

SCIENTIFIC NOTES

THORACIC CROP FORMATION FOLLOWING DEALATION BY VIRGIN FEMALES OF TWO SPECIES OF *SOLENOPSIS*—(Note). The enlargement of the esophagus following dealation to form a "thoracic" crop has been reported for *Lasius* queens by Janet (1907. Ducourtieux and Gout 149 p.), for queen ants of 5 genera by Petersen-Braun and Buschinger (1975. Insectes Sociaux 22: 51-66) and for mated and unmated queens of the red imported fire ant, *Solenopsis invicta* Buren by Glancey et al. (1981. Sociobiology 6: 119-27). It is generally concluded that the thoracic crop provides space for contents of the gastral crop as ovarian development progresses. The contents of the thoracic crop in *S. invicta* are composed of triglycerides, free fatty acids and hydrocarbons, and these have been shown (R. K. Vander Meer, unpublished data, 1980) to be identical to the fluid in the gastral crop. These materials serve as food for the immature stages and the queen during the founding of a new colony. Virgin females that lose their wings before mating also develop a thoracic crop, but the process takes longer than in mated queens.

We have observed similar physiological changes in 2 other species of fire ants, *S. richteri* Forel, the black imported fire ant, and *S. geminata* (F.), the "tropical" fire ant. Two-week-old virgin females were confined singly in 1-dram vials on moistened cotton swabs and held in the laboratory at 27° C. The females dealated under these confined conditions, and 3 *S. geminata* and 10 *S. richteri* females were sacrificed at 0, 3, 6, 9, and 12 days post-dealation. Observations were made on the esophagus following flight muscle histolysis. In addition, we observed the gastral crop, ovaries, fat body, and postpharyngeal gland.

Changes noted with both species paralleled those reported for *S. invicta* (Glancey *ibid.*); *S. richteri* histolyzed the flight muscles and developed the thoracic crop in 9 days as compared to 15 days for *S. geminata*. In addition, *S. richteri* showed complete ovariole development in 6 days whereas *S. geminata* required 15 days. The postpharyngeal glands of both species remained filled during the entire time of the experiment. Of particular interest was the observation that in *S. richteri*, very little change was seen in the fat body, whereas *S. geminata* appeared to deplete almost all of their reserves.

Since virgin females were isolated from workers and no food was provided, the conclusion must be reached that the fluid in the thoracic crop came from an internal source, namely the gastral crop. The role of dealated virgin females in colonies is as yet unknown, but because of the high food value of the material found in crops of both species, they could serve as a food source during times of nutritional stress.—B. M. GLANCEY, A. GLOVER, AND C. S. LOFGREN; Insects Affecting Man and Animals Research Laboratory, ARS, USDA; Gainesville, FL 32604 USA.

A RECORD OF THE MAYFLY *DOLANIA AMERICANA* IN LOUISIANA (EPHEMEROPTERA: BEHNINGIIDAE)—(Note). Prior to 1975, only 11 genera of mayflies had been recorded from Louisiana. Loudon (1975. M.S. Thesis, Louisiana State Univ.) reported 26 genera from the state (one

of which was a new genus, as yet unnamed). Berner (1977. Bull. Florida State Mus. Biol. Sci. 22: 1-56), in his extensive summary of mayflies from the southeastern United States, added 2 genera not previously reported by Loudon. We herein report an additional family, genus and species from Louisiana.

Dolania is the only North American genus in the Holarctic family Behningiidae. It was originally described from South Carolina and since has been reported only from other localities in South Carolina and Florida. The first Louisiana specimens of *Dolania* were collected on 15-III-1977 from Bundicks Creek in Allen Parish by a University of Southwestern Louisiana limnology class. This collection consisted of 3 nymphs taken at a site 12 km north of the LeBlanc, LA post office. Twenty additional nymphs were taken among collections made 1 km upstream from the original site on 19-I-1978 and 18-III-1978. All specimens have been deposited in the University of Southwestern Louisiana Insect Collection.

Bundicks Creek is a tributary of the Calcasieu River; it is dammed about 20 km north of the collection sites to form Bundicks Lake. There is a moderate amount of organic material present in the water, but the substrate at both collection sites is white sand. In general, the sites are similar to those described for *Dolania* in Florida by Peters and Peters (1977. Int. Revue ges. Hydrobiol. 62: 409-38).

All nymphs collected were sieved from sand bars in swiftly flowing water less than 1 m in depth; however, depth and current in the creek are affected dramatically by local rainfall runoff, and the collection sites are periodically covered by 2 to 3 m of turbid, rapidly flowing water.

The Louisiana nymphal stages of *Dolania* have been compared to nymphal stages of *Dolania americana* Edmunds and Traver from Florida and appear to be conspecific. However, comparisons of adults from Louisiana with those from other North American localities should also be undertaken when adequate material becomes available. Because of the short adult life of *Dolania*, efforts to collect adults in Louisiana have been unsuccessful.

We would like to thank Dr. William L. Peters for his help in confirming the identification of the first 3 specimens of *Dolania*.—M. E. DAKIN, JR., AND D. L. FELDER; Dept. of Biology; University of Southwestern Louisiana; Lafayette, LA 70504, USA.

ERRATUM

Greenfield, M. D. 1981. Moth sex pheromones: An evolutionary perspective. 64: 4-17. Page 6, Paragraph 3 should read:

Bradydicola hahneli may exhibit similar pair-forming behavior, but male and female adults are found on sloths in approximately equal numbers, possibly feeding on oily skin secretions. Upon arriving at a sloth, these moths shed their wings. Mating occurs on the sloth's body, and the duration of copulation is very long. As in *C. choloepi*, no signaling behavior characteristic of moths has been seen in either sex (J. K. Waage, personal communication).