

**Biological Notes on *Trachypus mexicanus* Saussure and
T. petiolatus (Spinola) (Hymenoptera: Sphecidae)**

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ABSTRACT: Notes on the nest and prey of *Trachypus mexicanus* Saussure in Texas are presented. Two females were found in one burrow. Prey records for *Trachypus petiolatus* (Spinola) in Trinidad are also reported.

Females of *Trachypus mexicanus* Saussure were found nesting in the bare, firm, sandy bank of the Rio Grande river at Bentsen-Rio Grande Valley State Park, Hidalgo Co., Texas, in early December 1978. The few nest entrances seen were in the miniature vertical scarps at the top of the sloping bank. Few wasps were seen probably because it was late in the season, but one female was observed arriving at her open burrow with prey, the vespid *Brachygastra mellifica* (Say). The *Trachypus* was captured when she emerged subsequently from her burrow. While removing her from my net the head of a second wasp appeared in the burrow. This second wasp was captured and it also was a female.

An attempt was made to excavate the nest. The burrow extended obliquely downward in a fairly straight line for about 25-30 cm. The end of the burrow contained one female *Brachygastra mellifica*, and three bees (det. Eickwort): *Augochloropsis metallica* (F.), ♀, ♂, and *Lasioglossum* (*Dialictus*) sp. ♀. No egg was detected. Additional digging revealed no continuation of the burrow. During excavation of this nest a cell (or burrow?) of an adjacent *Trachypus* nest was uncovered accidentally. It contained *Brachygastra mellifica*, ♀, 2 ♂♂, and the following bees (det. Eickwort): *Augochloropsis metallica*, ♀, and *Augochlorella bracteata* Ordway, ♀. No wasp egg was detected on these prey.

Evans and Matthews (1973) summarized what is known about the biology of *Trachypus*. Mature nests of this genus are quite long, up to 1.5 m, and contain many cells, the newest being at the end of the burrow. Thus the nest excavated in Texas would seem to have been newly started. Evans (1964), in the only previous note on the biology of *T. mexicanus*, dug up a single nest in Mexico that was only 18 cm long and contained one cell. He presumed it to be a new nest. Of the nine halictid and anthophorid bee prey

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found, three were stored in the burrow 13 cm from the entrance, and the rest were in the cell.

The most interesting aspect of my brief observations is that two female wasps were found in one burrow. The wings of both specimens are fairly fresh but the mandibles and foretarsal rake spines of one show some wear. Evans and Matthews found two females and a male of *T. petiolatus* (Spinola) in one mature nest burrow, and they point out that emerging males and females may live together in the parental burrow for a time, and that old nests may be occupied and extended by more than one generation. If the nest that I excavated was new, as appears to be the case, it does not seem likely that one of the two females in the burrow was the daughter of the other. However, it is possible that the nest was more extensive and hence older than my digging indicated.

I would like to take this opportunity to put on record the names of the prey associated with *Trachypus petiolatus* collected in Trinidad by E. Callan. His material is now housed in the National Museum of Natural History, Washington D.C. The prey, all bees, were determined by P. D. Hurd and R. G. Donald: *Trigona testacea nigrior* Cockerell, *Melipona favosa* (F.), *M. favosa schausi* Cockerell, *Exomalopsis* sp., and *Augochlora* sp.

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Literature Cited

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Evans, H. E., and R. W. Matthews. 1973. Observations on the nesting behavior of *Trachypus petiolatus* (Spinola) in Colombia and Argentina. *J. Kansas Ent. Soc.* 46:165-175.