

## DESCRIPTION OF A NEW SPECIES OF SUBTERRANEAN ISOPOD.

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Forty or fifty specimens of an interesting and apparently undescribed Isopod were obtained from an old well in Irvington, Marion County, Indiana. They were evidently strictly aquatic. The pump in the well drew water from the bottom, and the animals could be obtained only by vigorous work. After capture they lived for some hours in a jar of water, crawling about on the bottom, very much after the manner of *Asellus*. While in the water the pleopods could be seen to be gently moved up and down with a fanlike motion. Several of the females carried eggs, six or eight of which were sufficient to fill the brood pouch.

The nearest relatives of this species are *Haplophthalmus mengii* (Zaddach) and *H. danicus* Budde-Lund, both of which are inhabitants of moist situations, such as decaying leaves and wood, in various localities in Europe. It is also closely related to *Scyphacella* (*Haplophthalmus*?) *arenicola* S. I. Smith, which has been found burrowing in the sand in a number of localities along the Atlantic coast of North America.

### HAPLOPHTHALMUS PUTEUS, new species.

*Male*.—Body elliptical, length about three times the breadth, dorsal surface strongly convex, covered with longitudinal rows of low tubercles and scattered setæ. Segments of the peræon about equal in length, the posterior pleural angle of all, except the first, more or less produced backwards. Pleuræ of third, fourth, and fifth segments of the pleon thin and directed backwards and outwards. Terminal segment of abdomen notched behind and with the postero-lateral margins concave. Uropods exserted, short, outer ramus longer than inner; both rami setose. Front margin of head very slightly produced. Antennæ longer than the greatest breadth of the body; first and second segments of medium length, third short, fourth and fifth long, flagellum short, pinniform, composed of three very small, closely articulated segments. Antennæ geniculate between segments four and five. Antennules minute, composed of three segments, entirely concealed by the front of the head, sensory filaments five. Eyes small, simple. Upper lip regularly rounded in front and with a median triangular patch of



setæ. Mandibles large and powerful, bearing on the inner surface a broad, ridged molar tubercle; on the anterior surface, one or two delicate, branched sensory styles. The cutting portion of the mandibles is different; that on the left, consists of two portions, an outer with four heavy teeth and an inner with three much smaller teeth; the other mandible has but one row of three or four large teeth which, when closed, fit in the space between the two rows of teeth of the mandible first described. The first maxilla has both branches erect, the outer bearing five or six acute curved teeth, the inner three delicate plumose flagelliform processes. The second maxilla consists of two strap-shaped lamellæ closely applied to one another and bearing setæ at their ends. The maxilliped is a broad, flattened plate, with straight inner and rounded outer margins, and bearing at the tip two obscurely segmented, setose processes. The peræopods are similar in general to one another, differing only in the arrangement and strength of the spines.

The first and second pairs of pleopods are two-segmented, slender, and styliiform. The second pair appear to be the sexual organs, while the first are to some degree rudimentary.

The third pleopod is flattened and somewhat operculiform.

The fourth and fifth pleopods are broad, flat, thin, and lie flat upon one another and the last segment of the pleon. They and the preceding are the branchial appendages of the animal.

The uropods have been already described.

Color, white; eyes, black; intestine showing through the shell as a grayish line.

*Female*.—Similar in general characters to the male, but with the following differences: Body not more than two and one-half times as long as wide. First and second pleopods absent. Peræopods with flattened plates, forming a brood or egg chamber.

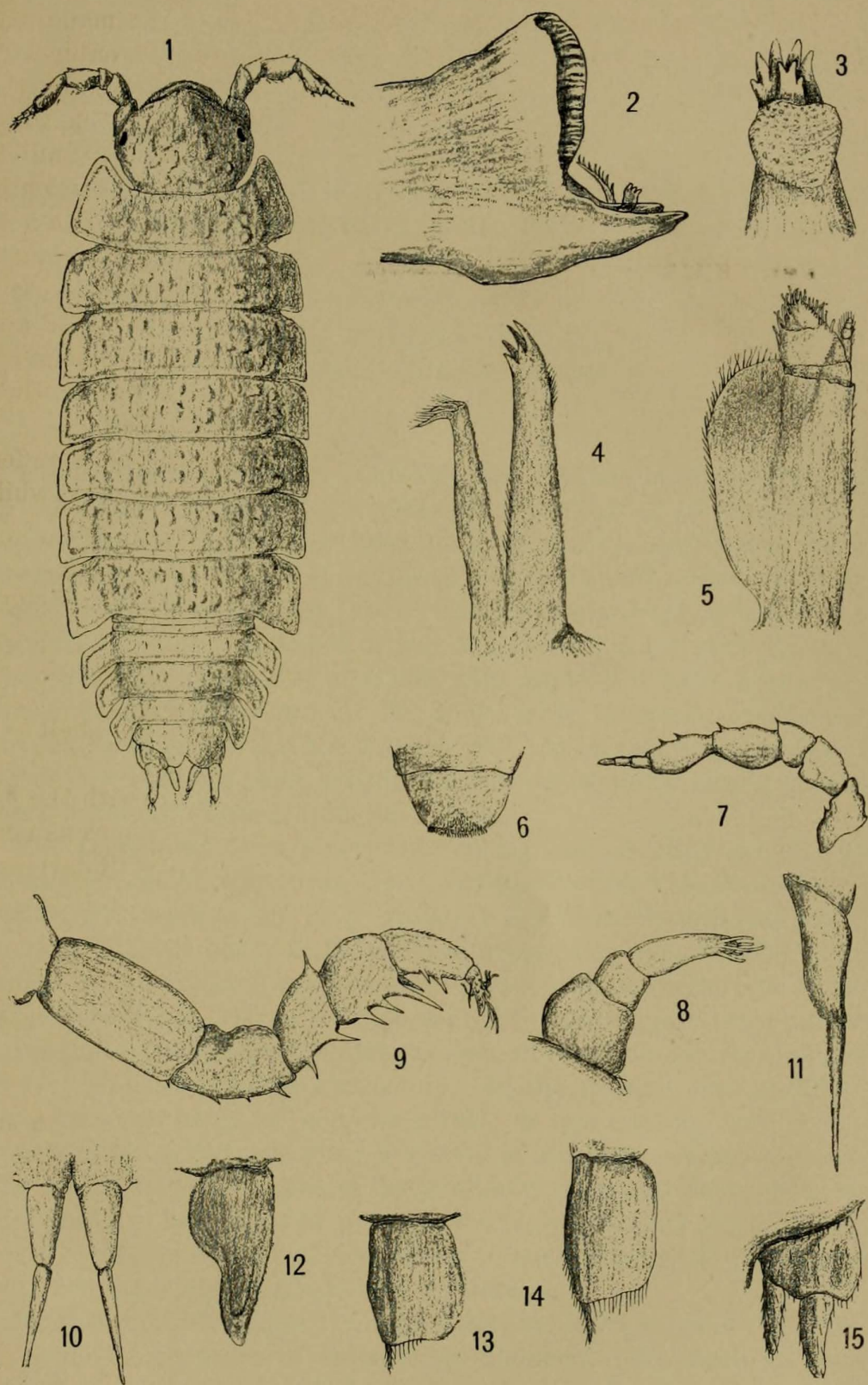
Length, 3 to 4 mm.

*Type*.—No. 22586, U.S.N.M.

#### EXPLANATION OF PLATE LXXXVI.

- Fig. 1. Dorsal view of a male specimen.  
2. Mandible of right side, seen from in front.  
3. Mandible of left side (tip only), to show double row of cutting teeth and ridges on molar tubercle.  
4. First maxilla.  
5. First maxilliped.  
6. Upper lip.  
7. Antenna (second antenna).  
8. Antennule (first antenna).  
9. First peræopod.  
10. First pleopod.  
11. Second pleopod.  
12. Third pleopod.  
13. Fourth pleopod.  
14. Fifth pleopod.  
15. Uropod (right side).





HAPLOPHTHALMUS PUTEUS W. P. HAY, NEW SPECIES.

FOR EXPLANATION OF PLATE SEE PAGE 872.