

First Report of *Culex chrysonotum* and *Culex spissipes*  
in Guatemala (Diptera, Culicidae)

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ABSTRACT: This is the first record of the occurrence of *Culex chrysonotum* Dyar & Knab and *Culex spissipes* (Theobald) in Guatemala. They were collected as adults in traps and as immatures from fresh-water ground pools. Their recognition and collection data are given.

A group of three species in the *Culex* subgenus *Melanoconion* are easily recognized in the adult stage by the presence of a large spot of golden scales on the scutum. They are *Cx. chrysonotum* Dyar & Knab 1908, *Cx. spissipes* (Theobald 1903) and *Cx. theobaldi* (Lutz 1904). Of these, the former two are known to occur in Mexico, Honduras and Panama (Knight and Stone 1977; Vargas 1956; Rozeboom and Komp 1950). *Cx. chrysonotum* has also been reported from Belize, Nicaragua and Costa Rica by Heinemann and Belkin (1977a, b). With this known distribution it is not surprising that *Cx. chrysonotum* and *Cx. spissipes* have now been collected in Guatemala. Their separation was accomplished by following the original descriptions given in Howard et al. (1915) and by information given to us by Heinemann (1981 in litt.).

*Culex (Melanoconion) chrysonotum* Dyar & Knab

DISTRIBUTION: GUATEMALA, DEPT. OF IZABAL, Municipality of Livingston, Rio Dulce, Finca La Sirena, VIII-19-81, 6F, 4M, R. F. Darsie.

RECOGNITION: Females of *Cx. chrysonotum* have a large golden scaled mesoscutal spot covering an average of 77% of the scutum and without dark scales on the fossa; the occiput is covered dorsally with narrow, curved, golden, appressed scales, and with at least some of the median erect scales yellow to golden in color; the upper mesokatepisternal setae have broad pale scales around their bases (one female lacks these scales); the ventral side of the hindtibia and sometimes the first hindtarsomere has pale scales, often in a line; the basolateral pale-scaled tergal spots of the abdomen are large, sometimes visible

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dorsally; the abdominal sterna are distinctly bicolored with an apical dark-scaled band and basal light yellow band.

The male genitalia agree completely with the description given by Rozeboom and Komp (1950).

COLLECTION DATA: Three males and six females were reared from larvae collected in a ground pool about 6 meters in diameter containing rain water and emergent grassy vegetation around the edges. The pool was located on a cattle ranch 1 kilometer east of the shore of Rio Dulce. This area is 30m above sea level and has an annual average rainfall of 3000 mm. A similar larval habitat was reported by Dyar (1928). One male was collected in a CDC light trap hung not far from the larval biotope. Other species associated with it were: in the trap - *Anopheles punctimacula* Dyar and Knab; in the pool - *Anopheles albimanus* Wiedemann and *Cx. erraticus* (Dyar and Knab). Many other collections were also made at Finca La Sirena. The other species found in this area at the same time as *Cx. chrysonotum* as a result of various sampling methods were: *Aedeomyia squamipennis* (Lynch Arribalzaga), *Anopheles punctimacula* Dyar and Knab, *An. vestitipennis* Dyar and Knab, *Chagasia bathana* (Dyar), *Coquillettidia venezuelensis* (Theobald), *Culex panocossa* Dyar, *Cx. pedroi* Sirivanakarn and Belkin, *Cx. quinquefasciatus* Say, *Cx. taeniopus* Dyar and Knab, *Mansonia dyari* Belkin, Heinemann and Page, *Ma. titillans* (Walker), *Psorophora cilipes* (Fabricius), *Ps. confinnis* (Lynch Arribalzaga), *Uranotaenia geometrica* Theobald, *Ur. Lowi* Theobald and *Ur. orthodoxa* Dyar.

SYSTEMATICS: *Culex chrysonotum* was described by Dyar and Knab in 1908 from specimens collected at Ancon, Panama Canal Zone. It was listed as a synonym of *Cx. theobaldi* by Bonne and Bonne-Wepster (1925), transferred to synonymy with *Cx. spissipes* by Lane (1951, 1953). It was considered as a valid species by Rozeboom and Komp (1950), who described its male genitalia, and concurred by Foote (1956) and Takahashi (1968). Rozeboom and Komp (1950) and Foote (1956) considered *Cx. aurilatus* Senevet and Abonnenc 1939, as a synonym of *Cx. chrysonotum*.

*Culex (Melacononion) spissipes* (Theobald 1903)

DISTRIBUTION: GUATEMALA, DEPT. OF IZABAL, Municipality of Morales, Mariscos, IV-22-81, 2F, J. H. Hobbs, R. F. Darsie; Finca El Milagro, IX-22-81, 1 ♀, R. F. Darsie; Satellite, XI-18-81; 1 ♀, R. F. Darsie; Municipality of Livingston; Finca La Sirena, Rio Dulce, VIII-1-81, 2 ♀, R. F. Darsie; Cooperative San Felipe, VIII-18-81, 1 ♀; IX-8-81, 4 ♀, C. H. Porter.

RECOGNITION: The females collected in Guatemala have a smaller mesoscutal golden-scaled spot, covering an average of 63% of the scutum, and the scutal fossa in six of the 11 specimens is partially covered with dark or coppery-

colored scales; the occiput is clothed dorsally with narrow, brown, curved appressed scales and all of the erect scales are also brown; the upper mesokatepisternal setae do not have scales at their bases; the hindtibia and hindtarsomere are entirely dark-scaled; the abdominal terga have very small, basolateral pale-scaled spots, composed of only a few scales, not visible dorsally; the abdominal sterna are not bicolored, but uniformly clothed with yellowish scales or mixed with some dark scales in no particular pattern.

No males of *spissipes* have yet been taken in Guatemala.

COLLECTION DATA: While operating a calf-baited net trap at Mariscos in a planting of adult rubber trees, two females were captured inside the trap, replete with blood. Mariscos is on the shore of a large lake, about 19 km wide and 38 km long, Lago de Izabal. Two females were captured at Finca La Sirena in a CDC miniature light trap hung in dense mangrove at the edge of a small lagoon connected to Rio Dulce on its eastern shore.

The remainder of the females were also captured in CDC light traps, hung in rubber or citrus groves (Satelite and El Milagro) or secondary forest (San Felipe). All the localities have an elevation of less than 60 m. above msl. and in an area with an average annual rainfall of 2000 mm.

By far the most common species associated with *Cx. spissipes* in the same animal-baited trap collection was *Ae. angustivittatus* Dyar and Knab, but also present in smaller numbers were *Ae. scapularis* (Rondani), *Cx. bastagarius* Theobald, *Cx. corniger* Theobald, *Cx. coronator* Dyar and Knab, *Cx. inflictus* Theobald, *Cx. nigripalpus* Theobald, *Ma. titillans* (Walker), *Ps. confinnis* (Lynch Arribalzaga) and *Wy. guatemala* Dyar and Knab.

Takahashi (1968) reported that the larval habitat of this species is shaded swampy forests in Trinidad.

SYSTEMATICS: *Culex spissipes* was described by Theobald (under genus *Melanoconion*) in 1903 from specimens collected in Trinidad. Three species, all described from specimens found in Panama, were subsequently placed in synonymy with *Cx. spissipes*. They are *Cx. fur* Dyar and Knab 1907, synonymized by Bonne and Bonne-Wepster (1925); *Cx. haynei* Komp and Curry (1932), by Komp (1935); and *Cx. menytes* Dyar 1918, by Takahashi (1968). Lane (1951, 1953) revalidated *Cx. fur* as a good species but Takahashi (1968) examined the holotype and found it to be the same as *Cx. spissipes*.

There is in preparation a publication on the identification of the mosquitoes of Guatemala.\* In the keys to the species of the subgenus

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\*The mosquitoes of Guatemala, their identification, distribution and bio-nomics with keys to adult female and fourth stage larvae in English and Spanish by S. Clark-Gil and Richard F. Darsie, Jr., in preparation.

*Melanoconion*, *Cx. chrysonotum* is already included (as an extra-limital species which would probably eventually be found in Guatemala), but *Cx. spissipes* was overlooked. In the adult female key *Cx. spissipes* will come out to the same couplet as *Cx. chrysonotum* and the two can be separated as follows:

Without scales at bases of upper mesokatepisternal setae;  
erect and appressed scales on occiput dark brown; wing  
scales broad, short and spatulate . . . . . *spissipes*

Scales present at bases of upper mesokatepisternal setae;  
at least medially erect and appressed scales on occiput  
golden; most wing scales long, narrow and fusiform . . . . . *chrysonotum*

The larva of *Cx. spissipes* has apparently not been described (Knight and Stone 1977).

The specimens of *Cx. chrysonotum* and *Cx. spissipes* have been placed in the collection of the Medical Entomology Research and Training Unit, Universidad del Valle de Guatemala, Guatemala City, Guatemala, Central America. We wish to thank Dr. Robert Klein for his kindness during this study.

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