

A NEW STONEFLY FROM WEST VIRGINIA
(PLECOPTERA: CHLOROPERLIDAE)

P. P. Harper and R. F. Kirchner

Abstract.—*Alloperla aracoma* is described from the Guyandotte River system in West Virginia; it is closely related to *Alloperla leonarda* Ricker. Both species are illustrated.

During an investigation of the stonefly fauna of West Virginia, the junior author collected a series of specimens which at first appeared to be a form of *Alloperla leonarda* Ricker 1952; on closer examination of the male genitalia, however, it became apparent that the series represented a new species; its description follows.

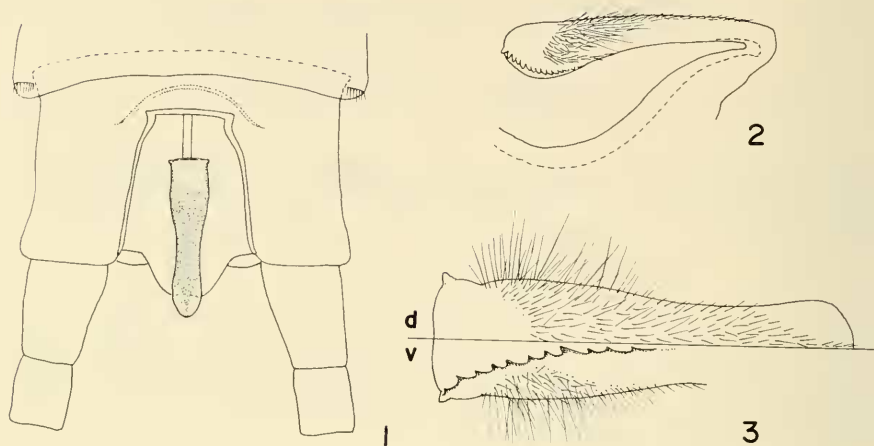
Alloperla aracoma Harper and Kirchner, new species
Figs. 1-3

Body length.—Six (δ) to 7.5 (φ) mm; wing length: 6.5-8 mm. General habitus similar to other *Alloperla*; color uniformly pale green (yellowish white in alcohol-preserved specimens), wings with a light greenish tinge; an obscure series of brownish marks on the mid-dorsum of abdominal terga 2-7, not forming a definite mid-dorsal stripe.

Male genitalia.—Genitalia resemble those of other *Alloperla*. Abdominal segments 8 and 9 with rows of dark spines on their lateral margins. Tergum 10 cleft with a median depression into which fits the epiproct. Epiproct fixed to the anterior border of tergum 10 by an anchor-like structure; it is prolonged posteriorly as a thin rod and produced as a forward directed process (Fig. 1); the process (Figs. 2 and 3) gradually expanded distally and its apex truncate with 2 lateral knobs; process covered dorsally and laterally with setae except at the tip and it bears on its ventral surface 2 rows of a dozen or so thorn-like spines; length of the process of the epiproct at least $\frac{2}{3}$ that of basal rod.

Female genitalia.—Hind margin of the 8th abdominal sternum produced into triangular subgenital plate which is somewhat thickened in its middle; the plate is very similar to that described and illustrated by Baumann (1974) for *Alloperla imbecilla* (Say).

Holotype.— δ , West Virginia, Logan County, Holden, Frogtown Hollow of the Copperas Mine Fork of Island Creek in the Guyandotte River system; 7 May 1975; R. F. Kirchner. Allotype φ , same data. Paratypes: 15 δ , 4 φ , 7 May 1975; 9 δ , 15 φ , 12 May 1975; 8 δ , 1 φ , 2 May 1976; 9 δ , 15 φ , 8-15 May 1976; 8 δ , 10 φ , 8 May 1977, all from Frogtown Hollow. One δ , 2 φ , West Virginia, Mingo County, Laurel Fork of Pigeon Creek; 30 May 1976; R. F. Kirchner and T. Mayberry Jr.



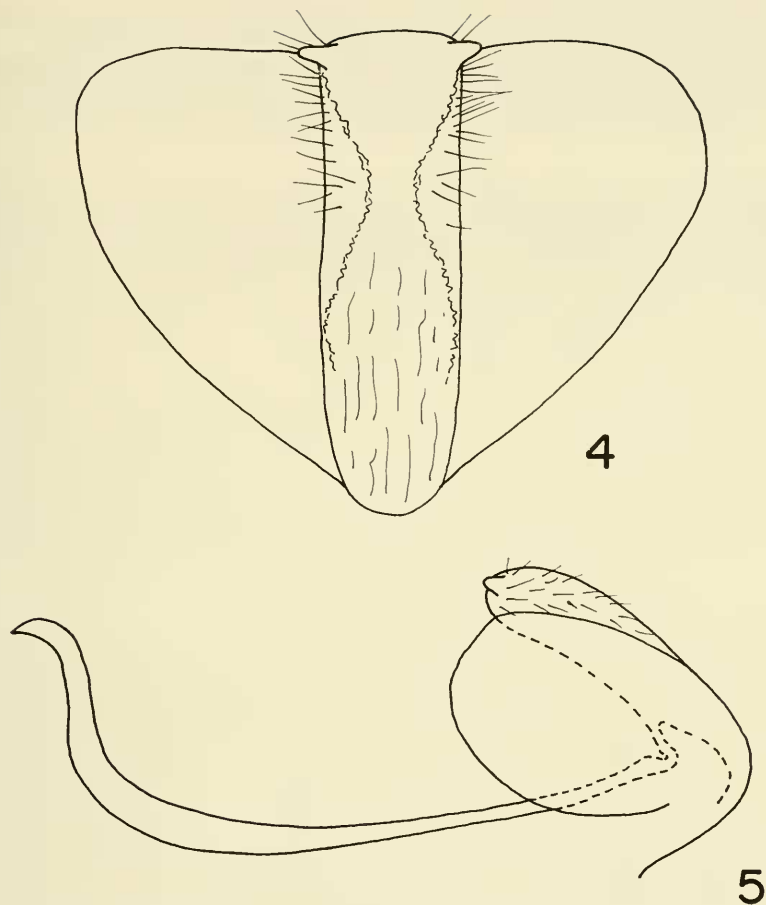
Figs. 1-3. Male genitalia of *Alloverla aracoma*. 1, dorsal view of terminal abdominal segments. 2, epiproct, side view. 3, process of epiproct, dorsal and ventral aspects.

The holotype and the allotype will be deposited in the U.S. National Museum. Paratypes will be in the USNM, the Entomological Collection of the Université de Montréal and in the authors' collections.

Derivation of the name.—From Princess Aracoma, daughter of Chief Cornstalk of the Shawnee Indians, who had a village on Middleburg Island on the Guyandotte River.

Type-locality.—Frogtown Hollow is an intermittent stream, 3-4 feet in width, at an elevation of 800-1,200 feet above sea level. Riparian vegetation includes yellow-poplar, American beech, sugar and red maples, black birch, yellow buckeye, hemlock, cucumber and umbrella magnolias, white ash, red oak, shagbark hickory, spicebush, wild hydrangea, witch hazel and hornbeam. Associate Chloroperlidae are *Hastaperla brevis* (Banks), *Alloverla imbecilla* (Say), *Alloverla usa* Ricker and *Sweltsa mediana* (Needham & Claassen).

Diagnosis.—The male of *Alloverla aracoma* bears much superficial resemblance to *A. leonarda* (see Ricker, 1952, Fig. 132 and Harden and Mickel, 1952, Pl. X, Figs. 7-8 as *A. sylvia*). The distinguishing features are the following: In *A. aracoma* the process of the epiproct is long, about $\frac{2}{3}$ as long as the basal rod (Fig. 1); in *A. leonarda* the process is less than $\frac{1}{2}$ as long as the rod (Fig. 5). Though both species bear lateral knobs on the tip of their epiproct (Figs. 3 and 4), the shapes of the processes are markedly different, and only *A. aracoma* possesses the rows of ventral spines (Figs. 2 and 3). Furthermore only *A. leonarda* has large fleshy lobes



Figs. 4-5. Male genitalia of *Alloperla leonarda*. 4, process of epiproct, dorsal aspect. 5, epiproct, side view.

adjacent to the lobes of the epiproct (Fig. 4). In Hitchcock's (1974) key to the northeastern species of *Alloperla* (s. l.), the female of *A. aracoma* will key out to *A. imbecilla* from which it can be distinguished at present only by its smaller size; *A. atlantica* Baumann, a species long confused with *A. imbecilla*, will also key there and again the smaller size of *A. aracoma* will be the main diagnostic feature.

Literature Cited

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