

DESCRIPTION OF A NEW SPECIES OF ASELLUS.

By O. P. HAY.

Aseillus militaris. (Sp. nov.)

Length of male 17 mm., of female 11 mm. Color brown, ornamented with irregular shaped yellow spots, somewhat symmetrically arranged on each side of the median line. Feet and caudal stylets with a tinge of rose. Upper surface of the body covered with minute scattered hairs. All the free margins of the body abundantly furnished with slender spines; these longest on the lateral margin. Head narrow, only about one-half the width of the first thoracic segment; the anterior margin concave; antero-lateral angles obliquely truncated; lateral margins diverging posteriorly, with a small outwardly projecting lobe at the posterior angle; this lobe furnished with several short spines. Eyes comparatively small. Anterior segments of thorax concave in front, convex behind; becoming less so to fifth segment, whose anterior and posterior margins are nearly straight. Sixth and seventh segments convex in front, concave behind, the concavity being deepest in the seventh. All the thoracic segments after the second about the same width; the second a little narrower than the succeeding segments; the first about three-fourths as wide as the widest. Antero-lateral angles of first segment excavated and filled by the broad epimera. Second segment very slightly notched in front. In the succeeding segments this notch is pushed further back and becomes deeper, especially in the last three. As the notch becomes deeper, the antero-lateral angle is lengthened and turned backward. The epimera again make their appearance in the fifth, sixth, and seventh segments, only partially filling the lateral notches. Postero-lateral angles of all the thoracic segments rounded.

Abdomen sub-orbicular; width and length equal; anterior and posterior angles quite well marked. Posterior margin excavated at insertion of caudal stylets, prolonged behind into a median lobe. This, in the male, reaches back scarcely one-third the length of the pedicel of the caudal stylets, but in the female about one-half the length of the pedicel. Width of abdomen less than that of any of the thoracic segments, except the first and second, about equal in width to second. Antennulæ shorter than the peduncle of the antennæ; basal segment short, a little curved and having a diameter nearly three times that of the next segment; second segment

longer than the first; third sub-equal to the first. Flagellum equal to the peduncle and consisting of about twelve segments.

First three segments of the antennæ short; fourth as long as the three preceding; fifth as long as the second, third and fourth together; flagellum long, reaching back three-fourths the length of the thorax, and consisting of about seventy-five segments.

Right mandible with a single dentigerous lamella furnished with four obtuse teeth. Left mandible with two dentigerous lamellæ, each with four obtuse teeth. Palpus consisting of three segments; the first clavate; the second widest in the middle, its inner margin being straight and its outer formed by two straight lines meeting at an obtuse angle at the middle of the segment; last segment falcate, furnished with numerous plumose hairs along its outer concave margin.

Palpus of maxilliped with five segments. The first very short. The second three times as long as the first and rather broader than long, with the inner margin straight and the outer curved. Third segment short, broadest just above the proximal articulation, becoming narrower distally. Fourth segment clavate and bent inward at the base. Last segment short and only half as wide as the preceding. All the segments provided with scattered hairs along their outer margin and crowded with similar hairs along the inner margin.

Propodus of the first pair of legs in the male ovate, nearly two-thirds as wide as long; the palmar margin slightly convex, armed with a stout conical tooth in the middle, and at the posterior angle with another short obtuse one, surmounting a rough process of the body of the propodus. There are thus really two stout teeth on this margin. Dactylus with its claw reaching beyond the palmar margin, curved strongly, and armed with about fifteen teeth appressed towards the tip.

In the female the first propodus is more slender, being one-half as wide as long. Palmar margin nearly straight and armed with several slender spines, and near the posterior angle with one moderately strong acute tooth. Dactylus long, curved, and armed with about eight teeth longer than those of the male. Dactylus terminating in a claw, which extends beyond the palmar margin.

Anterior genital appendages of the male consisting each of two segments, the first three-fourths the length of the second, sub-quadrate, with four curved spines along the inner margin; the second segment ovate, with an obliquely truncate extremity, which, as well as the adjacent parts of the inner and outer margins, is sparsely ciliated. Posterior genital appendages consisting each of a peduncle and two rami. The peduncle about as broad as long, outer margin straight, inner margin approaching the outer distally by a broad curve. Inner ramus navicular, notched at the distal extremity. Outer ramus bi-articulate; first segment triangular; second linguiform, twice as long as broad, with the outer margin and the lower portion of the inner margin furnished with long plumose hairs. Caudal stylets of the male as long as the abdomen; the peduncle a little less than two-thirds as wide as long, expanding distally, where it is excavated for the insertion of the rami. The rami are ovate, moderately acute, width about one-third of the length; the outer ramus about two-thirds as long as the

inner, and both tipped with a brush of long hairs, and fringed with numerous setæ: as are also the margins of the peduncle

Caudal stylets of the female only two-thirds the length of the abdomen, peduncle wider proportionally than in the male, and obtriangular. Rami more lanceolate in outline, scarcely a fourth as wide as long; the outer nearly as long as the inner, which is nearly a third longer than the peduncle.

Found in large numbers in shallow pools of a slow prairie stream, near Abingdon, Knox county, Illinois.

This fine large species is probably nearly related to *Asellus intermedius*, Forbes. It differs, however, from all the forms of this that I have seen, not only in its much greater size, but also in some other important respects. The head is much narrower in the present species than in *intermedius*. The abdomen is narrower in this than the species described by Prof. Forbes, as compared with the width of the thoracic segments. The thoracic segments in specimens of undoubted *intermedius* which I have, increase in width from the first to the last, while in *A. militaris* they are, after the second, of uniform width. The two posterior segments in *A. militaris* are also much more deeply concave along their posterior margin than in the other species mentioned. The propodus in the present species is broader than in *intermedius*, but I have specimens of an *Asellus* from Prof. Forbes, which he provisionally regards as *A. intermedius*, in which the propodus is rather broader than in my species. The genital plates, however, differ much from those of *A. militaris*. The plates, again, are, in *militaris*, almost exactly as in the typical specimens of *intermedius*. The doubtful forms of *intemedius*, however, differ from the present species in the width of head, abdomen, concavity of posterior thoracic segments and in the form of the caudal stylets.

My thanks are due Prof. Forbes for specimens of his two forms of *A. intermedius* and for the use of microscope slides.