ON THE CLASSIFICATORY POSITION AND SYNONYMS OF EATONIELLA RUFILABRIS.

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The subject of this communication, which has long been known as *Bithynia*, or *Tatea huonensis*. though another specific name has priority of fourteen years, has hitherto been handed about from genus to genus without finding a resting place. For some years past I have been convinced of the incompatability of its reference to those families under which it has been placed; its location under Rissoininæ was the first step which led me to its present classificatory position in the genus *Eatoniella*.

The main portion of this essay was written twelve years ago, but the desire to fully work out the anatomical characters has always been my plea for postponement of publication; now, however, the opportunity of addressing the conchologists of Tasmania, who have most materially contributed to the bibliography of the species, cannot be resisted, though further study in the direction indicated is still very desirable.

The shell was first made known by A. Adams in 1862 (unless *Amnicola badia*, Gould, is the same) from specimens collected on the shore at Port Lincoln, in South Australia, and named by him, *Diala rufilabris*. E. A. Smith, in 1875, pointed out that it differed essentially from *Diala*, by its thickened and continuous peristome, and oblique aperture and columella, and removed it to the genus *Hydrobia*.

Tenison-Woods, in 1875, described the same shell as *Bythinia huonensis*. In 1878 R. M. Johnston transferred it to *Bithynella*, and Tenison-Woods in the same year, from information concerning the animal which I had supplied, did me the honour to erect for it the genus *Tatea*, which has done service till now. Unfortunately, Tenison-Woods mis-read my notes on the animal, and partially made amends in the following year; the chief error in his description relates to the operculum, which is not calcareous, though it is somewhat strengthened on the inner face with calcareous matter. In this way Tryon, 1883, came to be mislead, and placed *Tatea* in the family Rissoellidæ; this is repeated by the same author in 1887, and is followed by Fischer, in his "Manuel de Conch." of the same year.

In the meanwhile, E. A. Smith, in 1882, proved the identity of *Diala rufilabris* and *Tatea huonensis* by comparison of Adams' type with authentic examples from Tasmania, and quotes the species as *Tatea rufilabris*. Up to this time the

shell had remained unfigured, and it has subsequently been illustrated by Tryon in 1887, and Petterd in 1889. No further information of the animal has been published than that given by Tenison-Woods at the two references under *Tatea huonensis*.

On the publication of the anatomical characters of the animal of *Dardania* (Hutton) a new genus of Rissoinæ, in Trans. New Zealand Institute, 1882, I could not fail to recognise in it a congener with *Tatea rufilabris*. Both Tryon and Fischer place *Dardania* and *Tatea* as subgenera under *Jeffreysia*. Further investigations by Hutton (Proc Lin. Soc., N.S. Wales, vol. ix., p. 940, 1885) have lead him to consider *Dardania* synonymic with *Eatonia* (E. A. Smith), changed by Dall to *Eatoniella*, because Smith's name was preoccupied. In all essential characters *Dardania olivacea* and *Tatea rufilabris* agree with *Eatoniella*; however, they are not of the same species, differing much in the shape of the shell, and in the outline of the foot.

My observations on the animal of Eatoniella rufilabris, are as follow:—*Foot*, when extended, between two and three times as long as broad, truncated and auricled in front, somewhat narrowed in the ante-medial region, expanded and rounded posteriorly; *muzzle*, reddish-brown, with a colourless tip; *tentacles*, long, subulate, colourless, but encircled with brown near the tips; *operculum*, pancisperal, thick, externally corneous, somewhat calcareous on inner face, provided with a vertical submarginal claw, which is denticulated on its edge. The animal resembles that of *Amnicola*, as represented by Stimpson ("Researches upon the *Hydrobünæ*," p. 84); but the opercular characters do not belong to that family as defined by him, and are those proper to *Rissoininæ*.

Tatea is not synonymous with *Gabbia* (Tryon) as has been suggested by some conchologists. An examination of examples of the species, *G. australis* from its type-locality, proves that the surmise of Stimpson that the shell is a *Bythinia*, is correct, and justifies Brazier's interpretation of the generic characters, he having independently described the same as *Bithynia hyalina*; in our conjoint "Check List of the Freshwater Shells of Australia" it stands as *B. australis* (Tryon, sp.)

Eatoniella rufilabris occurs at South Grafton, Clarence River, N.S. Wales, and has been identified by E. A. Smith from specimens received from Brazier. Examples of the same have been determined by Tryon to be *Amnicola badia* (Gould), originally known from Banks Peninsula, New Zealand. However, the researches of Prof. Hutton on the New Zealand Hydrobünæ, in N.Z. Inst., 1882, p. 143, plate i., show that *Melania corolla* is a *Potamopyrgus*, the operculum of which has no internal process. I think we must vote Tryon in the

wrong, more especially as the shells of the two species, *Eatoniella rufilabris* and *Potamopyrgus badia*, have much resemblance to each other; however, it must be admitted that Hutton has not shown that *Amnicola badia* (Gould) is a *Potamopyrgus*, though he has for *M. corolla*, which he regards as the same species.

Eatoniella is known by three species, inhabiting Kerguelen Island, one New Zealand, and one Australia.

The *habitats* of the last are as follow:—Usually on submerged weeds, or sheltering under stones at the margin in water-courses subject to tidal influences, though occasionally in fresh water, but rarely in waters wholly saline. It is a characteristic estuarine shell, but is present in some inland brackish waters; is abundant throughout Southern Australia and Tasmania, and extends to the Clarence River in New South Wales.

The following references supply the chronological history of the species:—

FAMILY RISSOININÆ.

Genus Eatoniella.

Eatonia, E. A. Smith, 1875 (*now* Hall, 1857).

Eatoniella, Dall, 1876 *(nom. mut.)*.

Tatea, Tenison-Woods, 1879.

Dardania, Hutton, 1882.

Eatoniella Rufilabris.

1863.—*Diala rufilabris*, A. Adams, Ann. Mag. Nat. Hist., p. 298.

1865.—*Diala rufilabris*, Angas, Proc. Zool. Soc., p. 174.

1875.—*Hydrobia rufilabris*, E. A. Smith, P.Z.S., p. 538.

1876.—*Bythinia huonensis*, Tenison-Woods, Roy. Soc. Tasmania for 1875, p. 77.

1878.—*Bythinia huonensis*, Tenison-Woods, Roy. Soc. Victoria, vol. xiv., p. 62.

1879.—*Bithynia huonensis*, Petterd, Journ. Conch., vol. ii., p. 93.

1879.—*Bithynella huonensis*, R. M. Johnston, Roy. Soc. Tasmania for 1878, p. 28.

1879.—*Tatea huonensis*, Tenison-Woods, Roy. Soc. Tas- Tasmania for 1878, p. 71.

1880.—*Tatea huonensis*, Tenison-Woods, op. cit. for 1879, p. 72.

1881.—*Tatea huonensis*, Tate and Brazier, Proc. Lin. Soc., N.S. Wales, vol. vi., p. 564.

1882.—*Tatea rufilabris*, E. A. Smith, Proc. Lin. Soc., London, vol. xvi., p. 268, tab. 7, fig. 19.

1883.—*Tatea huonensis*, Tryon, Syst. Conch., vol. ii., p. 259.

1887.—*Jeffreysia (Tatea) huonensis*, Tryon, Man. Conch., vol. ix., p. 397, tab. 60, fig. 94.

1889.—*Tatea rufilabris*, Petterd, Roy. Soc. Tasmania for 1888, tab. 2, fig. 1, p. 78.

1889.—*Tatea rufilabris*, Brazier, Jour. Conch., p. 72.