

tem. Perhaps the presence of ants and aphids is more important than plant species in determining host relationships of this myrmecomorph.

*Pilophorus neoclavatus* Schuh & Schwartz

*Distribution.* Recently described (holotype from Frackville Barrens) for a species long misidentified as *P. clavatus*, an Old World mirid established in parts of North America (Schuh and Schwartz, 1988). This species also has been confused with other North American *Pilophorus* such as *P. brunneus* Poppius. For example, the West Virginia record of *P. brunneus* (Wheeler et al., 1983) should be referred to *P. neoclavatus* (see Schuh and Schwartz, 1988). In describing this species, Schuh and Schwartz recorded it from Ontario and Quebec south to North Carolina and west through the midwest and Great Lakes region to the Prairie Provinces.

*Biology.* *Pilophorus neoclavatus* has been collected from shrubs and trees, including *Q. ilicifolia* and *Q. palustris* in Pennsylvania and *Q. stellata* in North Carolina (Schuh and Schwartz, 1988). At Frackville, it was collected consistently but in small numbers (generally <5 individuals per sample date) and usually relatively late in the season. The first nymphs observed were third instars in late June. Adults were present from late June until mid-August. Collection of late instars in early August may indicate that two generations are produced. *Pilophorus clavatus* was collected in several north-eastern pine barrens (Table 1).

*Pilophorus setiger* Knight

Schuh and Schwartz (1988) examined specimens from Illinois, Indiana, Massachusetts, Minnesota, Nebraska, New Jersey, New York, North Dakota, and Pennsylvania (Long Pond Barrens); they were unable to confirm Kelton's (1980) record from Manitoba. It also is known from South Dakota (Knight, 1973). The only host information, except for *Q. ilicifolia* at Long Pond, is a record from *Corylus* sp. (Schuh and Schwartz, 1988). *Pilophorus setiger*, absent from the Frackville Barrens, was common on scrub oak at Long Pond during mid-August (adults and late instars). This species also was collected in the Albany Pine Bush (Table 1).

DISCUSSION

Forty-four species of plant bugs were collected on *Quercus ilicifolia* in pine barrens and in similar natural communities from Maine to Virginia. Species richness varied greatly among the sites inventoried. As might have been expected from island biogeography theory (MacArthur and Wilson, 1967), the number of mirids found on scrub oak was consistently greater in larger barrens such as Frackville (33 species) and Long Pond (21) in Pennsylvania and in Maine's Waterboro Barrens (21). With additional collecting, the Albany Pine Bush, Long Island and New Jersey pine barrens, and Montague Plains and Myles Standish State Forest in Massachusetts almost certainly can be added to this list. In Maine pine barrens, species richness near the northern limit of scrub oak's range was nearly as great as that of any of the communities that were inventoried. The number of species associated with scrub oak at Waterboro might approach that of other barrens if early-season collections are made.

Species richness in remnant pine barrens such as Concord, New Hampshire, and