University of the State of New York

NEW YORK STATE MUSEUM

54TH ANNUAL REPORT

OF THE

REGENTS

1900

VOL. 1

REPORTS OF THE DIRECTOR AND STATE GEOLOGIST, OF THE STATE PALEONTOLOGIST AND OF THE STATE BOTANIST FOR 1900

AND

MUSEUM BULLETINS 32-34

TRANSMITTED TO THE LEGISLATURE 2 JAN. 1901

ALBANY
UNIVERSITY OF THE STATE OF NEW YORK
1902

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New York State Museum

TWO NEW LAND ISOPODS

BY PROF. JAMES H. STOLLER

Of the land isopods belonging to the genus Ligidium two species have hitherto been reported as found in America. One of these, Ligidium hypnorum Cuvier, a widely distributed European species, is reported by Stuxberg[1] as occurring at Niagara and in California. The other, Ligidium tenue Budde-Lund,[2] distinct from any of the European species, is reported from Sitka, Alaska. No other facts in regard to the occurrence of this genus in America appear to have been published. Attention may here be called to an error in the synoptic tables of the Isopoda published in the *American naturalist*, May 1900. Both the above species are there recorded as littoral.

Following is a description of a new species of this genus found in the locality of Schenectady N. Y.

Ligidium longicaudatum (new species)

Body elongate, oval, narrowing posteriorly. Length 9 mm; width 4 mm. Surface smooth. Color dark brown, mottled with irregular light brown spots; dark predominating in middle, shading to light at sides.

Head more than twice as broad as long, broadly rounded in front, posterior margin concave. Eyes large, occupying the entire lateral surfaces of the head.

First pair of antennae small, two-jointed, the second joint longer than the first, terminating bluntly, with four or five hairs radiately arranged, those pointing inwardly the largest. Second pair of antennae large, five-jointed, with long flabellum. First and second joints partially coalesced; third, fourth and fifth joints successively longer; the flabellum nearly equal in length to the fourth and fifth joints taken together; joints with hairs at

[1]Stuxberg. Ofversigt of Vetensk. akad. Forhandl. 1875.

[2]Budde-Lund. Crustacea, Isopoda terrestria. 1885.

the articulations, the fifth joint with one lateral hair, pointing anteriorly; flabellum hairy. The flabellum is obscurely 11–14 jointed.

The first four segments of the thorax successively broader, with somewhat wide epimera rounded at the angles; the last three segments successively narrower and more produced at the postlateral angles. The first and second abdominal segments short and without distinct epimera; the third, fourth and fifth successively narrower and produced posteriorly; the sixth segment longer, incurved at the latero-posterior margins and rounded posteriorly.

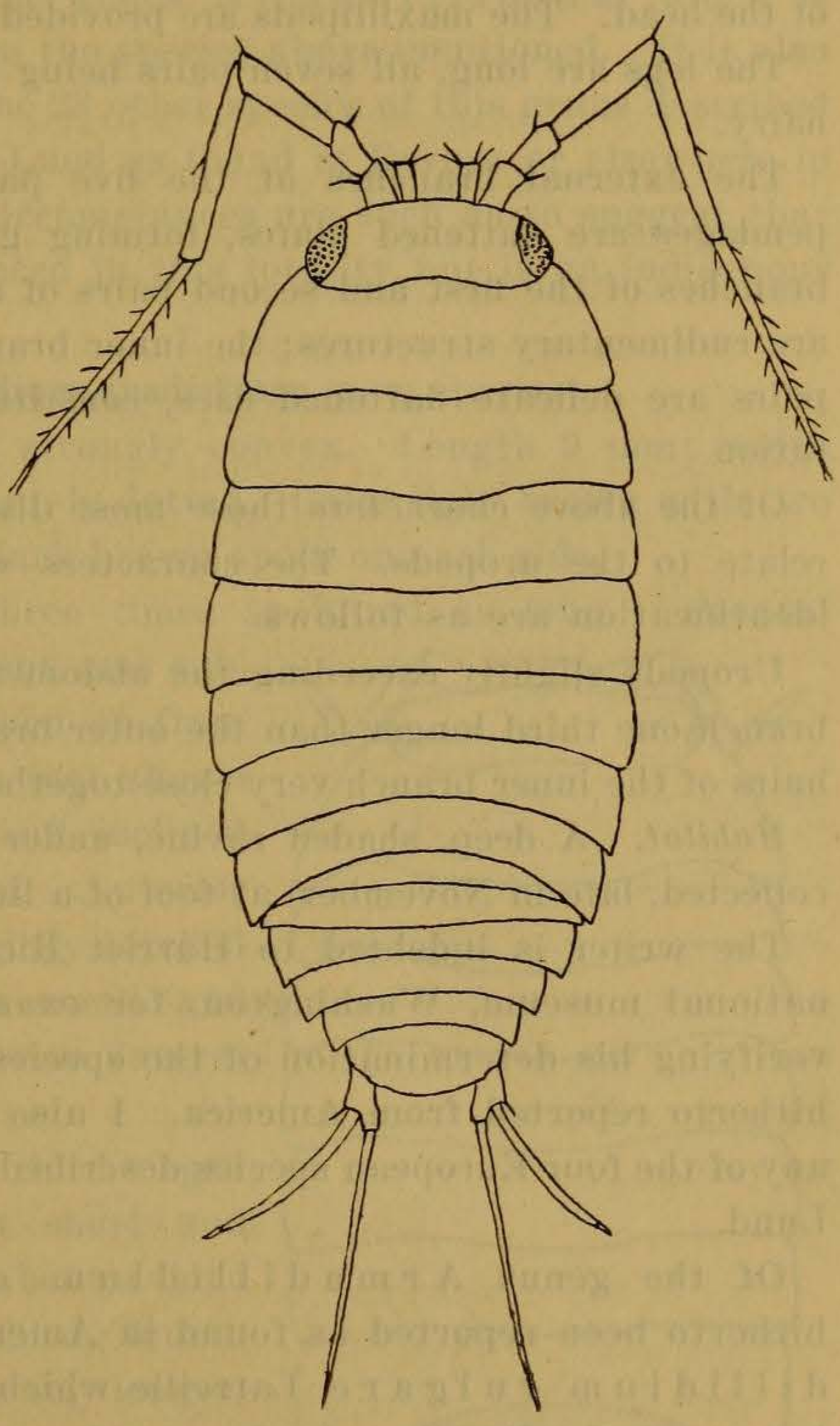

Fig 1 Ligidium longicaudatum x8

The uropods long, slightly exceeding in length the six segments of the abdomen taken together; the basal division twice as long as wide and deeply indented on the posterior side, giving rise to an inner and an outer process; the outer process short and provided with a single stout hair, the inner process long, being one third the length of the whole. The outer terminal branch articulated in the indented part of the basal division, stout, slightly curved outward, and terminating in two short hairs; the inner branch articulated at the end of the long process of the basal division, slender, long, being a third part longer

than the outer branch, and terminating in two hairs, very close together, appearing as one, equal to one third the outer branch in length.

The mouth parts form a prominent mass on the ventral side of the head. The maxillipeds are provided with a jointed palp.

The legs are long, all seven pairs being of about equal length; hairy.

The external branches of the five pairs of abdominal appendages are flattened plates, forming gill covers. The inner branches of the first and second pairs of abdominal appendages are rudimentary structures; the inner branches of the last three pairs are delicate flattened sacs, constituting organs of respiration.

Of the above characters those most distinctive of the species relate to the uropods. The characters which serve for ready identification are as follows.

Uropods slightly exceeding the abdomen in length; the inner branch one third longer than the outer branch; the two terminal hairs of the inner branch very close together, appearing as one.

Habitat. A deep, shaded ravine, under stones (at time when collected, late in November) at foot of a limestone talus.

The writer is indebted to Harriet Richardson of the U. S. national museum, Washington, for examining specimens and verifying his determination of the species as distinct from any hitherto reported from America. I also find it different from any of the four European species described in the work of Budde-Lund.

Of the genus Armadillidium only one species has hitherto been reported as found in America. This is Armadillidium vulgare Latreille which appears to be widely but unevenly distributed. It was first reported by Say[1] who described it under the name of Armadillo pilularis. Under the same name it was reported by Gould[2] as occurring in Massachusetts and by De Kay[3] as found in New York. The writer has seen a specimen of this species found near Syracuse N. Y., and others that were collected in the locality of Chattanooga Tenn. In the work of Budde-Lund the species described

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[1] Say. Acad. nat. sci. Phila. Jour. I. 1818.
[2] Gould. Rep't on the Invert. of Mass. Cambridge 1841.
[3] De Kay. Zoology of New York. pt. 6, p. 52. Albany 1844.

by Say is made identical with the European species Armadillidium vulgare and its distribution is said to be world-wide.

In one of the Schenectady greenhouses there occurs in abundance a species of the genus Armadillidium which is markedly distinct from the species above mentioned. It is also distinct from any of the 23 other species of this genus described in the work of Budde-Lund as found in Europe or elsewhere in the old world. The circumstances are such as to suggest that it is probably introduced in this locality but is an indigenous American species.

Armadillidium quadrifrons (new species)

Body oblong, oval, strongly convex. Length 9 mm; width 4–5 mm. Surface minutely dotted. Color light brown with two longitudinal rows of dark brown spots on each side.

Head more than three times as broad as long. Frontal lobe (clypeus) prominent and subrectangular when looked at from above. Lateral lobes (not shown in the figure) large and inclined downward and outward. Anterior margin of the head slightly notched in the middle. Eyes small and situated at the anterior lateral margin of the head.

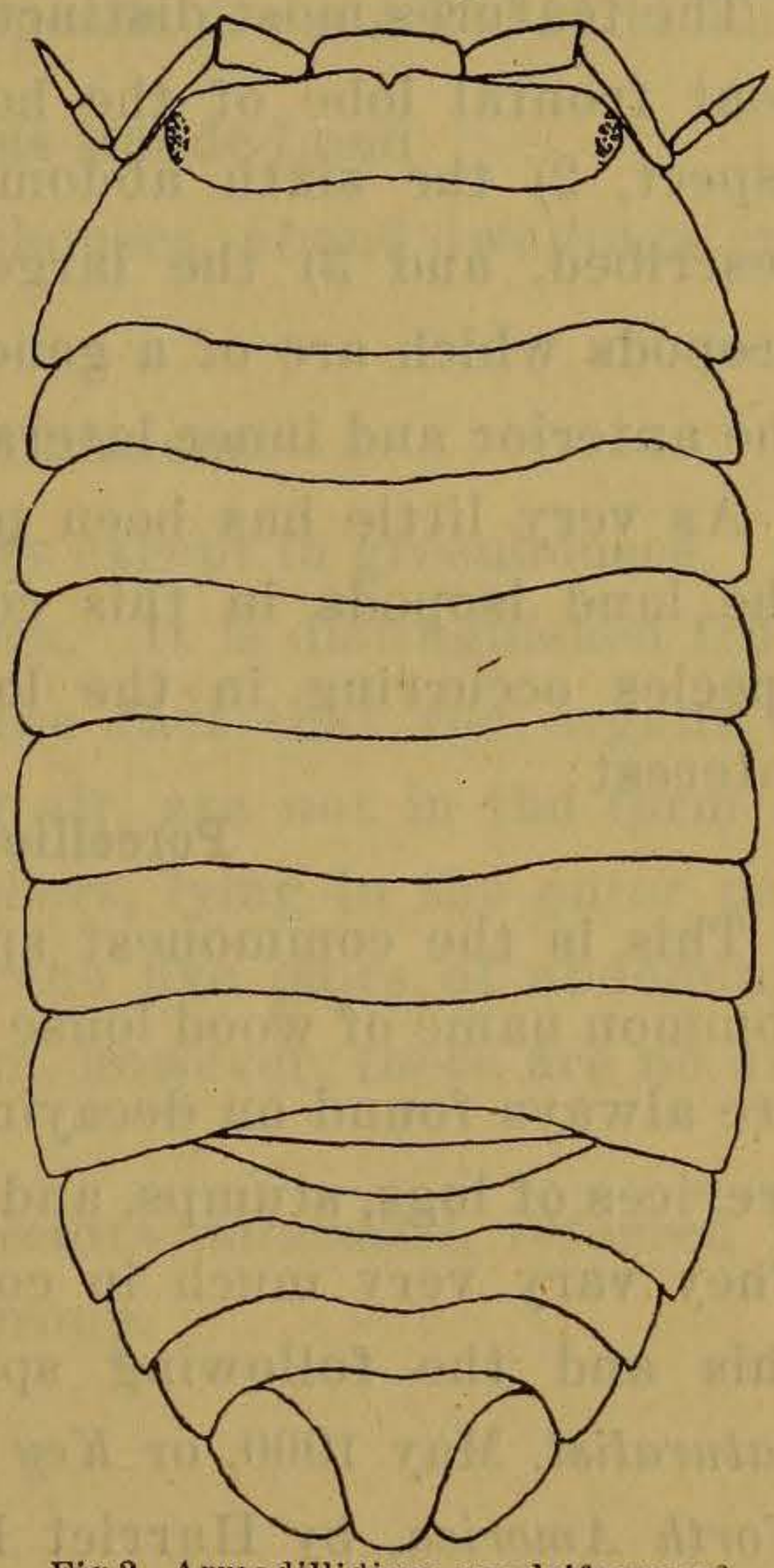

Fig 2 Armadillidium quadrifrons x8

Antennae about one third length of body. First joint short and rounded; second joint about a third longer than broad; third, fourth and fifth joints successively longer. Of the two joints of the flabellum the terminal one is slightly the longer. Antennules rudimentary.

The first thoracic segment the longest and its epimera broad, the anterior extensions embracing the head at the sides. The remaining six thoracic segments about equal in length. The anterior lateral angles of the second, third and fourth segments truncate.

The first and second abdominal segments much reduced. The outer fourth of the anterior margin of the third abdominal segment on each side is contiguous with the posterior margin of the last thoracic segment. The epimera of the third, fourth and fifth abdominal segments are successively more curved posteriorly and their margins continue the oval outline made by the lateral margins of the thoracic segments. The sixth abdominal segment is triangular in shape with a broadly rounded apex forming the terminal margin. Lateral margins concave toward the middle lines.

The outer terminal branches of the uropods are flattened plates, lateral to the terminal abdominal segment, and complete the oval outline of the body posteriorly.

Of the abdominal appendages the first two pairs are provided with tracheae.

The features most distinctive of this species are 1) the prominent frontal lobe of the head, subrectangular in its dorsal aspect, 2) the sixth abdominal segment of the shape above described, and 3) the large outer terminal branches of the uropods which are of a general oval shape but subtruncate on the anterior and inner lateral margins.

As very little has been published about the distribution of the land isopods in this country the following notes of the species occurring in the locality of Schenectady may be of interest:

Porcellio rathkei Brandt

This is the commonest species. It is the one to which the common name of wood louse most appropriately applies, as they are always found on decaying wood, under the bark and in the crevices of logs, stumps, and under boards, etc. about dwellings. They vary very much in color. For diagnostic characters of this and the following species see tables in the *American naturalist*, May 1900, or *Key to the isopods of the Atlantic coast of North America*, by Harriet Richardson, published as pamphlet no. 1222, *Proceedings of the U. S. national museum*, Washington 1901.

Porcellio spinicornis Say

This species seems to prefer the crevices of rocks, specially shady limestone ledges. Also, along with the preceding it occurs under flat stones and boards, in the vicinity of dwellings.

Porcellio scaber Latreille

This is a widely distributed species but in this locality it is uncommon except as living in a partially domesticated state in greenhouses. Here they are abundant and attain their maximum size. This species is very variable as to color.

Cylisticus convexus De Geer

This species has resisted domesticating influences, being found in the woods under logs and occasionally along roadsides, etc. under stones. It is able to roll its body into a ball, resembling in this respect the members of the genus Armadillidium.

Metopnorthus pruinosus Budde-Lund

This species is common in greenhouses, about dwellings and along country walls.

Oniscus asellus Linnaeus

This species is rare in this locality except in greenhouses. It is the largest of the common species. It is distinguished from the genera above mentioned by the fact that the organs of respiration, adapted for breathing air, are not in the form of tracheae, but are diffuse air chambers, lying in the outer portions of the external branches of the five pairs of abdominal appendages. In the genus Ligidium, however, there are no air-containing organs of any kind.

The paper published in the *American naturalist*, referred to above, gives the literature of this group.