

ON THE FEMALE OF *CAUPOLICANA EVANSI*, A SPECIES
OF *CAUPOLICANA S. STR.* (HYMENOPTERA: COLLETIDAE)
FROM THE TEHUACÁN-CUICATLÁN VALLEY, MEXICO

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ABSTRACT: *Caupolicana (Caupolicana) evansi* Vergara & Michener, a species similar to *C. yarrowi* (Cresson), was recently described based on the male. The female of the species is described here from material collected in the Valley of Zapotitlán de las Salinas, in the Tehuacán-Cuicatlán Biosphere Reserve.

KEY WORDS: *Caupolicana evansi*, Diphaglossinae, Colletidae, Tehuacán-Cuicatlán, Puebla, Oaxaca, Mexico.

SOBRE LA HEMBRA DE *CAUPOLICANA EVANSI*, UNA ESPECIE DE *CAUPOLICANA S. STR.* (HYMENOPTERA: COLLETIDAE) DEL VALLE DE TEHUACÁN-CUICATLÁN, MEXICO

RESUMEN: *Caupolicana (Caupolicana) evansi* Vergara & Michener, especie similar a *C. yarrowi* (Cresson) fue descrita recientemente, basándose en machos. La hembra de la especie se describe aquí, a partir de material coletado en el Valle de Zapotitlán de las Salinas, en la Reserva de la Biósfera de Tehuacán-Cuicatlán.

PALABRAS CLAVE: *Caupolicana evansi*, Diphaglossinae, Colletidae, Tehuacán-Cuicatlán, Puebla, Oaxaca, México.

Caupolicana evansi Vergara and Michener was described recently from the Tehuacán-Cuicatlán Natural Protected Area (Vergara and Michener, 2004), on the basis of three males. It was first collected by Howard Evans in 1951 in the southern part of the State of Puebla and the specimen was deposited in the Natural History Museum, University of Kansas. In Michener's (1966) revision of the North American species of the genus it was included as the southernmost record of *C. yarrowi* (Cresson), but its distinctive features were described and the possibility that it represented a new species was mentioned.

In 1975 John L. Neff collected one specimen from a locality only 13 km from Zapotitlán de

las Salinas but in the State of Oaxaca. In 1996, as part of a survey of the bee fauna of the Valley of Zapotitlán de las Salinas, in the Tehuacán Desert of Puebla, Mexico (Vergara and Ayala, 2002), I collected a second male specimen from the same area which agrees very well with Evans' specimen taken 45 years earlier. During the 1996 survey two females were also collected, two days earlier, at the same location, on the same host plant. However, on first examination, these specimens were wrongly placed in the genus *Crawfordapis*. Upon closer examination, they were correctly determined as *Caupolicana* and they appear to be the females of *C. evansi*.

The information presented here completes the prior description and constitutes the first report on the time of flight activities and on the flowers visited by females for pollen. As species of the genus are commonly oligolectic, discovery of floral preference for this species should facilitate further studies of this large (22 mm) bee. The same can be said for its matinal time of activity; flight soon after dawn characterizes various species of the genus (Michener, 2000).

In the descriptive material below the terminology is derived from that of Michener (2000). The abbreviations T and S are for metasomal terga and sterna; thus T3 indicates the third metasomal tergum.

***Caupolicana (Caupolicana)
evansi Vergara and Michener***

Caupolicana (Caupolicana) yarrowi; Michener, 1966: 733-736, southernmost record (Tehuacán, Puebla, Mexico) only.

Crawfordapis new species 1, Vergara and Ayala, 2002: 18.

Caupolicana (Caupolicana) evansi Vergara and Michener, 2004: 783

The following description is based on that of *C. yarrowi* in Michener (1966) with the characters numbered to facilitate comparison and with the diagnostic characters to *C. evansi* in italics.

Description: Female: Length 22 mm; forewing length 15 mm measured from wing tip to base of basal enlargement of Costa; head width 5.6 mm (body and wing lengths not accurately measurable). 13. Inner orbits subparallel except upper parts. 14. Ocellar diameters about equal to maximum width of scape; *ocellocular distance twice as long as ocellar diameter*. 15. *First flagellar segment as long as scape, second twice as broad as long, third broader than long and distinctly shorter than following segments*. 16. Basal part of clypeus distinctly more shining than supraclypeal area, with distinct punctures. 17 *Anterior coxa with apical*

spine covered with dark brown hair. 18. Propodeal triangle as in male (character 7). 19. Integument black, *fore and mid legs reddish brown*, hind leg brownish black, under side of flagellum brown, tegula yellow brown, *sterna reddish brown*. 20. *Pubescence of head yellowish white, ochraceous and fuscous hairs on clypeus; paraocular areas and frons; pubescence of thorax black, paler on sides, venter, propodeum and on coxae, trochanters, and femora; dorsum of T1-T6 with black hairs, sides of T1-T5 with yellowish white hairs, except for white apical bands in T1-T4; apical margin of T1 with continuous band of white hairs not narrowed medially, apical white band of T2 and T3 present on lateral fourth (worn on both specimens), apical white band of T4 present on lateral third; S1-S5 with black hair*

Females MEXICO: **Puebla**: Zapotitlán Salinas, 18°13'37"N 97°35'09"W, 13 September, 1996 (R. Ayala), from flowers of *Salvia polystachya* Ortega, in the collection of the Estación de Biología Chamele, Instituto de Biología, Universidad Nacional Autónoma de México. Both females were taken before sunrise and are badly worn with the distal margins of the wings almost entirely gone.

In the key to species (Vergara and Michener, 2004) the female runs to couplet 5, i.e., to *C. evansi* and *C. specca* Snelling. The latter, from Baja California, also has the white metasomal bands of the male reduced, even more so than in *C. evansi*; in *C. specca* there are only small lateral spots of white hairs on T2 and T4. It is also much smaller than *C. evansi* with the front femur of the male more slender than in *C. yarrowi* although swollen basally. Since the female of *C. specca* is unknown, it is impossible to give valid characters for separating the females of these two species.

The seasonal activity indicated by the five known specimens of *C. evansi* is interesting. The paratypes, collected in June and September, were badly worn, but the holotype, also collected in September, is in fresh and unworn condition. Both females

collected in September are also badly worn. It is possible that there are overlapping generations so that both fresh and badly worn specimens fly together in September.

ACKNOWLEDGEMENTS

I am especially indebted to Ricardo Ayala for collecting the specimens and for comments on the manuscript, and to Charles D. Michener and Michael Engel for comments that greatly improved the manuscript. Travel funding was provided by the Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) as project H278, "Apoidea (Hymenoptera) del Valle de Zapotitlán de las Salinas, Puebla."

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