



# Article

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## Biodiversity assessment in the Lower Mekong basin: First record of the genus *Oncosclera* (Porifera: Spongillina: Potamolepidae) from the Oriental Region

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### Abstract

Taxonomic richness of Thai Spongillina numbers so far seven species (five genera, one family). The first record of the genus *Oncosclera* Volkmer-Ribeiro, 1970 belonging to the family Potamolepidae Brien, 1967 is here reported with the description of a new species from the Pong River (NE Thailand, Oriental Region) in the framework of a biodiversity assessment in the Lower Mekong Basin. An emended diagnosis of the genus is also provided. The new species, ascribed to the genus *Oncosclera* for diagnostic traits of the skeleton and the gemmular architecture, differs from all the other known species of the genus in its unique combination of diagnostic traits. *O. asiatica* **sp. nov.** is characterised by *i*) more or less alveolate skeleton, *ii*) conulose surface with a network of branched subdermal canals, *iii*) acanthoxeas as dominant megascleres and less frequent acanthostrongyles, *iv*) gemmular theca sublaminar of compact spongin with a scantily developed pneumatic layer of fibrous spongin, and *v*) gemmuloscleres as acanthostrongyles from elongated to ovoid with tubercles/spines particularly dense towards the tips. Despite the extremely disjunct distribution *O. asiatica* is morphologically similar to *O. intermedia* and *O. jewelli* from the Neotropical Region and *O. gilsoni* from Pacific Islands, from which the former diverges for megascleres and/or gemmuloscleres traits.

**Key words:** Freshwater sponges, *Oncosclera asiatica* **sp. nov.**, Pong River, Thailand, Morphology, SEM, Taxonomy, Biogeography

### Introduction

Some species of freshwater sponges sharing the diagnostic trait ‘gemmule armed by tangential strongyles and/or oxeas’ were firstly ascribed to the family Spongillidae Gray, 1867 and then transferred to the genus *Oncosclera* Volkmer-Ribeiro, 1970 of the family Potamolepidae Brien, 1967 (cf. Penney & Racek, 1968; Volkmer-Ribeiro, 1970; Manconi & Pronzato, 2002, 2007, 2009).

After the record of *S. navicella* by Carter (1881) from the Amazon Basin, registered also by Potts (1887), most species were ascribed firstly to the genera *Spongilla* Lamarck, 1816 or *Stratospongilla* Annandale, 1909a in the Neotropical Region (Argentina, Venezuela) from the Paraná, Uruguay, Plata and Orinoco Basins (*S. atrata*, *S. intermedia*, *S. navicella*, *S. petricola*, *S. ponsi*, *S. schubarti*, *S. spinifera*, *S. stolonifera*, *S. tonollii*) by Bonetto & Ezcurra (1962) and Bonetto & Ezcurra de Drago (1964, 1967, 1968, 1970, 1973) and from Brazil (*S. jewelli*) by Volkmer (1963) and Volkmer-Ribeiro (1970). Also the Afrotropical representatives of the genus described from the sub-Saharan Africa were firstly ascribed to the genus *Spongilla* and then to *Stratospongilla* Annandale, 1909a (*S. macrospiculata*, *S. rousseletii*, *S. schubotzi*) by Stephens (1919), Kirkpatrick (1906) and Weltner (1913), respectively, as occurred also for the Pacific Islands Region lineages as *S. diahoti* from New Caledonia and *S. gilsoni* from the Fiji Islands, by Rützler (1968) and Topsent (1912), respectively.

In their worldwide revision Penney & Racek (1968) did not mention most of the species, presently belonging to the genus *Oncosclera*, but only recorded three species, viz. *Stratospongilla gilsoni*, *S. rousseletii*, and *S. schubotzi*.