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The genus *Rivomarginella* (Gastropoda, Marginellidae)

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ABSTRACT

Rivomarginella Brandt, 1968, is the only genus of the Marginellidae living in freshwater. The type species, *R. morrisoni* Brandt, is known from rivers and lakes in Thailand. *Marginella electrum* Reeve, 1865, is assigned to the genus *Rivomarginella*. Specimens of *R. electrum* (Reeve) are mentioned from freshwater localities in Sumatra and Borneo, Indonesia. Sumatra is selected as the type locality.

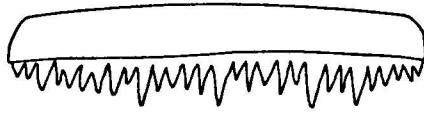
SYSTEMATICS

Brandt (1968: 275, pl. 10, fig. 63) described a new genus in the Marginellidae, from Thailand. Since the specimens were found living in freshwater, although the Marginellidae are marine prosobranchs, the genus was properly named *Rivomarginella*. The radula (fig. 1), plicated columella, and lack of an operculum indicate that *Rivomarginella* belongs into this family. The type species is *Rivomarginella morrisoni* Brandt, 1968, by monotypy. The type specimens are deposited in the Senckenberg Museum, Frankfurt am Main. Brandt collected a number of specimens, four of which were donated to the Zoological Museum in Amsterdam (fig. 7). Brandt did not know of any localities outside Thailand.

We agree with Brandt that *Rivomarginella* is different from all known taxa in the Marginellidae, therefore this genus must be retained.

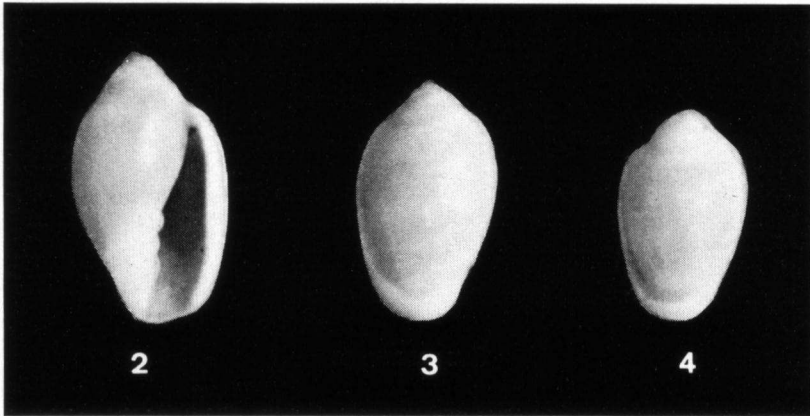
Reeve (1864—1865, pl. 22, spec. 118) described and figured *Marginella electrum*, type locality unknown. The holotype and two paratypes (figs. 2—4) are deposited in the British Museum (Natural History) in London. We have studied the type specimens of *Marginella electrum* Reeve, 1865, compared them with specimens of *Rivomarginella morrisoni*, and our conclusion is that *M. electrum* must be placed in *Rivomarginella*. This conclusion is supported by the study of material of *Rivomarginella electrum* from freshwater localities

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FIG. 1. Radula of *Rivomarginella morrisoni*, after Brandt, 1968.



FIGS. 2—4. *Rivomarginella electrum* (Reeve), type specimens of *Marginella electrum*, locality unknown (coll. BMNH). 2. Holotype, length 10.7 mm — 3. Paratype, length 9.2 mm — 4. Paratype, length 8.2 mm. Photographs: P. W. Clover.

TABLE I. Comparison of different characters in *Rivomarginella morrisoni* Brandt and *R. electrum* (Reeve).

	<i>morrisoni</i>	<i>electrum</i>
colour of the shell	greyish yellow, with or without 1 or 2 bands on the body whorl	brownish yellow, with or without bands
angle of spire	> 90°	< 90°
width/length	> 61 %	< 61 %
distribution	Thailand	Indonesia

in Indonesia, present in the Zoological Museum in Amsterdam. These specimens are identical with the type specimens of *R. electrum*.

The shells of *Rivomarginella morrisoni* and *R. electrum* are different from each other in a few characters (table I). Whenever more material of these species becomes available, the possibility of two geographical races of a single species must be considered. Table II gives the measurements of sixteen specimens of *Rivomarginella electrum* and *R. morrisoni*.

Tryon (1882: 24, pl. 7, figs. 13—14) considered *Marginella electrum* a faded specimen of *M. hematita* Kiener, 1834, of which the outer lip was worn smooth. Wagner & Abbott (1967: 148, no. 22—507) also stated that *electrum* "may be *hematita*". This opinion can be withdrawn, *Rivomarginella electrum* is a freshwater species from S.E. Asia, with a yellowish colour, wide aperture, and a smooth outer lip (figs. 2—6), whereas *Marginella (Eratoidea) hematita* is a marine Caribbean species, with a reddish colour, narrow aperture, and a denticulate outer lip (fig. 8).

Redfield (1870: 231), Jousseume (1875: 174), Weinkauff (1879: 76, pl. 14, figs. 10—11), and Tomlin (1917: 264) have mentioned *Marginella electrum* in their monographs on the Marginellidae. However, these authors were not able to give more information on the systematic position and the distribution of the species, evidently due to lack of material.

TABLE II. Measurements of 12 specimens of *Rivomarginella electrum* (Reeve) and 4 specimens of *R. morrisoni* Brandt, present in the British Museum of Natural History (BMNH), and in the Zoological Museum Amsterdam (ZMA).

locality	length in mm	width in mm	collection	remarks	fig.
unknown	10.7	5.8	BMNH	<i>Marginella electrum</i> Reeve, holotype	2
	9.2	5.5	"	paratype	3
	8.2	4.8	"	paratype	4
Sumatra, Lampongs Distr., lake near Kampong Djupan	10.6	6.5	ZMA	<i>R. electrum</i>	5
	9.8	5.0	"	nearly adult	
	7.7	4.4	"	juvenile	
Borneo, Tanah Laut, freshwater near Pleyharia	5.2	3.1	"	juvenile	6
	10.4	6.0	ZMA	<i>R. electrum</i>	
	10.1	5.6	"		
	7.8	4.5	"	juvenile	
Thailand, Prachin river at Kabinburi	7.5	4.6	"	juvenile	7
	6.4	3.6	"	juvenile	
	10.2	6.3	ZMA	<i>R. morrisoni</i>	
	9.6	6.3	"		
	9.2	5.9	"		
	8.5	5.5	"		

DISTRIBUTION

The type locality of *Rivomarginella morrisoni* is Manam Mae Klong near Ban Pong, Ratburi, Thailand (fig. 9, in area A). Brandt (1968: 277) mentioned more localities in Thailand for this species.

The type locality of *Rivomarginella electrum* is unknown. In the mollusk collection of the Zoological Museum in Amsterdam two lots of *R. electrum* are present from Indonesia: Sumatra, Lampongs District, freshwater lake near Kampong Djupan, 4 specimens, leg. van Hasselt, ex coll. M. M. Schepman (fig. 5) — Borneo, Tanah Laut, freshwater near Pleyharia, 5 specimens, leg. Semmelinck 1867, ex coll. M. M. Schepman (fig. 6). Since *Marginella electrum* Reeve had no type locality, we select the Sumatran locality mentioned above as the type locality for this species.

The distribution of the genus *Rivomarginella*, as far as known at the present time, is Thailand, Sumatra, and Borneo (fig. 9).

Although the species of *Rivomarginella* are adapted to living in freshwater, all known localities are not far from the sea. This may indicate that the evolution of *Rivomarginella* from marine Marginellidae has taken place in recent geological times, possibly in connection with the submersion of the Sunda plateau.

ACKNOWLEDGEMENTS

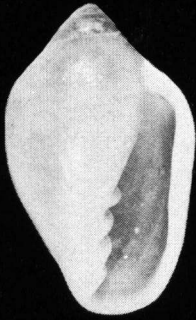
The authors are grateful to Mr. John F. Peake in London for his assistance when we were studying the type collection of Marginellidae in the British Museum (Natural History), and to Dr. Rolf A. M. Brandt in Thailand for his donation of specimens of *Rivomarginella morrisoni* to the Zoological Museum in Amsterdam. The photographs of figs. 5—8 were made by Mr. L. A. van der Laan, the map was prepared by Mr. J. Zaagman.

FIG. 5. *Rivomarginella electrum* (Reeve), Sumatra, Lampongs District, length 10.6 mm (coll. ZMA).

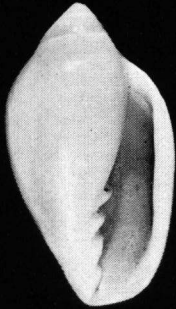
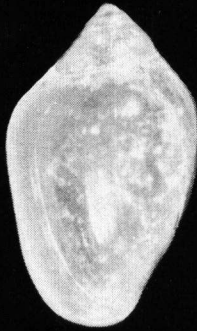
FIG. 6. *Rivomarginella electrum* (Reeve), Borneo, Tanah Laut, length 10.4 mm (coll. ZMA).

FIG. 7. *Rivomarginella morrisoni* Brandt, Thailand, Prachin river, length 10.2 mm (coll. ZMA).

FIG. 8. *Marginella hematita* Kiener, Puerto Rico, length 10.9 mm (coll. ZMA).



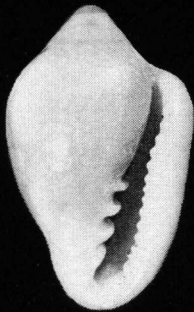
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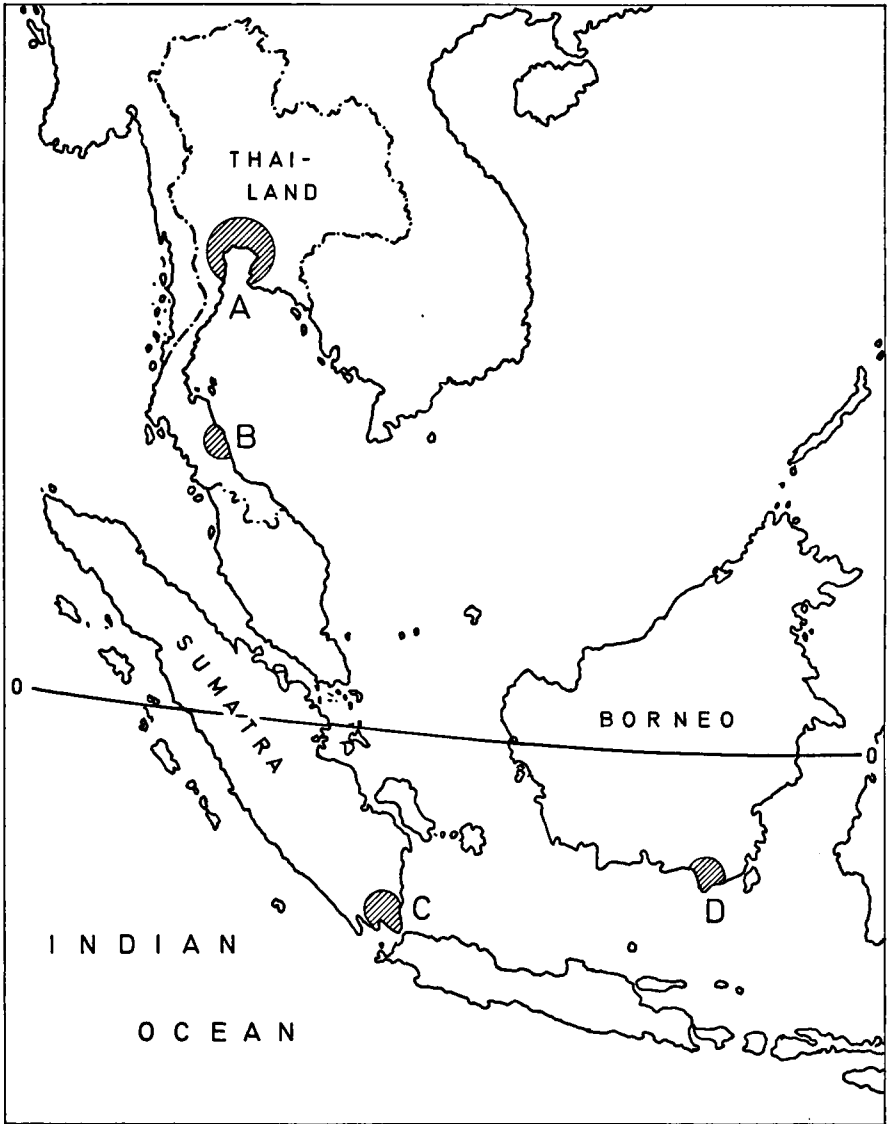


FIG. 9. Distribution of *Rivomarginella* in S.E. Asia.

A and B: *R. morrisoni* Brandt, several localities in Thailand (Brandt, 1968: 277). C and D: *R. electrum* (Reeve) in Indonesia; Sumatra, Lampongs District — Borneo, Tanah Laut.

LITERATURE

- BRANDT, ROLF A. M.
1968 Description of new non-marine mollusks from Asia. — Arch. Moll., **98**
(5/6) : 213—289, pls. 8—10.
- JOUSSEAUME, F.
1875 Coquilles de la famille des Marginelles. Monographie. — Rev. Mag. Zool.,
(3) **3** : 164—271, 429—435, pls. 7—8.
- REDFIELD, JOHN H.
1870 Catalogue of the known species, recent and fossil, of the family Marginel-
lidae. — Amer. J. Conch., **6** : 215—269.
- REEVE, LOVELL A.
1864—1865 Monograph of the genus Marginella. — Conch. Icon., **15**, pls. 1—27.
- TOMLIN, J. R. LE BROCKTON
1917 A systematic list of the Marginellidae. — Proc. Mal. Soc., **12** : 242—306.
- TRYON, GEORGE W.
1882 Family Marginellidae. — Man. Conch., **5** : 5—58, pls. 2—13.
- WAGNER, ROBERT J. L. & R. T. ABBOTT
1967 Van Nostrand's standard catalog of shells. 2nd ed., 1—303 (D. van Nostrand,
Princeton).
- WEINKAUFF, H. C.
1879 Die Gattungen Marginella und Erato. — Syst. Conch. Cab., **5** (4) : 1—166,
pls. 1—26.

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