

warning level: **CAUTION** (Yemen)

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 418



**General Situation during July 2013
Forecast until mid-September 2013**

(2 Aug 2013)

The Desert Locust situation improved during July as locust infestations declined in the northern part of the Central Region and in the spring breeding areas of Northwest Africa. Nevertheless, the situation remained serious in the interior of Yemen where breeding occurred, causing locust numbers to increase. Control operations were not possible due to insecurity. Low numbers of solitary adults appeared in the summer breeding areas of the Sahel in West Africa and Sudan, and along both sides of the Indo-Pakistan border. During the forecast period, small-scale breeding will cause locust numbers to increase in all of these areas.

Western Region. The locust situation remained calm in the Region during July. Locust numbers declined in the spring breeding areas of **Morocco** and **Algeria** due to hot, dry conditions and earlier control operations. On the other hand, solitary adults appeared in the summer breeding areas of the northern Sahel in **Mauritania**, **Chad**, and probably in **Mali** and **Niger** as well but this could not be confirmed in the absence of surveys. Local breeding continued in the southeastern Air Mountains in northern Niger. During the forecast period, small-scale breeding will occur in the summer breeding areas of Mauritania, Mali, Niger and Chad, causing locust numbers to increase.

Central Region. The situation remained calm in the Region during July except in **Yemen** where one

swarm reached Wadi Hadhramaut in the eastern part of the summer breeding area in the interior. Breeding during June and July caused locust numbers to increase in Yemen, and solitary and *transiens* hoppers and adults were present. Control operations were not possible due to insecurity. Locust infestations declined in the spring breeding areas of **Saudi Arabia** where only a few adult groups were reported. Scattered adults persisted in the Nile Valley in northern **Sudan** and low numbers of solitary adults appeared in parts of the summer breeding area but vegetation was slow to become green due to intermittent rains. In northern **Somalia**, there was an unconfirmed report of hoppers. No locusts were reported elsewhere in the Region. During the forecast period, locust numbers will increase in the summer breeding areas, mainly in Yemen and, to a lesser extent, in Sudan and western **Eritrea**. In Yemen, there is a risk that hopper and adult groups will form and perhaps a few small hopper bands and adult swarms.

Eastern Region. Low numbers of solitary adults appeared in the summer breeding areas along both sides of the Indo-Pakistan border during July. As ecological conditions improved due to good monsoon rains, small-scale breeding will occur in **India** and **Pakistan** during the forecast period and cause locust numbers to increase slightly.

The FAO Desert Locust Bulletin is issued every month by the Desert Locust Information Service, AGP Division (Rome, Italy). It is supplemented by Alerts and Updates during periods of increased Desert Locust activity. All products are distributed by e-mail and are available on the Internet.

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Weather & Ecological Conditions in July 2013

Breeding conditions continued to improve in the Sahel of West Africa but remained dry in Sudan. Conditions were favourable for breeding in the interior of Yemen and along both sides of the Indo-Pakistan border.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal northwards movement over the Sahel in West Africa in July, but its position was slightly further south than normal. In Mauritania, the ITCZ moved north steadily, causing good rains to occur and allowing vegetation to become green in the southeast and in northeast Trarza. In Mali and Niger, good rains fell in the north during the first decade as the ITCZ was further north than normal, and breeding conditions were improving. Good rains fell throughout the month in pasture areas of central Niger. In Chad, the ITCZ was located further south than normal. Consequently, rainfall did not reach beyond 15N, and vegetation was becoming green in the northeast up to Kalait but remained mainly dry in the west.

In the **Central Region**, the position of the ITCZ was further south than normal over Sudan during July. Consequently, rainfall remained south of 1430N (Hamrat Esh Sheikh and Umm Saiyala, North Kordofan), interrupting seasonal rains in the summer breeding areas after an early start in June, and slowing down the development of green vegetation. Light rains fell at times in parts of the summer breeding areas in the interior of Yemen, which should allow ecological conditions to continue to be favourable for breeding. Good rains also fell on the Red Sea coast of Yemen in early June. Mainly dry conditions prevailed elsewhere in the Region.

In the **Eastern Region**, monsoon rains continued to fall in the summer breeding areas along both sides of the Indo-Pakistan border during July. Above average rains occurred in eastern Rajasthan and Gujarat in India while average rains fell in western Rajasthan. Good rains also fell in adjacent areas of Pakistan in Cholistan and Tharparkar deserts. Consequently,

ecological conditions were favourable for breeding in both countries.



Area Treated

| | |
|--------------|---------------|
| Algeria | 15 ha (July) |
| Morocco | 796 ha (July) |
| Saudi Arabia | 760 ha (July) |



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During the last decade of June, no locusts were seen in the northwest.

During July, scattered solitarious adults were maturing in the southeast between Aioun El Atrous (1639N/0936W) and the Mali border, and in Trarza northeast of Aguilal Faye (1827N/1444W). No locusts were seen elsewhere in the south or in the northwest.

• FORECAST

Small-scale breeding will cause locust numbers to increase in the south and southeast.

Mali

• SITUATION

No surveys were carried out and no locusts were reported during July.

• FORECAST

Small-scale breeding will cause locust numbers to increase in the Adrar des Iforas, Tilemsi Valley and Tamesna.

Niger

• SITUATION

During the first week of July, isolated solitarious hoppers and adults continued to be present mixed with a few late instar hopper groups, copulating adults and hatchlings in the Air Mountains southeast of Timia (1809N/0846E). No surveys were carried out in the Tamesna.

• FORECAST

Small-scale breeding will cause locust numbers to increase in Tamesna and in the pasture areas between Tahoua and Tanout. Small infestations may persist in the Air Mountains.

Chad

• SITUATION

During July, isolated mature solitary adults were present in Kanem near Nokou (1435N/1446E) and Salal (1448N/1712E), in Batha north of Djedaa (1331N/1834E), and in the northeast near Kalait (1550N/2054E) and north of Fada (1714N/2132E).

• FORECAST

Small-scale breeding will cause locust numbers to increase in Kanem, Batha, Biltine and the northeast.

Senegal

• SITUATION

No surveys were carried out and no locusts were reported during July.

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

Algeria

• SITUATION

During July, small groups of late instar solitary hoppers and immature adults were present near irrigated crops in the Adrar (2753N/0017W) area of the central Sahara. Ground teams treated 15 ha in July. No locusts were seen elsewhere near Bechar (3135N/0217W), Illizi (2630N/0825E), and Tamanrasset (2250N/0528E).

• FORECAST

Small-scale breeding may cause locust numbers to increase in the extreme south along the borders of Mali and Niger.

Morocco

• SITUATION

During the first two decades of July, small groups of fifth instar hoppers, fledglings and immature adults at densities up to 6,500 adults/ha persisted at several places south of the Atlas Mountains near Guelmim (2859N/1003W). Ground teams treated 796 ha in July.

• FORECAST

Locust numbers will continue to decline near Guelmim. No significant developments are likely.

Libya

• SITUATION

No reports were received during July.

• FORECAST

No significant developments are likely.

Tunisia

• SITUATION

No surveys were carried out and no locusts were reported during July.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During July, scattered immature and mature solitary adults persisted in a few irrigated schemes in the Nile Valley near Merowe (1830N/3149E) and Abu Hamed (1932N/3320E), and along the Atbara River. Small-scale breeding occurred southeast of Selima Oasis (2122N/2119E) in the Libyan Desert near Egypt. In the summer breeding areas, mature solitary adults were seen northwest of Khartoum in Wadi Muqaddam and near Eritrea between Kassala (1527N/3623E) and Derudeb (1731N/3607E).

• FORECAST

Small-scale breeding will cause locust numbers to increase in Darfur, Northern Kordofan, White Nile, Khartoum and Kassala states.

Eritrea

• SITUATION

No surveys were carried out and no locusts were reported during July.

• FORECAST

Small-scale breeding will cause locust numbers to increase in the western lowlands.

Ethiopia

• SITUATION

No surveys were carried out and no locusts were reported during July.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No surveys were carried out and no locusts were reported during July.

• FORECAST

No significant developments are likely.



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Somalia

• SITUATION

In late July, there was an unconfirmed report of hopper infestations on the plateau east of Hargeisa (0931N/4402E) in the Odweyne (0923N/4503E) area.

• FORECAST

Scattered hoppers and adults may be present in parts of the plateau between Hargeisa and Burao where breeding may have occurred in areas of previous rainfall.

Egypt

• SITUATION

In July, no locusts were seen during surveys carried out on the Red Sea coast near Abu Ramad (2224N/3624E) and in the Allaqi area near Lake Nasser.

• FORECAST

No significant developments are likely.

Saudi Arabia

• SITUATION

In early July, groups of mature gregarious adults were copulating near several irrigated farms in Wadi Dawasir (2028N/4747E) on the western edge of the Empty Quarter. Control teams treated 760 ha. No locusts were seen further north near Gassim (2621N/4358E).

• FORECAST

Small-scale breeding may occur in Wadi Dawasir and a few hopper groups could form in cultivated areas during August.

Yemen

• SITUATION

In early July, a maturing swarm of about 1 km² in size was seen in the Wadi Hadhramaut area of the interior near Wadi Huraidha (1535N/4811E) on the 3rd. Thereafter, scattered immature and mature adults were present in a few places on the plateau to the northeast near Thamud (1717N/4955E) and Remah (1727N/5034E). Small-scale breeding occurred south of Thamud where hoppers of all instars were present. On the western edge of the interior desert, solitary and *transiens* hoppers of all instars were present at densities up to 15 hoppers/m² from undetected breeding in June that continued into July between the Saudi Arabian border and Ataq (1435N/4649E).

Solitary and *transiens* adults were maturing at densities up to 2,000 adults/ha in these areas. Hopper densities were highest near Marib (1527N/4519E) while adult densities were greatest between Bayhan (1452N/4545E) and Ataq. Control operations could not be conducted due to insecurity.

• FORECAST

Locust numbers will continue to increase in Al Jawf, Marib, Shabwah and Hadhramaut, including the Thamud plateau, where small groups of hoppers and adults and perhaps a few bands and swarms are likely to form.

Oman

• SITUATION

In July, no locusts were seen during surveys carried out in the northern interior near Adam (2223N/5731E).

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

EASTERN REGION

Iran

• SITUATION

During July, no locusts were seen along the coast near Bushehr (2854N/5050E), Jask (2540N/5746E) and Chabahar (2517N/6036E).

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

During July, more locusts appeared in Cholistan where isolated mature solitary adults were seen at 31 places, mainly southeast of Rahimyar Khan (2822N/7020E) along the Indian border. A few isolated mature adults were seen west of Karachi near Uthal (2548N/6637E). No locusts were seen in the Tharparkar Desert.

• Forecast

Small-scale breeding will cause locust numbers to increase in Cholistan and Tharparkar, and to a lesser extent in the Uthal area.

India

• SITUATION

During July, scattered immature and mature solitary adults were present in a few places of Rajasthan near the Pakistan border west of Bikaner (2801N/7322E) and southwest of Sam (2649N/7030E).

- **FORECAST**

Small-scale breeding will cause locust numbers to increase in Rajasthan and Gujarat.

Afghanistan

- **SITUATION**

No reports received.

- **FORECAST**

No significant developments are likely.



Announcements

Desert Locust warning levels. A colour-coded scheme indicates the seriousness of the current Desert Locust situation: green for *calm*, yellow for *caution*, orange for *threat* and red for *danger*. The scheme is applied to the Locust Watch web page and to the monthly bulletin's header. The levels indicate the perceived risk or threat of current Desert Locust infestations to crops and appropriate actions are suggested for each level.

Locust reporting. During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLLO Desert Locust Information Service (ecllo@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/index.html)

- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devocast.eu/user/images/dl/Form.do>)
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOCUS T**witter. The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

New information on Locust Watch. Recent additions to the web site (www.fao.org/ag/locusts) are:

- **National meteorological services.** Information section – Links

eLocust3. A demonstration version is available for viewing and downloading at Slideshare in:

- English: <http://www.slideshare.net/FAOLocust/elocust3-a-preview>
- French: <http://www.slideshare.net/FAOLocust/elocust3f-a-preview-french-version>
- Arabic: <http://www.slideshare.net/FAOLocust/elocust3-a-preview-arabic-version>

2013 events. The following activities are scheduled or planned:

- **CLCPRO.** Pesticide Stock Management System regional workshop, 5-21 September, Agadir (Morocco)
- **CRC.** 8th sub-regional training course on Desert Locust control operations, 8-12 September, Oman
- **CLCPRO.** Health and Environmental Standards regional workshop, 16-20 September, Dakar (Senegal)



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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 km² • band: 1 - 25 m²

SMALL

- swarm: 1 - 10 km² • band: 25 - 2,500 m²

MEDIUM

- swarm: 10 - 100 km² • band: 2,500 m² - 10 ha

LARGE

- swarm: 100 - 500 km² • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km² • 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.

WARNING LEVELS

GREEN

- Calm. No threat to crops. Maintain regular surveys and monitoring.

YELLOW

- Caution. Potential threat to crops. Increased vigilance is required; control operations may be needed.

ORANGE

- Threat. Threat to crops. Survey and control operations must be undertaken.

RED

- Danger. Significant threat to crops. Intensive survey and control operations must be undertaken.

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, Guinea and Guinea-Bissau.

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.



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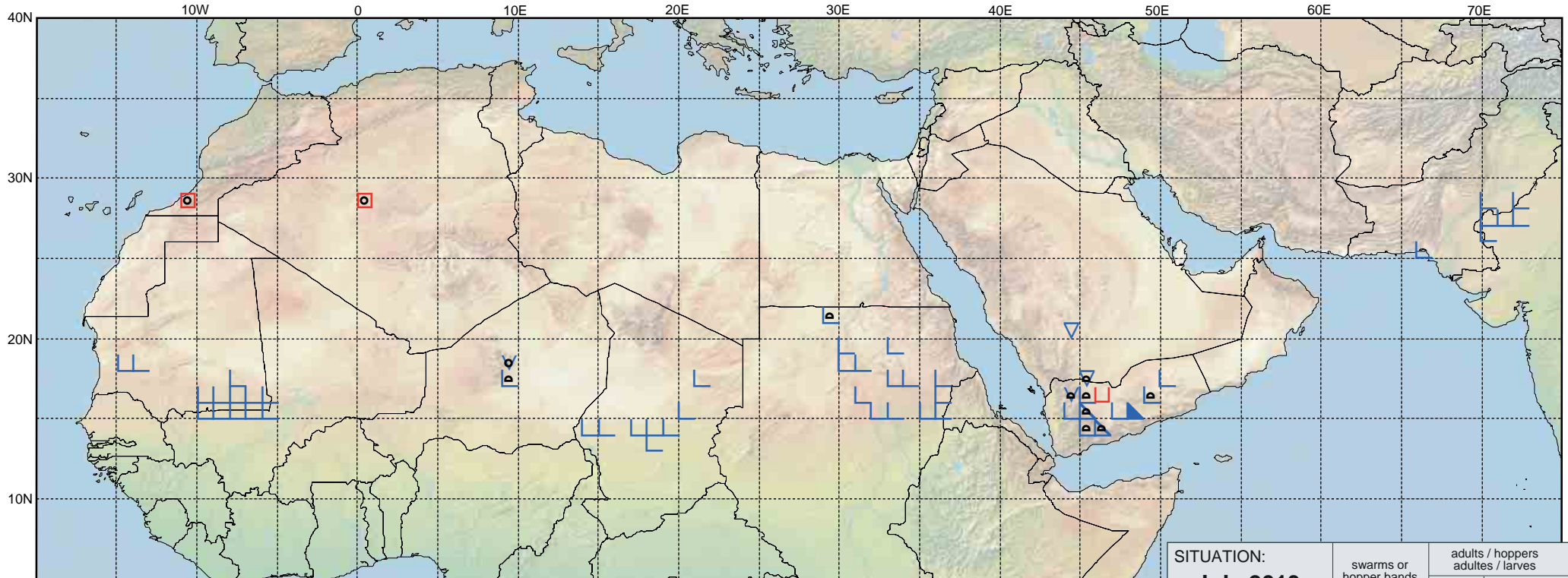
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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| | | | |
|---|-----------------|--------------------|----------------------|
| FORECAST TO: PREVISION AU: | 15.08.13 | LIKELY PROBABLE | POSSIBLE POSSIBLE |
| favourable breeding conditions conditions favorables à la reproduction | | | |
| major swarm(s) essaim(s) important(s) | | | |
| minor swarm(s) essaim(s) limité(s) | | | |
| non swarming adults adultes non essaimant | | | |

| | | | |
|---|---|--------------------------------------|--|
| SITUATION: July 2013 juillet 2013 | 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) | | | |