

Hemphillia pantherina, A New Arionid Slug from Washington

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(1 Text figure)

DURING AN EXTENDED collecting trip in Washington's North Cascade Mountains during the summer of 1973, I secured a single specimen of a very striking and apparently undescribed species of *Hemphillia*. Although the description of new species from single specimens is often a risky business, this form is so singularly different from any of the other known species that its description seems warranted.

In a previous work (BRANSON, 1972), I inadvertently overlooked an important paper by KOZLOFF & VANCE (1958) which detailed the status of *Hemphillia malonei* Pilsbry. Consequently, in order to assemble all known species in one place, the following key is presented.

KEY TO SPECIES OF *Hemphillia*

- 1 a. Body immediately behind pouch depressed to receive visceral mass, then producing a high, much-compressed keel 2
- b. Body behind pouch neither depressed nor produced into a keel 4
- 2 a. Mantle covering at least sides of visceral pouch posteriorly; tail with "horn" lacking or only a small one present 3
- b. Mantle not covering posterior one-third of visceral pouch; tail with a large, distinct "horn" above meeting of pedal grooves
Hemphillia pantherina Branson, spec. nov.
- 3 a. Visceral pouch bearing numerous papillae; penial stimulator rugose within
Hemphillia glandulosa (Bland & Binney, 1872)
- b. Visceral pouch nearly smooth; penial stimulator smooth within *Hemphillia burringtoni* Pilsbry, 1948
- 4 a. Penis narrow, with an accessory sac; color yellowish-gray to whitish with dark markings
Hemphillia danielsi Vanatta, 1914

- b. Penis broad, lacking an accessory sac; color ashy-gray, bluish-black to black 5
- 5 a. Tail with a conspicuous horn-like protuberance above meeting of pedal grooves
Hemphillia dromedarius Branson, 1972
- b. Tail lacking a conspicuous horn-like protuberance above meeting of pedal grooves 6
- 6 a. Sperm duct opening within epiphallus into penis on side near base of verge attachment; penial retractor attachment partially to upper end of penis, partially to epiphallus
Hemphillia malonei Pilsbry, 1917
- b. Sperm duct opening within epiphallus into penis near end of verge; penial retractor attachment to epiphallus only
Hemphillia camelus Pilsbry & Vanatta, 1897

Hemphillia pantherina Branson, spec. nov.
(Figure 1)

Head and tentacles white dorsally, pale gray ventrally. The heavily granulose mantle, which covers only the anterior $\frac{2}{3}$ of the visceral pouch and only the lower sides of the shell, is basically off-white in coloration and is unmarked along the lower margins; the dorsal $\frac{2}{3}$ is marbled by discrete, large stellate concentrations of melanin. A small pneumostome opens near the middle of the mantle on the right side, above and behind which is a black streak. The visceral pouch is smooth, colorless on the left half (appears dark brownish-gray because of the digestive gland showing through) but finely stippled with black on the right half. The secretory groove is indistinct on the midline, *i. e.*, on the posterior $\frac{1}{2}$ of the pouch. The anterior $\frac{1}{2}$ of the sides of the body are unmarked white except for 2 dark gray spots near the pedal groove; the posterior $\frac{1}{2}$ has 26 large, cell-like granules outlined by black. Posteriorly, the dorsum is dusky near the midline, but the high keel is bold white. The "horn" is dark gray, and there are dark gray spots between the granules immediately above

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the pedal groove on the posterior $\frac{1}{2}$ of the body. The body is strongly depressed to receive the visceral pouch, but then becomes raised and strongly compressed to produce a high keel. A strongly developed, large triangular horn-



Figure 1

Hemphillia pantherina Branson, spec. nov.

like process is produced above the posterior meeting of the pedal grooves (above the genital pore). The pale yellowish shell (appears bi-colored because the digestive gland shows through) has a short, black bar near its center; there are numerous, indistinct growth striae.

Measurements (on alcohol-preserved specimen): total length, 14.2 mm; maximum width of foot, 3.0 mm; distance from posterior tip of visceral pouch to pneumostome, 5.0 mm; length of back posterior to visceral pouch, 4.3 mm; width of visceral pouch, 4.5 mm; length of visceral pouch, 9.5 mm; width of back behind pouch, 3.5 mm; maximum width of shell, 3.5 mm; maximum length of shell, 6.0 mm; distance from anterior end of mantle to pneumostome, 4.8 mm.

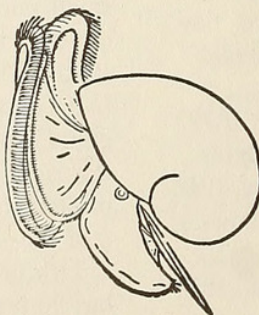
Type Locality: S 31, T 7 N, R 6 E, Route N 90, Miller Creek crossing, Gifford Pinchot National Forest, Washington. Beneath deep forest litter. 9 July 1973

Holotype: Delaware Museum of Natural History, DM NH 85722

Diagnosis: *Hemphillia pantherina* is an arionid slug which differs from all known species of the genus by the characteristics of the mantle and visceral pouch relationships. It is most closely related to *H. burringtoni* Pilsbry by way of color pattern, but differs from that species in having a granulose mantle, in having the pneumostome near the middle of the mantle rather than in the posterior $\frac{1}{3}$, and in possessing a large horn-like process posteriorly rather than a small one.

Literature Cited

- BRANSON, BRANLEY A.
1972. *Hemphillia dromedarius*, a new arionid slug from Washington. *The Nautilus* 85: 100-106
- KOZLOFF, EUGENE NICHOLAS & JOANN VANCE
1958. Systematic status of *Hemphillia malonei*. *The Nautilus* 72 (2): 42-49; plt. 6





Branson, Branley Allan. 1975. "HEMPHILLIA-PANTHERINA NEW-SPECIES A NEW ARIONID SLUG FROM WASHINGTON USA." *The veliger* 18, 93–94.

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