

The Occurrence of *Psorophora cingulata*
and *Uranotaenia apicalis* in Guatemala
(Diptera, Culicidae)

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ABSTRACT. *Psorophora cingulata* was known from Guatemala by two females collected in 1956. Now an additional six are being reported with their distribution. *Uranotaenia apicalis* has been taken from Honduras and Panama in Central America. Now it is being reported from Guatemala for the first time.

In an ongoing study of the culicid fauna of Guatemala, Darsie and Hobbs (1982) reported two members of the subgenus *Melanoconion*, *spissipes* (Theobald) and *chrysonotum* Dyar & Knab. Two additional species are being reported here, one, *Uranotaenia apicalis* Theobald, for the first time.

Psorophora (Grabhamia) cingulata (Fabricius 1805)

De Rodaniche and Galindo (1957) reported identifying two females from the Motagua River Valley, Department of Izabal, Guatemala, collected in 1956. Knight and Stone (1977) expressed some doubt about its presence in Central America even though Dyar (1928) had listed it from Nicaragua. Lane (1953) recorded Central America in its distribution without specifying any country.

More recently, in detailed accounts of collections of the project "Mosquitoes of Middle America" in the Middle America region, Heinemann and Belkin reported it from Nicaragua (1977b), Costa Rica (1977a) and Panama (1978a). In all cases the adults were taken either coming to humans or by captures in CDC miniature light traps in forested areas. Belkin, Schick and Heinemann (1965) designated Cayenne, French Guiana, as the type locality and Belkin (1968) selected the lectotype for the species. Heinemann and Belkin (1977a, b, c, 1978a) referred to their specimens as belonging to the *cingulata* "group." Belkin, Heinemann and Page (1970) stated that there are at least six species in the group, some as yet undescribed.

Five females have been captured in Guatemala during 1981 as follows: the first was collected with an aspirator during a night capture in a cow stable on

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Finca El Milagro, Municipality of Morales, Department of Izabal, September 22, 1981, at an elevation of 50 m. The second was caught in a CDC light trap in a secondary forest on Finca Rio Frio, Municipality of Livingston, Department of Izabal, November 14, 1981, at an elevation of 250 m. Three more females were trapped in a forested area 27 km east of Poptún, Department of Petén, November 23, 1981. The association of this species with forest in Guatemala concurs with the observations of Heinemann and Belkin (1977a, b, c; 1978a).

Comparing the morphology of these specimens with descriptions given by Howard, Dyar and Knab (1917), Dyar (1928), and Lane (1953), I can see no appreciable differences. It is here considered to be the typical species, *Psorophora (Grabhamia) cingulata* (Fabricius), pending revision of the *cingulata* group. It is only the second species of the subgenus *Grabhamia* to be reported from Guatemala, the other being *Ps. confinnis* Lynch Arribalzaga. I am indebted to Dr. Charles H. Porter for the collections from Finca Rio Frio and Poptún and to Dr. Pedro Galindo for calling my attention to the 1956 records.

Uranotaenia (Uranotaenia) apicalis Theobald 1903

In their revision of the American species of *Uranotaenia* Galindo, Blanton and Peyton (1954) reported having specimens of *apicalis* from Honduras and Panama in the Central American region. The type locality of the species is the Caribbean island of Antigua. More recently Heinemann and Belkin reported collections from Costa Rica (1977a, as *Ur.* near *apicalis*), Panama (1978a), Colombia (1978c), Venezuela, French Guiana, Guyana and Surinam (1978b) and Brazil (1979 in Belem). In this circum-Caribbean distribution, Guatemala now appears to be its northern limit in Central America.

Two females were captured in CDC light traps at Finca La Sirena, Municipality of Livingston, Department of Izabal, August 1, 1981. The traps were operated in mangrove trees located at the edge of a small lagoon branching off Rio Dulce, 18 km inland from the Caribbean Sea at an elevation of 30 m. Other species collected during the same period at Finca La Sirena have been listed by Darsie and Hobbs (1982).

The specimens are similar to the description given by Galindo, Blanton and Peyton (1954). The dark band on the fourth hindtarsomere is broad and the scutum has a small patch of blue scales just anterior to the prescutellar area. Abdominal terga III and V have complete apical, pale-scaled bands, and terga II and VI have apicolateral pale patches, while tergum IV is entirely dark-scaled.

A publication on the mosquitoes of Guatemala² that includes identification keys to adult females and fourth stage larvae of all species known to occur in

²The mosquitoes of Guatemala, their identification, distribution and bionomics with keys to adult females and larvae in English and Spanish by Stephanie Clark Gil and Richard F. Darsie, Jr. (in preparation).

the country is in preparation. Since these two species were discovered after the completion of that study, given below are parts of those keys with additional couplets so that *Ps. cingulata* and *Ur. apicalis* can be identified taking into consideration the total Guatemalan mosquito fauna.

Psorophora cingulata:

Adult female:

- 5(1). Tarsal claws simple; tibiae speckled with white scales; proboscis with distinct ring of pale scales or with pale scales ventrally 5A
- Tarsal claws toothed; tibiae uniformly dark-scaled; proboscis without pale scales 6
- 5A. Wings with scales all dark; proboscis with narrow ring of pale scales, about 0.1 of total length *cingulata*
- Wings with pale and dark scales intermixed; proboscis with wide ring of pale scales, about 0.3 of total length *confinnis*

Fourth Stage Larva:

- 5(1). Antenna shorter than length of head 5A
- Antenna as long as or longer than length of head 6
- 5A. Seta 6-C single; median spine of comb scale 2.0 longer than longest subapical spine *cingulata*
- Seta 6-C with 3 or more branches; median spine of comb scale 4.0 longer than longest subapical spine *confinnis*

Uranotaenia apicalis:

Adult Female:

- 4(3). Hindtarsomere 4 entirely pale-scaled; abdominal terga with median triangular spot of pale scales on each segment *geometrica*
- Hindtarsomere 4 with median dark-scaled band; abdominal terga III and V with complete apical pale band 4A

- 4A. Scutum with narrow median stripe of blue scales extending from anterior margin to prescutellar area *pulcherrima*
- Scutum with small spot of blue scales in front of prescutellar area *apicalis*

Fourth Stage Larva:

- 3(1). Seta 14-P single 3A
- Seta 14-P with 3 or more branches 4
- 3A. Seta 13-C long, stout, multibranched, as long as seta 6-C *apicalis*
- Seta 13-C short, weak, multibranched, much less than 0.5 as long as 6-C *geometrica*

LITERATURE CITED

- Belkin, J. N. 1968. Mosquito Studies (Diptera, Culicidae). IX. The type specimens of New World mosquitoes in European Museums. Contr. Amer. Ent. Inst. 3(4):1-69.
- Belkin, J. N., S. J. Heinemann and W. A. Page. 1970. The Culicidae of Jamaica. Mosquito Studies (Diptera, Culicidae). XXI. Contr. Amer. Ent. Inst. 6(1): 1-458.
- Belkin, J. N., R. X. Schick and S. J. Heinemann. 1965. Mosquito Studies (Diptera, Culicidae). V. Mosquitoes originally described from Middle America. Contr. Amer. Ent. Inst. 1(5):1-95.
- Darsie, R. F., Jr. and J. H. Hobbs. 1982. First report of *Culex chrysonotum* and *Culex spissipes* in Guatemala (Diptera, Culicidae). Mosq. Syst. 14: 73-77.
- de Rodaniche, E. and P. Galindo. 1957. Isolation of yellow fever virus from *Haemagogus mesodentatus*, *H. equinus* and *Sabethes chloropterus* captured in Guatemala in 1956. Amer. Jour. Trop. Med. Hyg. 6:232-237.
- Dyar, H. G. 1928. The mosquitoes of the Americas. Carnegie Inst. Wash. Publ. No. 387, 616 pp.
- Galindo, P., F. S. Blanton and E. L. Peyton. 1954. A revision of the *Uranotaenia* of Panama with notes on other American species of the genus (Diptera, Culicidae). Ann. Ent. Soc. Amer. 47:107-177.

- Heinemann, S. J. and J. N. Belkin. 1977a. Collection records of the project "Mosquitoes of Middle America." 7. Costa Rica (CR). Mosq. Syst. 9: 237-287.
- _____. 1977b. Collection records of the project "Mosquitoes of Middle America." 8. Central America: Belize (BH), Guatemala (GUA), El Salvador (SAL), Honduras (HON), Nicaragua (NI, NIC). Mosq. Syst. 9:403-454.
- _____. 1977c. Collection records of the project "Mosquitoes of Middle America." 9. Mexico (MEX, MF, MT, MX). Mosq. Syst. 9:483-535.
- _____. 1978a. Collection records of the project "Mosquitoes of Middle America." 10. Panama, including Canal Zone (PA, GG). Mosq. Syst. 10: 119-196.
- _____. 1978b. Collection records of the project "Mosquitoes of Middle America." 11. Venezuela (VZ); Guianas: French Guiana (FG, FGC), Guyana (GUY), Surinam (SUR). Mosq. Syst. 10:365-459.
- _____. 1978c. Collection records of the project "Mosquitoes of Middle America." 12. Colombia (COA, COB, COL, COM). Mosq. Syst. 10:493-539.
- _____. 1979. Collection records of the project "Mosquitoes of Middle America." 13. South America: Brazil (BRA, BRAP, BRB), Ecuador (ECU), Peru (PER), Chile (CH). Mosq. Syst. 11:61-118.
- Howard, L. O., H. G. Dyar and F. Knab. 1917. The mosquitoes of North and Central America and the West Indies. Vol. IV, pp. 525-1064.
- Knight, K. L. and A. Stone. 1977. A catalog of the mosquitoes of the World (Diptera: Culicidae). Second Edition. Thomas Say Found. VI, 611 pp.
- Lane, J. 1953. Neotropical Culicidae. Sao Paulo, Univ. Sao Paulo. Vol. 2, pp. 553-1112.