liaison Officers meeting, Dakar (Senegal), 13-17 December
- **SW Asia Commission.** 24th session, Delhi (India), January 2005

Press release. Several press releases on the current Desert Locust emergency have been recently issued by FAO. These are available at: http://www.fao.org/newsroom/en/index.html.

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

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

- period of deep recession marked by the complete absence of gregarious populations.

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.

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.

REGIONS

WESTERN

- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Niger, 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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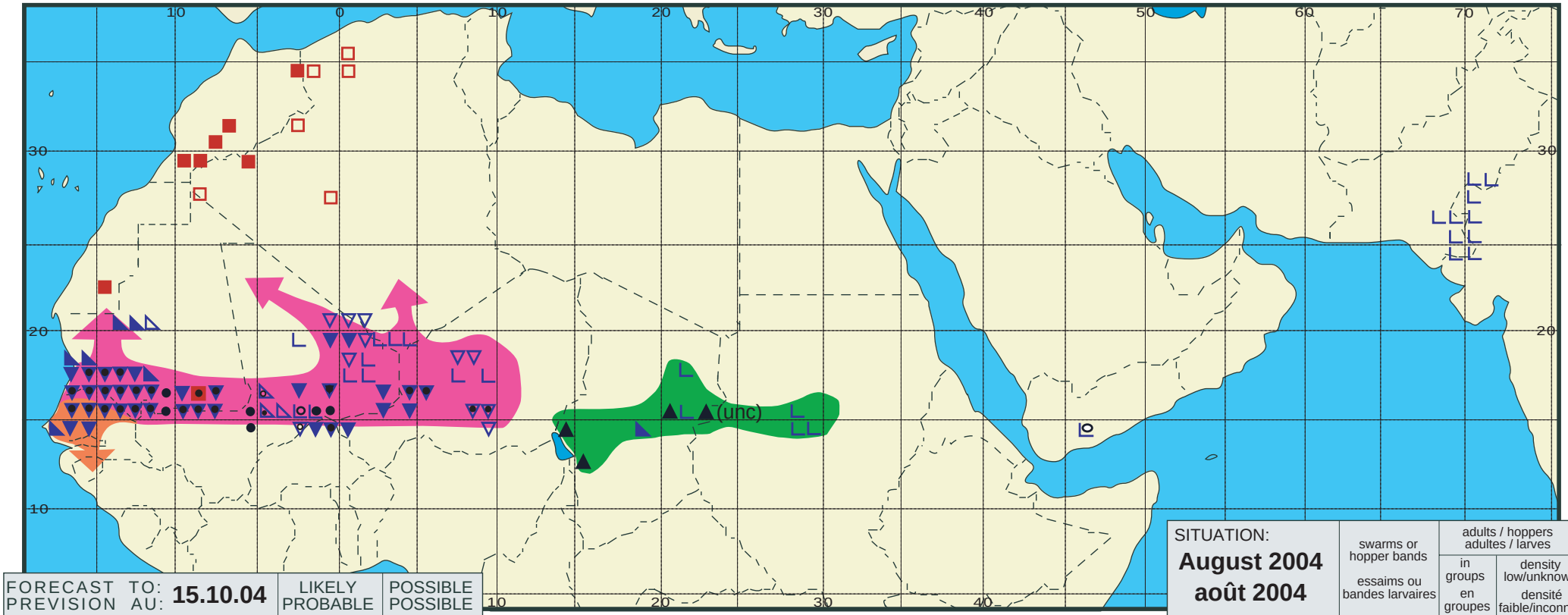

FORECAST TO: / PREVISION AU: **15.10.04**	LIKELY / PROBABLE	POSSIBLE / POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

SITUATION:
August 2004
août 2004

	swarms or hopper bands essaims ou bandes larvaires	adults / hoppers adultes / larves: in groups en groupes	adults / hoppers adultes / larves: 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)	◘	◙	⊜