

A POSIÇÃO SISTEMÁTICA DE ALGUNS BIVALVES UNIONOIDEA DO GRUPO BAURU (CRETÁCEO SUPERIOR) DO BRASIL¹

THE SYSTEMATIC POSITION OF SOME UNIONOIDEA BIVALVES FROM BAURU GROUP (UPPER CRETACEOUS) OF BRAZIL¹

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Resumo: No catálogo de Simone & Mezzalira (1994), três espécies de bivalves não-marinhas do Grupo Bauru (Cretáceo Superior) dos Estados de São Paulo e Minas Gerais, Brasil, foram transferidos para outras posições sistemáticas; sendo estas transferências formalmente justificadas aqui, dois taxa, nomeados naquele trabalho, são descritos. O gênero *Florenceia* Mezzalira 1974 é colocado em Hyriidae. Na família monotípica Sancticarolitidae Simone & Mezzalira 1994 (Unionoidea?) é introduzido o gênero *Sancticarolis* Mezzalira 1974; e para *Taxodontites* Simone & Mezzalira 1994 (Mutelidae) é descrita a espécie *T. paulistanensis* (Mezzalira 1974).

Palavras-chave: Cretáceo, Grupo Bauru, Bivalvia, Unionoidea.

Abstract: In the Simone & Mezzalira (1994) catalogue, three species of non-marine bivalves from the Bauru Group (Upper Cretaceous) of São Paulo and Minas Gerais states, Brazil, were transferred to other systematic positions; these transfers are formally justified herein, two taxa, named in that paper, are described. The genus *Florenceia* Mezzalira 1974 is placed in Hyriidae. The monotypic family Sancticarolitidae Simone & Mezzalira 1994 (Unionoidea?) is introduced for *Sancticarolis* Mezzalira 1974; and *Taxodontites* Simone & Mezzalira 1994 (Mutelidae) is described for *T. paulistanensis* (Mezzalira 1974).

Keywords: Cretaceous, Bauru Group, Bivalvia, Unionoidea.

INTRODUCTION

This paper is a continuation of that begun by Mezzalira (1974) on the invertebrate faunas of the Bauru Group (Senonian, Cretaceous), of Brazil. The present paper refers to the systematic placement of three species described in that paper, which were transferred to other systematic position by Simone & Mezzalira (1994).

Those changes are justified herein by means of formal descriptions, which are based on a new analysis of the type specimens and newly collected material. Two taxa introduced without description by Simone & Mezzalira (1994) (a genus and a family) are described herein.

A historical revision and comments on stratigraphy of the Bauru Group are found in Mezzalira (1974).

MATERIAL AND METHODS

The material are deposited in the collection of the Instituto Geológico da Secretaria Estadual do Meio Ambiente de São Paulo, designed as *IG*.

The drawings are obtained with the aid of a camera lucida. Systematics and terminology are based on Haas (1969).

SYSTEMATICS

Class **BIVALVIA** Linné 1758
Subclass **PALAEOHETERODONTA** Newell 1965
Order **UNIONOIDA** Stoliczka 1871
Superfamily **UNIONOIDEA** Fleming 1828
Family **HYRIIDAE** Ortmann 1911

Florenceia Mezzalira 1974

Type species: *Florenceia peiropolensis* Mezzalira 1974; by monotype and original designation.

1- Trabalho enviado pela Revista Paula-Coutiana, Fundação Zoobotânica do Rio Grande do Sul, em janeiro de 1997.

2- Seção de Moluscos, Museu de Zoologia da USP, Caixa Postal 7172; CEP 01064-970, São Paulo, SP, Brazil.

3- Rua Nanau, 77; CEP 02335, São Paulo, SP, Brazil.

Discussion: In the original description of the genus *Florenceia*, no attribution to a higher taxon was related. The pteroid projection and sculpture (see original description) justify the placement of *Florenceia* in Hyriidae. Species of *Prisodon* Schumacher 1817 (= *Hyria* Lamarck 1918), a recent genus of Hyriidae (Haas 1969: N457), also has pteroid projections, but they are better developed than those of *Florenceia*.

Florenceia peiropolensis Mezzalira 1974
(Figure 1.1)

Florenceia peiropolensis Mezzalira 1974:111, Plate 1, Figuras 5-6; Simone & Mezzalira, 1994:76, Plate 29, Figure 753.

Types: Holotype IG744-I, Paratypes IG745-I, 2 specimens (examined).
Type locality: Brazil, Minas Gerais State, Uberaba city, Peiropolis.
Horizon: Senonian, Cretaceous; Bauru Group, Marília Formation.

Family SANCTICAROLITIDAE Simone & Mezzalira 1994

Diagnosis: Small, elliptical, equivalve, compressed fresh-water Cretaceous Bivalvia. Hinge with two long anterior lateral teeth and two long posterior lateral teeth (similar to the anterior teeth but longer) in the right valve, and complimentary sockets in the left valve. Cardinal teeth are wanting (fig1: 2-5). Pallial line entire, without sinus.

List of included taxa: Only *Sancticarolis* Mezzalira 1974, the family is monotypic.

Discussion: The peculiar hinge, when compared with other known fresh-water Bivalvia (Haas 1969) indicates the necessity of a new family. The superfamily suggested is Unionoidea due to its general aspect, ligament and habitat. Within Unionoidea, the Sancticarolitidae is somewhat similar to species of the *Caelatura* Conrad 1853 subgenera, such as *Laevirostris* Simpson 1900 and *Zairia* Rochebrune 1886 Ambleminae (= Quadrulinae), tribe Amblemini, see Heard & Guckert 1971; Vaught 1989), a group which occurs from Upper Pliocene to Recent of Africa (Haas 1969: N418). Sancticarolitidae differs from this group in having smaller size and two pairs of teeth (and not one) in the right ringe.

Sancticarolis Mezzalira 1974

Type species: *S. tolentinoi* Mezzalira 1974; by monotype and original designation.

Sancticarolis tolentinoi Mezzalira 1974
(Figures 1.2-1.5)

Sancticarolis tolentinoi Mezzalira 1974: 113, Plate 1, Figures. 10-11; Mezzalira 1989: 79, Plate 9, Figures. 5-6; Simone & Mezzalira 1994: 76, Plate 29, Figure 754.

Types: Holotype IG747-I, paratypes IG748-I, 3 specimens.

Type locality: Brazil, São Paulo State, Sao Carlos city, "Nossa Senhora da Aparecida" farm, 15km N.E. downtown.

Complementary description: The external sculpture of commarginal growth lines is evident in external moulds; the internal mould shows concentric undulations, a clear pallial line without sinus, and a low radial posterior groove. The adductor musculature is poorly preserved. A hinge reconstitution, based on internal moulds, is shown in Figures 4 and 5. The ligament was probably external external, like Recent Unionoidea.

Material examined: types; IG1081-I (3 specimens); IG1082-I (3 specimens); IG1083-I (3 specimens) all these from type locality.

Horizon: "Litofacies Itaqueri", Bauru Group; Coniacian, Cretaceous.

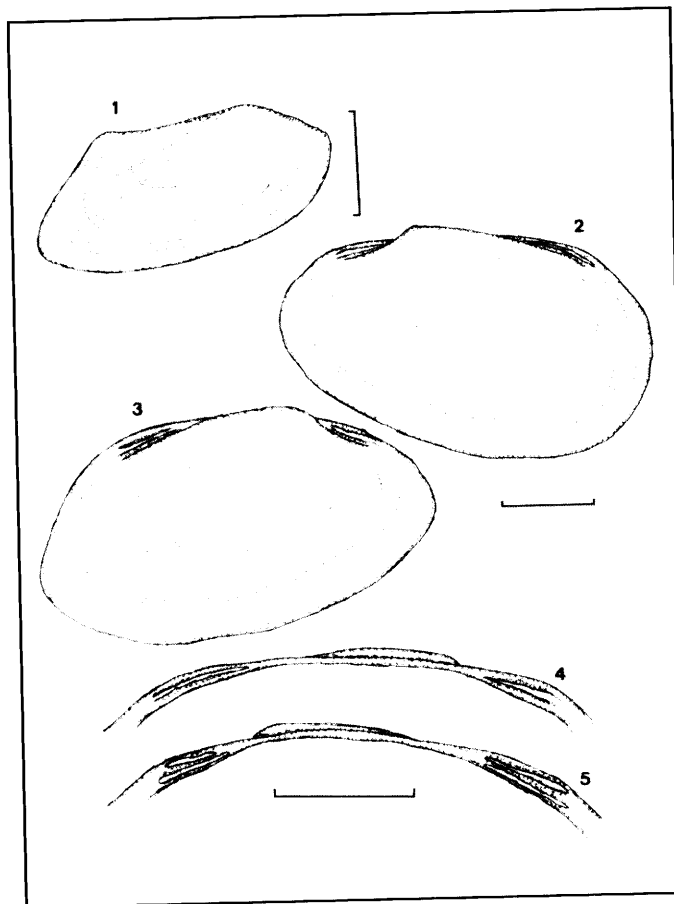


FIGURA 1 - 1) *Florenceia peiropolensis* Mezzalira 1974, parátipo IG745-I, molde interno; escala = 10mm; 2 a 5) *Sancticarolis tolentinoi* Mezzalira 1974, parátipo IG748-I: 2) molde interno da valva direita; 3) molde interno da valva esquerda; escala = 2mm; 4) reconstituição da charneira da valva esquerda, com base nos moldes internos; 5) reconstituição da charneira da valva direita, com base nos moldes internos; escala = 2mm
FIGURE 1 - 1) *Florenceia peiropolensis* Mezzalira 1974, the paratype IG745-I, an internal mould; scale = 10mm; 2 to 5) *Sancticarolis tolentinoi* Mezzalira 1974, paratype IG748-I: 2) internal mould of a right valve; 3) internal mould of a left valve; scale = 2mm; 4) reconstitution of the hinge of the left valve, based on internal moulds; 5) reconstitution of the hinge of the right valve based on internal moulds; scale = 2mm

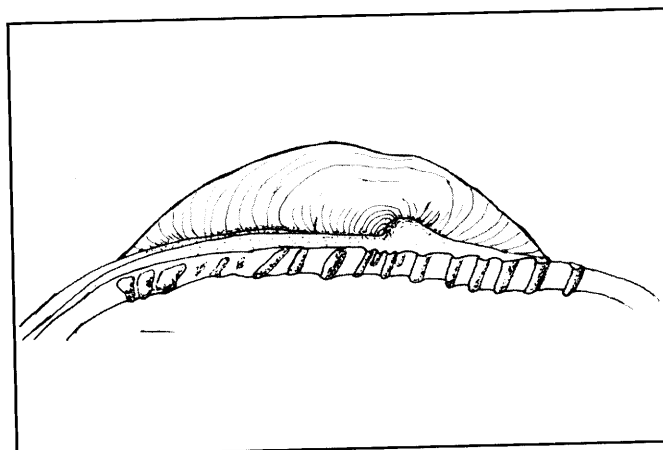


FIGURA 2 - *Taxodontites paulistanensis* (Mezzalira), reconstituição da charneira da valva esquerda baseada no lectótipo IG740-I, escala=1mm
FIGURE 2 - *Taxodontites paulistanensis* (Mezzalira), reconstitution of the left valve hinge, based on the lectotype IG740-I, scale=1mm

Superfamily MUTELOIDEA Parodiz & Bonetto 1963
 Family MUTELIDAE Swainson 1840

Genus: *Taxodontites* Simone & Mezzalira 1994

Type species: *Anodontites* (?) *paulistanensis* Mezzalira 1974 by monotype.

Diagnosis: Medium-sized, rounded, equivalve, fresh-water Cretaceous Bivalvia. Hinge taxodont, with about 15 oblique teeth. Muscle scars elliptic, isomyarian, pallial line without sinus.

List of included taxa: Only *Taxodontites paulistanensis* (Mezzalira 1974), the genus is monotypic.

Etymology: Refers to the taxodont hinge, arbitrarily finishing with *tites*, like *Anodontites*, a common Neotropical genus. Gender: neutral.

Discussion: There are a few known fresh-water bivalves with taxodont dentition (Haas 1969); they are *Mutela* Scopoli 1777, *Iridina* Lamarck 1819, *Pleiodon* Conrad 1934, and *Itaimbeia* Mezzalira 1974. *Taxodontites* differs from all these genera in possessing a rounded outline (no antero-posteriorly elongate) and fewer hinge teeth. On the base of its taxodont hinge, *Taxodontites* is included in the family Mutelidae, currently restricted to Recent of Africa.

Taxodontites paulistanensis (Mezzalira 1974)
 (Figures 2,4)

Anodontites (?) *paulistanensis* Mezzalira 1974: 108 (plate 1, figures. 3, 3a, 4); Mezzalira 1989:79 (Plate 12, Figure 2).

Taxodontites paulistanensis: Simone & Mezzalira 1994: 76, Plate 29, Figure 756.

Types: Lectotype: IG740-I; paralectotype IG741-I (designated herein)

Type locality: BRAZIL. São Paulo, Álvares Machado city, km 576 on the road from Presidente Prudente to Presidente Epitácio.

Material examined: BRAZIL. **Minas Gerais:** Uberaba city, 1 specimen (IG1017-I); **São Paulo:** Álvares Machado city: types, 3 specimens (IG1039-I) and 1 specimen (IG1040-I) from type locality; Pacaembu city: 1 specimen (IG1035-I) and 3 specimens (IG1037-I); Florida Paulista city: (corte 45) km 16 of railway Adamantina-Pacaembu, 3 specimens (IG1036-I); (corte 59) km 19 of the same railway, 2 specimens (IG1038-I).

Discussion: The Taxodont hinge was determined from a new analysis of the type material, making necessary the creation of a genus. The hinge is also displayed in specimen IG1040-I a topotype, the other available specimens are only inner moulds without the hinge preserved.

Horizon: IG1017-I is from the Marília Formation; the other specimens are from the Adamantina Formation, Bauru Group; Senonian, Cretaceous.



FIGURA 3 - *Sancticarolis tolentinoi* (Mezzalira), foto dos espécimes in situ (IG1083-I), escala= 1mm

FIGURE 3 - *Sancticarolis tolentinoi* (Mezzalira), photograph of in situ specimens (IG1083-I), scale = 1mm

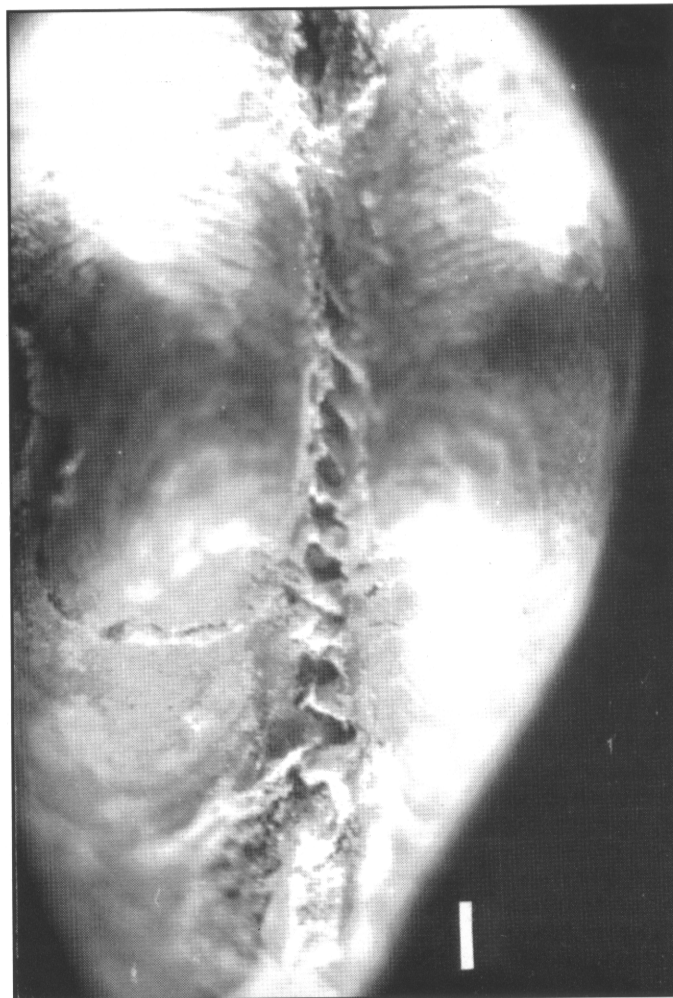


FIGURA 4 - *Taxodontites paulistanensis* (Mezzalira), detalhes da charneira do lectótipo (IG740-I), escala = 1mm

FIGURE 4 - *Taxodontites paulistanensis* (Mezzalira), details of the lectotype hinge (IG740-I), scale = 1mm

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