

TWO LEAF LITTER PHALANGIDS FROM SHORT MOUNTAIN (CANNON COUNTY) TENNESSEE

C. STEVEN MURPHREE*

Middle Tennessee State University
Murfreesboro, Tennessee 37132

ABSTRACT

A new distribution record for the phalangid species *Erebomaster acanthina* (Crosby and Bishop) and *Hesperonemastoma kepharti* (Crosby and Bishop) is reported from Short Mountain, Cannon County, Tennessee. Adults of the two species were collected from the same leaf litter habitat at an approximate elevation of 2000 feet. These collections represent the first records of *E. acanthina* and *H. kepharti* from Tennessee.

INTRODUCTION

The arachnid order Phalangida is represented by over 2000 species worldwide ranging from the familiar "daddy-longlegs" of temperate regions to species with bizarre spines and tubercles most often found in the tropics (Shear and Gruber, 1983). Some North American phalangids are found in cryptic habitats such as leaf litter, decaying logs, rock crevices, and caves. Leaf litter forms are typically small in size, rarely exceeding three millimeters in length and little is known about their basic biology.

Both *Erebomaster acanthina* (Crosby and Bishop) and *Hesperonemastoma kepharti* (Crosby and Bishop) were originally described in the same paper over 60 years ago (Crosby and Bishop, 1924). Since that time, no additional collections of *E. acanthina* and only one collection of *H. kepharti* have been reported. Crosby and Bishop (1924) reported collections of *E. acanthina* from the holotype location in Wake County, North Carolina, and also from sites in Maryland and the District of Columbia. *H. kepharti* was previously collected from the holotype location at Mt. Pisgah, Buncombe County, North Carolina, from Grandfather Mountain, Avery County, North Carolina, and from Forrest County, Mississippi (Gruber, 1970).

METHODS AND MATERIALS

Short Mountain is the highest point in Middle Tennessee with a maximum elevation of 2092 feet

and stands as an erosional remnant of the Cumberland Plateau which lies 20 miles to the east (McKinney, 1986). Five collections were made from approximately 10 acres of wooded slopes near the southeast summit of the mountain at an approximate elevation of 2000 feet. The collections were made between 21 September 1983 and 1 January 1986. Leaf litter samples were taken from the forest floor, drainage ravines, and rock crevices, placed in plastic bags, and transferred to Berlese funnels within 24 hours. The funnels were equipped with incandescent light bulbs and collection jars filled with 80% ethanol. The collection jars were examined periodically for a maximum of ten days.

Specimens of *E. acanthina* were determined by using the keys and descriptions of Crosby and Bishop (1924) and Briggs (1969). Specimens of *H. kepharti* were kindly determined by Dr. William A. Shear of Hampden-Sydney College, Virginia. A description by Gruber (1970) provided additional verification for *H. kepharti*. Voucher specimens are in the collection of the author at Auburn University, Auburn, Alabama.

DISCUSSION

E. acanthina and *H. kepharti* (Figure 1) are small phalangids, the former belonging to the suborder Laniatores, family Cladonychiidae (Cokendolpher, 1985) and the latter to the suborder Palpatores, family Ceratolasmatidae (Shear, 1986). These collections represent the first records of *E. acanthina* and *H. kepharti* from Tennessee. This is approximately 550 km west of the Wake County, North Carolina record of Crosby and Bishop (1924) for *E. acanthina* and about 320 km west of their record for *H. kepharti*. Also, this record for *H. kepharti* is approximately 610 km northeast of the Forrest County, Mississippi record reported by Gruber (1970).

Specimens of *H. kepharti* were collected on 21 September 1983, 25 August 1984, 30 October 1984, and 13 December 1984. Specimens of *E. acanthina* were collected on all of the above dates except 21 September 1983. Neither of the species were found in a sample taken on 3 January 1986. Only two other phalangid species were found in association with *E. acanthina* and *H. kepharti*. These include three im-

* Current address: Department of Entomology, Auburn University, Auburn, Alabama 36849

mature specimens of a *Leiobunum* sp. and one immature specimen of *Odiellus pictus* (Wood).

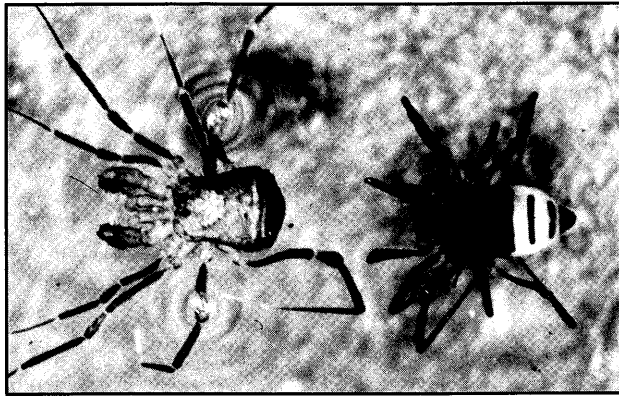


Figure 1. *Erebomaster acanthina* (left) and *Hesperonemastoma kepharti* (right) from Short Mountain, Cannon County, Tennessee. Scale = 2 mm.

Maximum numbers/collection for *E. acanthina* and *H. kepharti* were six and eight respectively. However, no estimates of the relative abundance of these two phalangids are reported due to small sample size and the cryptic habits of each species. The fact that these two species have rarely been collected in the past is probably more indicative of the chance sampling of their respective populations than of their actual distribution. Further collections from similar habitats in the eastern United States are needed to better delimit the distributions of these interesting species.

With reference to the *E. acanthina* specimens, a recent communication with Thomas S. Briggs of San Francisco, California has indicated that this material may actually represent a new species of *Erebomaster* which is near *E. acanthina* but sufficiently distinct for new species status. Subsequent description of this species will increase the total species within the genus *Erebomaster* to three. This includes *E. acanthina*, the potentially new species, and *E. flavescens*

Cope which has been reported from Wyandotte Cave, Crawford County, Indiana.

ACKNOWLEDGEMENTS

I would like to thank Dr. Charles R. McGhee of Middle Tennessee State University for introducing me to the Phalangida and for his comments on the manuscript. I also thank Dr. William A. Shear of Hampden-Sydney College for his determination of *H. kepharti*, Thomas S. Briggs of San Francisco, California for examining the *Erebomaster* material, and Lawrence J. Hribar of Auburn University for his helpful suggestions.

LITERATURE CITED

- Briggs, T.S. 1969. A new holarctic family of laniatorid phalangids (Opiliones). *Pan Pac. Entomol.*, 45:35-50.
- Cokendolpher, J.C. 1985. Erebomastriidae replaced by Cladonychiidae (Arachnida: Opiliones). *Ent. News* 96(1):36.
- Crosby, C.R. and S.C. Bishop. 1924. Notes on the Opiliones of the southeastern United States with descriptions of new species. *J. Elisha Mitchell Sci. Soc.*, 40:8-26.
- Gruber, J. 1970. Die "Nemastoma—" Arten Nordamerikas (Ischyropsalidae, Opiliones, Arachnida). *Ann. Naturhistor. Mus. Wien*, 74:129-144.
- McKinney, L.E. 1986. The vascular flora of Short Mountain (Cannon County) Tennessee. *J. Tenn. Acad. Sci.*, 61:20-24.
- Shear, W.A. 1986. A cladistic analysis of the opilionid superfamily Ischyropsalidoidea, with descriptions of the new family Ceratolasmatidae, the new genus *Acuclavella*, and four new species. *Amer. Mus. Novitates*. no. 2844. 30 pp.
- Shear, W.A. and J. Gruber. 1983. The opilionid subfamily Ortholasmatinae (Opiliones, Trogloloidea, Nemastomatidae). *Amer. Mus. Novitates*. no. 2757. 65 pp.