be immune to attack regardless of age or succulence. Semi-mature leaves at the third and fourth whorl were preferred sites, and many of these leaves sustained multiple attacks.

After landing, the female remains on the same spot on the leaf and rapidly rotates her abdomen in a circular motion, pausing briefly four times to place a single egg at each position 90 degrees from the previous egg. Normally eggs are laid within 3 seconds after she has selected the leaf, and in some observations egg laying was completed in 1 second. Flight prior to selecting a leaf was usually 12 to 30 seconds, but some females required 2 minutes to select a leaf.

The diurnal movement of this insect is not known. Trapping during the night with black lights does not yield adults of either sex. The ovipositional stimulus appears to be a promising method for trapping females. Aerial fogging or fine droplet mists applied to coffee plantations at the time of oviposition might be an effective means for suppressing populations.

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A NEW SPECIES OF ERIOCOCCUS INFESTING AMERICAN BEACH-GRASS IN NORTH CAROLINA
(Homoptera: Coccoidea)

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ABSTRACT—*Eriococcus* **carolinae**, n. sp., infesting American beach-grass (*Ammophila breviligulata* Fern.) in North Carolina, is described and illustrated. Comparative notes are given for related species.

The following species was submitted for identification originally by Dr. W. V. Campbell of North Carolina State University at Raleigh in connection with work in progress there by Mr. E. A. Fuzy. It attacks American beach-grass, *Ammophila breviligulata* Fernald to such an extent that it has reached the status of a pest.

So far as is known the insect is found only on the upper surfaces

of the leaves. These leaves usually roll or cup and conceal the insect. Where there are large aggregations the leaf finally dries up. If all the leaves of a given plant are damaged then that plant will fail to come out the following spring.

Eriococcus carolinae, n. sp.
(Fig. 1)

Adult female enclosed in an elongate, white, felted sac of the type common to the genus.

Body of adult female slender and elongate, measuring up to 3.0 mm long. Dorsum sparsely covered with small conical setae which become slightly longer towards the head. Margins with noticeably longer conical setae but varying in size and forming a group on each segment. The longest setae disposed towards the head and posterior end of the body. Within each group the smallest setae are approximately the same size as the dorsal setae. Each marginal seta either straight or slightly curved with a blunt tip. Ventral setae long and slender. Anal lobes moderately sclerotized and elongate, each with a terminal seta about twice as long as a lobe. Dorsal surface of lobe with three conical setae as large as the largest marginal setae but more slender, the inner seta particularly so. Tubular ducts numerous, each with a deep cup; a large type numerous on the dorsum and around the ventral margins; a smaller type on the dorsal surface of the last segment and in the mid-regions of the ventral segments. Disc pores mainly quinquelocular but often replaced by a multilocular type of the same diameter, on the mid-regions of the thorax and abdomen. Anal ring displaced to the ventral surface, with 8 setae and situated beneath a small caudal process. Antennae with 6 segments, 200μ–250μ long, the third segment longest. Legs slender, femur 220μ–240μ long, tibia + tarsus 290μ–320μ long. Posterior coxa with numerous translucent pores; a few also on posterior femur. Claw with a small denticle near the tip.

Holotype ♀, Manteo, 17 Aug. 1965, D. A. Mount, in USNM. 3 ♀♀ paratypes in USNM, 2 ♀♀ paratypes in BM(NH), same data as holotype; 8 ♀♀ paratypes USNM, 5 ♀♀ paratypes BM(NH), Dare Co., Hatteras Is., 29 June 1966, W. V. Campbell; 1♀ USNM, Manteo, R. L. Robertson, 17 Nov. 1965; 4 ♀♀ paratypes USNM, 3 ♀♀ paratypes BM(NH), Dare Co., E. A. Fuzy, 21 Aug. 1967. All above specimens from North Carolina on *Ammophila breviligulata*.

Among the North American species on grasses, *Eriococcus diaboli* Ferris known from California and New York comes close to the new species. It differs in lacking the long setae around the margins. In the general pattern of the dorsal setae, *E. carolinae* comes very close to *E. euphorbiae* Ferris but this is a more rotund species and the large tubular ducts are much sparser.

Balachowsky (1933) described *Eriococcus ammophilus* from Corsica on *Ammophila arenaria* var. *arundinacea*. This species differs in possessing distinctly pointed setae and a body only twice as long as wide. Trimble (1928) recorded *Eriococcus kemptoni* Parrott on *Ammophila breviligulata* from Presque Isle, Lake Erie, Pennsylvania.

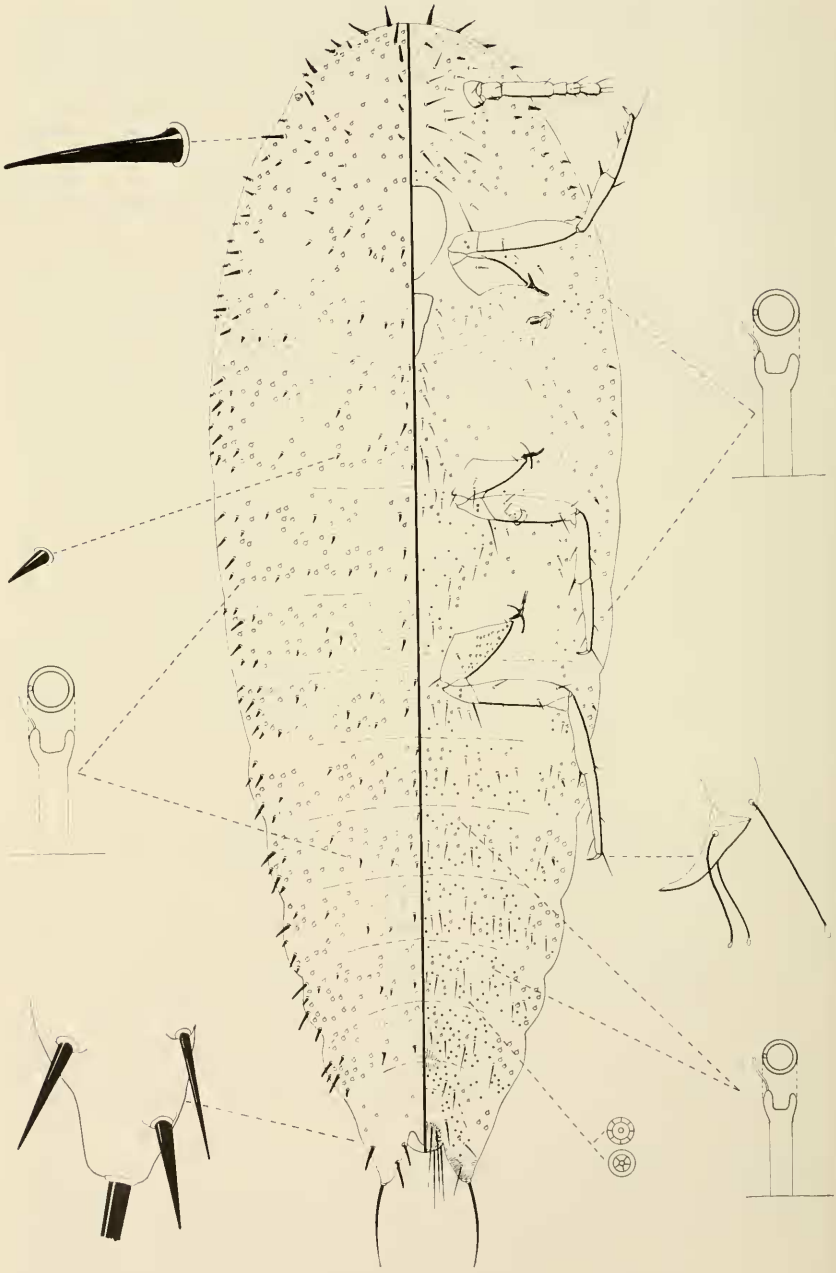

Fig. 1. *Eriococcus carolinae*, n. sp.

This is a distinct species as figured in Ferris (1955). Specimens of *E. kemptoni* are at hand from Pea Is., Dare Co., North Carolina on *Spartina patens*, collected by E. A. Fuzy, 23 Aug. 1967. It is reported that this species never attacks *Ammophila breviligulata* and it is possible that the Presque Isle specimens may have been misidentified.

Within the genus *Eriococcus* Targioni-Tozzetti, Borchsenius (1949) recognized only the type species *E. buxi* (Fonscolombe) which possesses some very large tubular ducts. Borchsenius placed the related species without these special ducts in *Acanthococcus* Signoret and on these grounds the new species could be included in this genus. It is left in *Eriococcus* following the classification of Ferris (1955) to facilitate identification and pending a critical study of *E. buxi*.

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A TECHNIQUE FOR REMOVING APPENDAGES FROM SMALL, DRY-MOUNTED INSECTS FOR MICROSCOPIC EXAMINATION

From time to time it is necessary to remove appendages from small dry-mounted insects for microscopic examination. Two problems frequently arise; a) the appendage may be damaged in removal; b) the part may be lost during transfer to the slide.

A simple, but effective technique which obviates these difficulties is to coat a fine needle with optical mountant, touch the appendage (as close to the base as possible) so that it adheres to the needle, move the needle slightly for a few seconds until the basal membrane and muscles rupture, then transfer the appendage to the slide. I have found it useful to first place a drop of mountant on a slide, dip the needle into that drop and quickly touch the specimen, as the mountant rapidly forms a surface skin. If the process of removal takes more than a few seconds it is helpful to add a drop of solvent to the mountant on the slide before placing the appendage in it, so that the surface film can be dispersed and the mountant on the needle dissolved.

This technique has been routinely used for removal of legs and antennae averaging only 0.3 mm in length from microhymenoptera.—Dale Jackson, *Department of Biology, University of Akron, Akron, Ohio 44304.*