

1874. SMITH, S. I.

The Crustacea of the fresh waters of the United States. pp. 637-661.
Sketch of the Invertebrate Fauna of Lake Superior. pp. 690-706. Food of
fresh-water fishes. pp. 708-709. Extract from the report of Prof. S. F. Baird,
Commissioner of fish and fisheries, Part II, Report for 1872-'73. Washington, 1874.

At page 645, the account of the Amphipoda begins with the family ORCHESTIDÆ, and the new
genus *Hyaella*, thus described:—

“First pair of maxillæ with rudimentary, very short, and uniarticulate palpi. Palpus of the
maxillipeds composed of five segments; the terminal segment being slender and styliform,
and the penultimate broad. Antennulæ, antennæ, and thoracic legs much as in *Hyaella*.
Telson short, stout, and entire.

“This genus seems to be closely allied to *Hyaella*, but differs from it and from the rest of the
Orchestidæ in the palpus of maxillipeds, which has five instead of four segments, showing
in this respect a remarkable approach toward the gammaroid group of *Amphipoda*. From
Hyaella it differs also in the telson.”

For a discussion of the genera *Hyaella* and *Hyaella*, see Note on Rathke, 1837. *Hyaella dentata*,
n. s., pl. ii. figs. 8-10, is here described. After the description had been sent to the
printer, Professor Smith received many additional specimens from Lake Okeechobee, Florida.
In some of these, he says, “the dorsal teeth upon the first and second segments of the
abdomen are very small; and, in a very few specimens, they are wholly, or almost wholly,
wanting.” The *Amphithoræ aztecus*, Saussure, “undoubtedly belongs to this genus, and may
be called *Hyaella azteca*.” *Allorchestes knickerbockeri* of Bate “belongs probably to this
genus”; “the palpus of the first pair of maxillæ, in Bate’s species, is figured (perhaps
incorrectly) as composed of two segments.”

In the family LYSIANASSIDÆ, “*Pontoporeia Hoyi*,” pl. ii, fig. 5, is entered as a new species, with
the synonymy, “*Pontoporeia affinis* Smith, American Journal of Science, 3d series, vol. ii,
p. 452, 1871; and Preliminary Report on Dredging in Lake Superior, p. 1022, 1871.
Gammarus Hoyi Stimpson, MSS., (full-grown male form.) *Gammarus brevistylis* Stimp-
son, MSS., (female)” Professor Smith had originally regarded his specimens “as specifically
identical with the *Pontoporeia affinis* of the Scandinavian lakes and the Baltic. A subse-
quent and more minute comparison has, however, revealed some differences, which are
apparently constant.” “The most remarkable differences are in the peculiar, elongated,
papilliform appendages upon the sternal portion of the thoracic segments.” These, it
appears, are more numerous in the American specimens than in the European, as described
by G. O. Sars in 1867. A second new species, *Pontoporeia filicornis* (*Gammarus filicornis*
Stimpson, MSS.), is founded on a single specimen. “This species differs remarkably from
all the heretofore known species of *Pontoporeinæ* in the excessive elongation of the flagella
of the antennulæ and antennæ, a character which might be regarded by some naturalists as
of generic value. The very close agreement with *P. affinis* and *Hoyi* in all other parts
of the animal, however, seems to indicate a very close affinity with those species,
especially the latter; and as this one peculiarity is very likely only a sexual character of
the old males of the species, I retain the species in the genus.” The detailed account seems
to make it doubtful whether the name *Pontoporeia affinis* would not suffice both for this
and the preceding species.

In the family GAMMARIDÆ, is described *Gammarus limnæus*, Smith, pl. ii, figs. 6, 7, (*Gammarus*
lacustris, Smith, 1871), “this species is very closely allied to the *Gammarus neglectus* of
G. O. Sars, which inhabits the lakes of Norway,” of which *lacustris* is a synonym, or