

## SOME OBSERVATIONS ON STENAMMA WESTWOOD (HYMENOPTERA: FORMICIDAE)<sup>1</sup>

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The genus *Stenamma* Westwood is represented in the United States by a total of nine known species, subspecies, and varieties. Colonies of one of these forms, *S. brevicorne diecki* var. *impressum* Emery, occur in considerable numbers in the spruce-fir forest near Newfound Gap, at an elevation of 5,250 feet, in the Great Smoky Mountains National Park, Tennessee. This forest type has nearly an equal mixture of red spruce and balsam fir. The stands are not particularly dense but the trees reach a fair height and breadth. The cover provides continuous deep shade, high soil moisture, and rather low summer atmospheric and soil temperatures. During much of the time the atmosphere in the forest is saturated with cloud vapor. Over the ground are strewn large decaying logs, and there is quite a heavy carpet of moss. Underbrush is exceedingly sparse and is confined chiefly to the more open spaces.

A total of eighteen nests in the forest near Newfound Gap was studied during the summer of 1949. Each nest consisted of a small superficial chamber in the surface soil just beneath a stone or piece of wood. The top of the chamber was formed by part of the object covering it and was, on the average, approximately 2.5 cm. in diameter. When disturbed the workers moved very sluggishly and transported their small batches of brood to cover. The nearly microscopic, ovoid, cream-colored eggs were deposited in irregular masses of from sixteen to thirty-two eggs per mass. The eggs adhered rather tightly to one another. Only one such mass was found in a nest at one time, and it would be moved in toto by a single worker whenever the colony was disturbed.

Eight complete colonies of *impressum*, each consisting of from twelve to twenty-nine workers, a queen, and brood, were transported to the laboratory on July 27, 1949, and were isolated with some of the nest soil and debris in 4-inch metal salve boxes. The colonies were kept in a cold room at a nearly constant temperature of 20°C. The eggs hatched in from four to five days after their deposition. The first males (2) appeared in a single laboratory nest on August 7 and additional males emerged subsequently in each nest until August 19. Six of the colonies were extinguished apparently by mold by August 25. The remaining two colonies survived until October 5. No females developed in any of the nests.

Food placed into the nests consisted of living collembolans and thysanurans, the internal contents of which were devoured by the *impressum* workers. Feeding of larvae by the workers was observed.

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