MOSQUITOES COLLECTED IN SOUTHERN SINAI

[*Diptera*]

(with 3 Text-Figures)

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Out of the 26 species of mosquitoes occuring in Egypt, four of them are only found in the Sinai. These are *Anopheles turkhudi* Liston, *Anopheles rupicolus* Lewis, *Culex sinaiticus* Kirk., and *Culex arbieeni* Salem. Two other species, *Anopheles superpictus* Grassi and *Anopheles dthali* Patton, are rare in the Nile Valley and in the Libyan Oases, but are of frequent occurrence in the Sinai.

The following notes concern the material (eggs, larvae and adults) collected in November 1955 during a trip to El-Tor and the Monastry of St. Cathrine.

Anopheles (Myzomyia) rupicolus Lewis

A species described from the Sudan in 1937. *Anopheles aegypti* Salem, described in 1938 from Wadi Taba in Sinai, is similar to *ripicolus* Lewis.

Several fourth-stage larvae were collected from a small collection of water at Wadi Feiran Oases. The breeding place was circular, about a meter in diameter, deprived of vegetation, and was swarming with *Theobaldia longiareolata* Macquart larvae which were visible to the naked eye in the very clear water. *Culex deserticola* Kirk. and *Anopheles dthali* Patton were also found in the same place, though in a lesser quantity.

The larvae of *Anopheles rupicolus* Lewis and of *Anopheles sergenti* Theo. are very much alike and, to our opinion, the three taxonomic characters given by SALEM in his key to the larvae of Egyptian species (included in SMART's key to the larvae of the Palaearctic Region, 1948) were found to be unsatisfactory. Firstly, the number of teeth (7 and 9) occuring on the mentum in the two species does not seem to be a reliable character. As to the second character, no constant difference in the length of the anal gills in the two species was observed. This is quite in agreement with KETTLE's (1948) view regarding the size of the anal gills in *Anopheles sergenti*. He concludes that although under certain conditions the length of the

gills may prove to be a usefulspecific character, yet it is unlikely to be a critical one. The third character given by SALEM, viz. the presence of the posterior tergal plate on the second to the seventh segments in *Anopheles rupicolus* and on the third to the seventh segments in *Anopheles sergenti*, is more reliable though in a few larvae the posterior tergal plates were found to occur on segment II in the latter species. The markings on the head in the two species, however, can afford an important character for the separation of the two species. In the fourth-stage larvae of *Anopheles sergenti* collected in the Oases of the Libyan Desert and in the Sinai, there exists invariably a distinct transverse dark band just posterior to the frontal

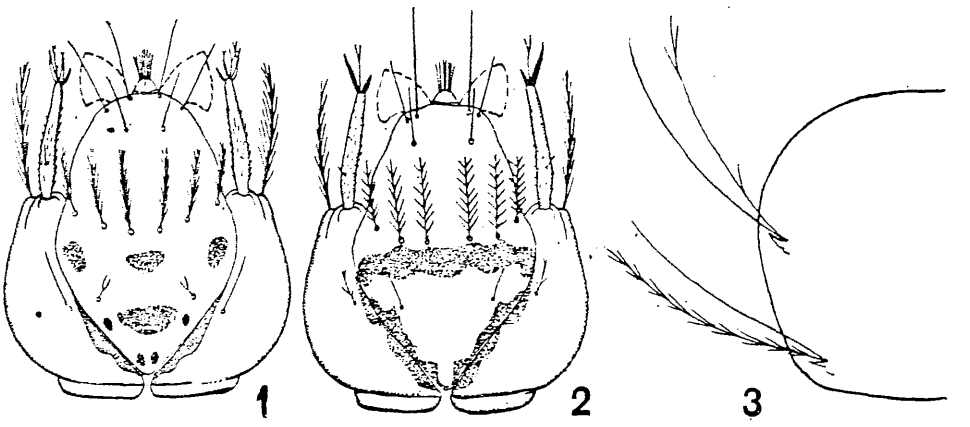

FIG. 1 : Head of *Anopheles rupicolus* larva (after SALEM, 1938). — FIG. 2: Head of *Anopheles sergenti* larva (original). — FIG. 3 : Splitting in the anterior mesopleural hair of *Anopheles dthali* larva.

hairs, while in *Anopheles rupicolus* this band is either absent or reduced to three spots and, moreover, these spots, when present, lie posterior to the frontal hairs (Figs. 1 and 2). The clypeal hairs, in both larvae, are usually simple, but the occurance of one lateral branch or the splitting of one hair at its end are not uncommon.

Anopheles (Myzomyia) dthali Patton

Recorded by KIRKPATRICK (1925) from North and North-East Sinai, under the name of *Anopheles rhodesiensis* Theo., and by SALEM (1938) from Southern Sinai (Wadi Isla and Arbieen). Larvae were found at El-Tor (Eldeesa) in January, 1951, in brackish seepage water together with larvae of *Anopheles multicolor*. In November 1955, the same place was visited again, but only *Anopheles multicolor* larvae were found. In Wadi Feiran Oases, *Anopheles dthali* larvae were found breeding in the same place described above for *Anopheles rupicolus* larvae.

Anopheles dthali larvae were found to correspond closely with the description given in EVANS (1938) and SALEM (1938), but the following two features were observed :

1. — Splitting of the anterior long mesopleural hair along its whole length was noticed in some specimens. In some larvae the splitting was found to occur 2 or 3 times, so that such hair appears to have up to four lateral branches. and thus the character of the hair was mashed (Fig. 3); but other characters, including the mesopleural hairs on the other side of the same larvae. usually ascertain the identification.

2. — The paired accessory tergal plates were found to occur very distinctly on abdominal segments 1-VII, while the posterior tergal plates occui on segments III-VII, thus each segment of segments I and II possesses an anterior tergal plate and a pair of accessory plates, but no posterior tergal plate.

Anopheles (Myzomyia) multicolor Camb.

Previously recorded from North and North East Sinai. In Southern Sinai, it was found at Eldeesa (near El-Tor) in a brackish seepage water, together with *Anopheles dthali* and *Culex deserticola* Kirk. Ribbons containing *Anopheles multicolor* eggs were also found in abundance floating on the surface of the water and visible to the naked eye. The important character or this egg is the absence of floats, characteristic of most anopheline eggs. Other *Anopheles multicolor* larvae were found in a running narrow stream at Wadi Feiran Oases together with few *Anopheles sergenti* larvae. The water in the stream was flowing from a spring and contained algae and other green vegetation. Several stones and reeds were present in the water and found to harbour numerous *Simulium* larvae and pupae.

Anopheles (Myzomyia) sergenti Theo.

First recorded in Sinai, at Ain Musa, by KIRKPATRICK (1924). Subsequently found by SALEM (1938) in North-East Sinai. At El-Tor, larvae occured in streams flowing from springs, in January 1951. The same breeding places were visited again in November 1955 and proved to be free of mosquito larvae. Few larvae were also found at Wadi Feiran Oases.

Theobaldia longiareolata Macq.

KIRKPATRICK found this species in North Sinai. At El-Tor, it was collected in wells and cisterns, and at Wudi Feiran Oases it was abundant in a small collection of surface water (see above) together with *Anopheles rupicolus*, *Anopheles dthali*, and *Culex deserticola*.

Aedes caspius (Pallas)

Previously recorded from Bir Fuwara by KIRKPATRICK. Larvae were found in brackish seepage water in Eldeesa (near El-Tor) together with *Anopheles multicolor* larvae.

Culex deserticola Kirk.

This is the first record of this species in Sinai. It was described from the Eastern Desert of Egypt (KIRKPATRICK, 1925) and subsequently found in all oases of the Libyan Desert (GAD, 1956). In Sinai, it occured at El-Tor in brackish seepage water, and at Wadi Feiran Oases in the breeding place swarming with *Theobaldia longiareolata.*

Culex pipiens L.

The only previous record of this species in Sinai is from El-Arish and Bir Fuwara, east of Ismailia (KIRKPATRICK). At El-Tor, it was found breeding in abundance in wells common in the yards of houses where numerous egg rafts were also present.

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