

DESCRIPTION OF A NEW *POLYMERUS*, WITH NOTES ON
TWO OTHER LITTLE KNOWN MIRIDS FROM THE
NEW JERSEY PINE-BARRENS (HEMIPTERA: MIRIDAE)¹

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Abstract.—The new species, *Polymerus rostratus*, is described from the New Jersey Pine-Barrens. *Hudsonia ericoides* L. is shown to be the true host of *Parthenicus vaccini* Van Duzee and *Polymerus rostratus*, and *Arenaria caroliniana* Walt. the host of *Polymerus nigropallidus* Knight.

Several interesting species of Miridae have been described from pine-barren habitats along the eastern coast of the United States. Knight (1923), and in other papers, described from the New Jersey Pine-Barrens several mirids, most of which have not been recorded since. The hosts of these bugs have been confused or, in most cases, have remained unknown.

On a recent collecting trip to the New Jersey Barrens, my colleague, A. G. Wheeler, Jr., and I discovered the hosts of several species known only from one or a few localities and one new species. The description of a new *Polymerus* and notes on two other mirids are presented here.

Polymerus rostratus Henry, new species

Figs. 1-3

Male holotype.—Length 3.60 mm, width 1.36 mm, generally brown, with the head and pronotum largely black; clothed with silvery, silky or tomentose pubescence, intermixed with simple, semierect setae. Head: Length 0.40 mm, width 0.82 mm, black, basal carina, part of lorum and median line to base of tylus brownish yellow; vertex 0.30 mm, dorsal width of eye 0.26 mm; vertex and part of front set with a few silvery, silky setae. Rostrum: Length 1.98 mm, reaching well beyond hind coxae to 6th abdominal segment, segments I and II pale, III dark brown, IV black. Antennae: I, length 0.36 mm, black, extreme base pale; II, length 1.40 mm, dark brown or reddish brown, base black, thickly clothed with fine, brown, recumbent setae; III, length 0.76 mm, reddish brown; IV, length 0.56 mm, reddish brown. Pronotum: Length 0.72 mm, width at base 1.24 mm, largely black, with the basal $\frac{1}{2}$, collar and median line lighter brown (some specimens are entirely black, except for the basal margin and narrow median line); surface weakly rugose, calli slightly raised; calli and area immediately behind thickly clothed with silvery, silky pubescence; scutellum pale brown, basal angles black (some specimens are more nearly

black with only the apical 3rd brown), thickly set with silky pubescence. Hemelytra: Largely brown, with the clavus darker brown, its margins and inside $\frac{1}{2}$ often approaching black, the costal and radial veins fuscous, often tinged with red, apical $\frac{1}{3}$ of embolium and apex of corium red, cuneus bright red with the apex and outer margin pale; clothed with silvery, silky pubescence. Membrane: Translucent grayish brown, anal area more black, veins pale brown. Venter: Pale yellow, dorsal $\frac{1}{2}$ of pleura black, abdomen greenish yellow with a black line across pleural region, genital segments more testaceous; thoracic segments thickly set with silvery, silky pubescence, abdomen clothed with longer, simple setae. Legs: Testaceous to yellowish orange, front and middle femora with 2 subapical red bands, the basal band often fading into broad reddish area, hind femora with 3 reddish bands, these often becoming infuscated, the basal 1 often broadly faded; tibiae testaceous, tinged with red, spines black, these sometimes with indistinct black spots at base; tarsi testaceous, 3rd segment and claws black. Genitalia: Parameres typical of genus, not distinguishable from other *Polymerus*; spiculum of aedeagus slender, apex acutely produced, covered with microspines.

Allotype female.—Length 3.72 mm, width 1.64 mm; very similar to male in coloration and markings, differing largely in the broader form and more brown pronotum. Head: length 0.44 mm, width 0.90 mm, black, median line, basal carina and spot on either side of vertex pale; vertex 0.42 mm, dorsal width of eye 0.24 mm. Rostrum: Length 2.20 mm, reaching beyond base of ovipositor to 7th abdominal segment. Antennae: I, length 0.34 mm, black, extreme base and apex pale; II, length 1.28 mm, brown, base black; III, length 0.78 mm, reddish brown; IV, length 0.50 mm, reddish brown. Pronotum: Length 0.84 mm, width at base 1.36 mm, largely brown, calli and anterior angles black; scutellum pale yellowish, black across basal angles. Hemelytra: more brown, less fuscous and red than males.

Type-data.—*Holotype*: ♂, Burlington Co., N.J., near Tabernacle, June 13, 1977, taken on *Hudsonia ericoides*, T. J. Henry and A. G. Wheeler, Jr. coll. (USNM type no. 75743). *Allotype*: ♀, same data as holotype (USNM). *Paratypes*: 1 ♂, 9 ♀, same data as holotype; 15 ♂, 11 ♀, Ocean Co., N.J., Rt. 37 near Lakehurst, 14 June 1977, taken on *H. ericoides*, T.J.H. and A.G.W. coll. (Am. Mus. Nat. Hist., Pa. Dept. Agric., Pa. State Univ., USNM); 1 ♀, Ocean Co., N.J., near Tom's River along Rt. 37, 14 June 1977, taken on *H. ericoides*, T.J.H. and A.G.W. coll. (Pa. Dept. Agric.).

Remarks.—*Polymerus rostratus* is very similar in coloration and markings to *Polymerus basalis* Reuter, 1876. When first collected, this species was thought to be *basalis*; but after some field observation, its smaller size and quicker, more erratic flight habit strongly suggested a new form.

Polymerus rostratus keys to *basalis* in Blatchley (1926) and Knight (1923



Fig. 1. Typical New Jersey Pine-Barrens habitat for *Arenaria caroliniana* and *Hudsonia ericoides*. Fig. 2. *Hudsonia ericoides*. Fig. 3. *Arenaria caroliniana*.

and 1941). It is easily separated from *basalis* by its smaller size (δ , $N = 10$, $\bar{x} = 3.75$, $3.48-4.04$; η , $N = 10$, $\bar{x} = 3.91$, $3.68-4.32$), mostly black head, longer rostrum that reaches well beyond the hind coxae to the 6th or 7th abdominal segment, the relative lengths of the antennal segments (*rostratus*,

segment II $2\times$ length of segment III vs. *basalis*, segment II nearly $4\times$ length of segment III) and the male genitalia.

Extensive collecting throughout much of the Pine-Barrens region revealed that golden heather, *Hudsonia ericoides* L. (Cistaceae) (Figs. 1 and 2) is the only host of *rostratus*. Only several miles away, but outside the undisturbed Barrens, 13 examples of *basalis* were found breeding on ox-eye daisy, *Chrysanthemum leucanthemum* L., in an old field along Rt. 37 near Tom's River, June 14, 1977.

Polymerus nigropallidus Knight

Polymerus nigropallidus (Knight, 1923), one of our prettiest *Polymerus* species, is known only from Brown's Mills Junction, New Jersey. Concentrated collecting in the Pine-Barrens disclosed that this species is actually very common and breeds on the low growing, pine-barren sandwort, *Arenaria caroliniana* Walt. (Caryophyllaceae) (Figs. 1 and 3). Numerous adults and a few nymphs were taken June 13 and 14, 1977 at Lakehurst, Ocean Co. and Tabernacle, Burlington Co.

Parthenicus vaccini Van Duzee

Parthenicus vaccini (Van Duzee, 1915) is known only from Long Island, N.Y., Massachusetts and Florida (Knight, 1923). The name *vaccini* would suggest that this species breeds on *Vaccinium* spp. and, in fact, numerous authors have carried this misnomer through the literature. A special effort was made to collect *vaccini* on cranberry and blueberry, but only after carefully beating plants of *Hudsonia ericoides* did we discover both adults and nymphs. *Parthenicus vaccini* was common wherever *Hudsonia ericoides* was growing. Eight males, 1 macropterous female and 21 brachypterous females were taken near Tabernacle, June 13; 1 male and 11 brachypterous females were taken along Rt. 37 near Tom's River, June 13; and 1 male and 4 brachypterous females were taken at Lakehurst, June 14.

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Literature Cited

- Blatchley, W. S. 1926. Heteroptera or true bugs of eastern Northern America. The Nature Publishing Co., Indianapolis. 1,116 pp.
 Knight, H. H. 1923. Family Miridae (Capsidae). pp. 422-658. In Britton, W. E.

- [Ed.], The Hemiptera or sucking insects of Connecticut. Bull. Conn. State Geol. Nat. Hist. Surv. No. 34. 807 pp.
- . 1941. The plant bugs, or Miridae, of Illinois. Ill. Nat. Hist. Surv. Bull. No. 22. 234 pp.
- Van Duzee, E. P. 1915. New genera and species of North American Hemiptera. Pomona J. Entomol. Zool. 7:109–121.

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Footnote

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