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Description of a new species of Chirocephalus

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Nervous system.—The nervous system is nearly as described by Baudelot in *Clepsine*. It consists of twenty-one ganglia, not including the collar and the posterior mass. In one type the sub-oesophageal portion of the collar results from a more considerable grouping, and the terminal mass of the chain from a smaller grouping than in *Clepsine*. The number of large cells contained in the vesicles appended to the ganglion is less than is figured in Baudelot's memoir.

To sum up:—*Batrachobdella* approaches the *Glossiphoniæ* or *Clepsinæ* by its nervous system and its circulatory apparatus, while the general arrangement of the generative organs is rather that which occurs in the *Ponbdellæ* or *Pontobdellæ*; and the digestive apparatus, although presenting a trunk as in *Clepsine*, differs from what is seen in all other Hirudineæ by the arrangement of the cæca and presence of an hepatic inflation.—*Comptes Rendus*, July 14, 1879, p. 110.

Description of a new Species of Chirocephalus. By JOHN A. RYDER.

The genus *Chirocephalus* does not seem to have been noticed up to the present time in North America; I therefore take much pleasure in announcing the discovery of a hitherto undescribed species of the genus in the vicinity of Woodbury, New Jersey, where it was found in abundance in the ditches by Mr. W. P. Seal, a resident of the place, and an indefatigable collector of the minute life of his neighbourhood.

The genus, as characterized by Dr. Wm. Baird*, has been found in Switzerland, France, England, Russia, and Siberia. The species *C. lacunæ*, most nearly like the one I am about to describe, is figured and described by Guérin, in his 'Iconog. Règne Animal,' as being found at Fontainebleau, France. The differences between our species and Guérin's are, however, sufficiently striking and constant to characterize a well-marked specific type; and I accordingly propose the following specific characterization of the American form:—

Chirocephalus Holmanii, nov. sp.

Claspers moderately robust; second joint forked, longest branch longer than first joint and curved inwards, its tip crossing that of its fellow of the opposite side when in repose; shorter branch less curved, slightly swollen, and rough on the inner surface of its tip, about half as long as the longer branch. Two long fleshy proboscis-like prehensile organs arise from the bases of the claspers, and are coiled up between the latter; muscular fibres pass throughout their length; near their origin and for the first third they are expanded inferiorly into a thin margin with about seven papilliform processes; they then gradually contract, becoming cylindrical at their second third, where about seven well-marked

* Monograph of the Family Branchipodidæ, Ann. & Mag. Nat. Hist. 2nd ser. vol. xiv. 1854, pp. 216-229.

digitiform processes are found, the longest of which are about as long as twice the diameter of the proboscis at this point; the remaining third gradually contracts, and is thickly studded with half-rings of small papillæ, which seem to mark indistinctly the segments of the organ. Total length of the proboscis, when extended, about three times that of the claspers. Total length 12-14 millims. Habitat, Woodbury, New Jersey.

I name the above species in honour of Mr. D. S. Holman, actuary of the Franklin Institute, in recognition of the services he has rendered in devising methods for studying living objects, both large and small, under the microscope, and to whom I am also indebted for the specimens from which the above description has been taken.

The detection of a member of the genus in this country is very interesting, but less so than the detection of *Pauropus Huxleyi*, Lubbock, in the vicinity of Philadelphia, without any difference, as far as Sir John Lubbock's excellent plates of English specimens would enable one to judge, that would make it even a variety, although removed by more than 3000 miles of ocean from its congeners. It has been suggested, however, that, inasmuch as Philadelphia is an old English settlement, *Pauropus* may have been introduced; but in the case of *Chirocephalus* such an explanation is less open to acceptance.—*Proc. Acad. Nat. Sci. Philad.*, April 29, 1879.

Note on the Adoption of an Ant-Queen.

Mr. McCook reported the following case of the adoption of a fertile queen of *Crematogaster lineolata*, a small black ant, by a colony of the same species. The queen was taken in Fairmount Park, April 16, and on May 14 following was introduced to workers of a nest taken the same day. The queen was alone within an artificial glass formicary; and several workers were introduced. One of these soon found the queen, exhibited much excitement, but no hostility, and immediately ran to her sister workers, all of whom were presently clustered upon the queen. As other workers were gradually introduced they joined their comrades until the body of the queen (who is much larger than the workers) was nearly covered with them. They appeared to be holding on by their mandibles to the delicate hairs upon the female's body, and continually moved their antennæ caressingly. This sort of attention continued until the queen, escorted by workers, disappeared in one of the galleries. She was entirely adopted, and thereafter was often seen moving freely, or attended by guards, about the nest, at times engaged in attending the larvæ and nymphs which had been introduced with the workers of the strange colony. The workers were fresh from their own natural home; and the queen had been in an artificial home for a month. As among ants the workers of different nests are usually hostile to each other, this adoption of an alien queen is an example of the strong instinct which controls for preservation of the species.—*Proc. Acad. Nat. Sci. Philad.*, April 1, 1879.