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## The Families Carditidae and Condylardiidae in the Magellan and Perú–Chile provinces (Bivalvia: Carditoidea)

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### Abstract

Based on the study of available types and extant collections, this paper provides a systematic revision of the living species of Carditoidea occurring in the Magellan and Perú–Chile Provinces. Out of the 19 nominal species reported for the area, eight species are recognized as valid: *Cyclocardia compressa*, *C. spurca*, *C. thouarsii*, *C. velutina*, *Carditella naviformis*, *C. semen*, *C. tegulata* and *Carditopsis flabellum*. Other eight nominal species are regarded as synonyms: *Cardita magellanica* of *Cyclocardia velutina*; *Carditella pallida* of *C. tegulata*; *Cardita australis* and *Actinobolus philippi* of *Carditella naviformis*; *Cardium pygmaeum* of *Carditella semen*; *Cardita paeteliana* of *Cyclocardia spurca*; *Carditella pallida duodecimcostata* of *Carditopsis flabellum*; and *Cardita congelascens* of *Cyclocardia thouarsii*. Furthermore, *Cardita malvinae* and *Cardium parvulum* are *nomina dubia*, and the occurrence of *Carditella exulata* in Magellanic waters is doubtful.

**Key words:** *Cyclocardia*, *Carditella*, *Carditopsis*, Southeast Pacific, Southwest Atlantic

### Introduction

The southern tip of South America, from Peninsula Valdés, Argentina (42°S) to Tierra del Fuego (56°S) in the Atlantic Ocean, and extending northwards to Chiloé, Chile (42°S) in the Pacific Ocean, represents a biogeographic unit: the Magellan Province. Towards the north, on the Pacific side, the Perú–Chile Province extends from Chiloé to Punta Aguja, Perú (05°47'S) (Boschi, 2000; Camus, 2001). Fourteen out of nineteen nominal species of carditoideans reported from these provinces have been described from the Chilean coast: *Cardita spurca* Sowerby, 1833, *Cardita compressa* Reeve, 1843, *Cardita naviformis* Reeve, 1843, *Cardita semen* Reeve, 1843, *Cardita tegulata* Reeve, 1843, *Cardita flabellum* Reeve, 1843, *Cardita australis* Philippi, 1858 (subsequently renamed as *Actinobolus philippi* Tryon, 1872), *Cardium pygmaeum* Philippi, 1860, *Cardium parvulum* Dunker, 1861, *Carditella pallida* Smith, 1881, *Cardita (Actinobolus) velutinus* Smith, 1881, *Cardita paeteliana* Clessin, 1888, and *Cardita magellanica* Philippi, 1898; four other species have been described from the Malvinas/Falkland Islands: *Cardita thouarsii* d'Orbigny, 1845, *Cardita malvinae* d'Orbigny, 1845, *Carditella pallida duodecimcostata* Melvill & Standen, 1912, and *Cardita congelascens* Melvill & Standen, 1912. Another carditoidean species listed for the area is *Carditella exulata* Smith, 1885, a species originally described from Nightingale Island [37°30'S 12°30'W].

The original descriptions for most of the above-mentioned species lack relevant characters for species identification, and some of them were never (or never properly) illustrated. Under this scenario it is not strange that species have been confused and discrepant synonymies proposed. For example: *Actinobolus philippi* was either considered as a synonym of *Carditella naviformis* by Bernard (1983) or of *Carditella semen* by Coan (2003) and Huber (2012). *Carditella naviformis* and *Carditella semen* were frequently confused (e.g.: d'Orbigny, 1845). *Carditopsis flabellum* was wrongly reported as a synonym of *Cyclocardia compressa* by d'Orbigny (1845). *Cardita paeteliana* was regarded as a synonym of *Carditella naviformis* by Bernard (1983), even when the original figure shows that the species is a member of the genus *Cyclocardia*. In addition, the figures of “*Carditella tegulata*” by