

pads of measured size, the number of larvae in 25 samples of grass of similar size, and then estimating the cowpad coverage (which was determined by the point-centered quarter method) (Cottam & Curtis, 1956). In field LC in 1976, for example, the mean of 25 samples was equivalent to 159.7 larvae/meter² cowpads (accuracy 6.8%), 273.3 larvae/meter² grass (accuracy 6.8%) and the cowpad coverage was 1.05% (accuracy 6.2%). The estimated average number of larvae/meter² was 272.1, and we are 95% confident that the actual population mean was between 253.6 and 290.6 larvae/meter² (based on method of Hanson, 1967). Because this sampling was done after bird predation, the mean density of crane flies under cowpads is lower than the mean density of crane flies in grass.

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Literature Cited

- Alexander, C. P. 1967. The crane flies of California. Bull. Calif. Insect Surv. Vol. 8. Univ. Calif. Press, Berkeley & Los Angeles. 269 pp.
- Cottam, G. and J. T. Curtis. 1956. The use of distance measures in phytosociological sampling. Ecol. 37: 451-460.
- Denny, M. R. and S. C. Ratner. 1970. Comparative psychology. Research in animal behavior. The Dorsey Press, Homewood, Illinois. 869 pp.
- Doane, R. W. 1901. Descriptions of new Tipulidae. J. Entomol. Soc. 9: 97-127.
- Hanson, W. R. 1967. Estimating the density of an animal population. J. Res. on Lepidoptera. 6(3): 203-247.
- Roth, L. M. and S. Cohen. 1973. Aggregation in Blattaria. Ann. Entomol. Soc. Amer. 66: 1315-1323.

SCIENTIFIC NOTE

Aphilanthops hispidus as a Predator on Bees (Hymenoptera: Sphecidae).—The genus *Aphilanthops* includes only four species, two of them known to prey upon queen bees of the *Formica fusca* group (Evans, 1962, Behaviour, 19: 239-260). It has been assumed that specificity for queen *Formica* ants distinguished *Aphilanthops* ethologically from the related genera *Clypeadon* (prey: worker *Pogonomyrmex* ants) and *Philanthus* (prey: bees and wasps). However, *Aphilanthops hispidus* Fox, a deserticolus species of southwestern U.S. and northwestern Mexico, is a predator on bees. I located a nest of this species on 12 June 1975, 16 km W of LaPaz, Baja California Sur. The female was seen bringing bees into a burrow in coarse, flat sand in an arroyo, and the nest was excavated. I failed to find any cells, but I did find 7 paralyzed bees stored in the burrow 30 cm from the entrance, 12 cm below the surface. They belonged to 4 different families: *Colletes daleae* Cockerell (3♂♂) (Colletidae), *Agapostemon melliventris* Cresson (1♂), *A. mexicanus* Robertson (1♂) (Halictidae), *Ashmeadiella meliloti* Cockerell (1♀) (Megachilidae), and *Epeolus* sp. (1♀) (Anthophoridae). I am indebted to Dr. R. M. Bohart for identifying the wasp and to Dr. G. C. Eickwort for identifying the bees. — **HOWARD E. EVANS**, Department of Zoology and Entomology, Colorado State University, Fort Collins, CO 80523.