

## A new species of *Duplicaria* from NW South Korea

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*Duplicaria kirstenae* sp. nov.

Pl. 1, Figs 1-4

**Abstract:** *Duplicaria kirstenae* sp. nov. is proposed and described as new to science and compared with its morphologically closest relatives.

**Type Material: Holotype:** KBIN I.G. 33882 MT. 3711, 37.2 mm; **Paratypes:** All from type locality. **Paratypes 1-16:** KVL, 29.7-47.5 mm; **Paratypes 17-18:** YT, 24.7-30.5 mm.

**Introduction:** A large number of *Duplicaria* specimens collected by Kirsten Van Laethem in a blackish muddy intertidal area S of the Incheon Airport, South Korea were offered for study. Comparison with related species proved that the specimens belonged to a hitherto undescribed taxon. Furthermore, it led to the study of specimens of *Duplicaria bellanodosa* (Grabau & King, 1928).

**Additional material:** All specimens from type locality: KVL, 26.1-45.7 mm, 43 sps; YT, 31.8-36.4 mm, 7 sps.

**Type locality:** W South Korea. Gyeonggi Province. Incheon. Masiran-ro Beach. Mudflat exposed at low tide.

### Abbreviations:

- GP:** Private collection Gianluigi Pellifroni, Porto Ceresio, Italy  
**KVL:** Private collection Kirsten Van Laethem, Sint-Niklaas, Belgium  
**KBIN:** Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels, Belgium  
**LSL:** Linnean Society of London, London, UK  
**MBMCAS:** Marine Biological Museum, Chinese Academy of Sciences, IOCAS, Qingdao, PRC  
**MNHN:** Muséum national d'Histoire naturelle, Paris, France  
**YT:** Private collection Yves Terry, Belgium

### Systematics:

Class **GASTROPODA** Cuvier, 1797  
 Order **NEOGASTROPODA** Wenz, 1938  
 Superfamily **CONOIDEA** Fleming, 1822  
 Family **TEREBRIDAE** Mörch, 1852  
 Genus *Duplicaria* Dall, 1908

**Description:** Bulbous protoconch consisting of about 1.25 whorls. Shell greyish with white tinges on the sub-sutural sculpture; the suprasutural sculpture is coloured with a brown and a white or cream spiralling band. The second colour feature is only visible starting from the 10<sup>th</sup> teleoconch whorl. Outline of whorls straight with a broad indentation at midwhorl. Spiral sculpture absent, except for microscopic growth lines. Axial sculpture consisting of about 40 ribs on the penultimate whorl of the holotype. Ribs from suture to suture: subsuturally and suprasuturally they are straight, thickened and whitish, in the concavity at midwhorl they are faintly visible and angularly set. The subsutural area with ribs is about half the width of the suprasutural area with ribs, which in turn is about as wide as the indented zone. Area below the periphery with continuation of the ribs, as faint as on the indented area. Columella straight, aperture elongate with the white band shining through.

Animal unknown.

**Habitat:** Intertidal in/on blackish mud.

**Distribution:** Only known from the type locality.

**Remarks:** The features of the holotype are constant throughout the studied material: the species shows little or no variability in shape, sculpture, colour or pattern, except for the density of the axial ribs, which can vary slightly. Background colour varies from dark grey to dark reddish brown, variable due to the eroded shell surface.

Only a few specimens had a (partial) protoconch, transition to teleoconch hardly discernable, based on sculpture as the early whorls are always eroded. The eroded first whorls of the teleoconch, however, show a darker subsutural band while the protoconch is of a smooth, pearly white.

**Comparison and discussion:** *D. kirstenae* sp. nov. can be compared with its closest relatives i.e.

*Duplicaria badia* (Deshayes, 1859) – Pl. 1, Fig. 7: (Syn: *Terebra castanea* Hinds in Sowerby, 1844; *Terebra ligneola* Reeve, 1860; *Diplomeriza koreana* Yoo, 1976). *D. badia* differs from *D. kirstenae* sp. nov. in having a wider apical angle, rounder whorls characterised by continuous axial ribs that are only indented at the subsutural furrow and a protoconch of about 2.5 whorls.

*D. bellanodosa* (Grabau & King, 1928) – Pl. 1, Figs 5-6: Although long time regarded a dubious species as the types were presumed lost. The recently rediscovered Grabau & King (1928) type was excellently figured for the first time (Coan et al., 2015) and here figured again (Pl. 1, Fig. 5). Further investigation into the general collection of the MBM CAS led to the discovery of additional material, one of which is figured here (Pl. 1, Fig. 6). Although similar in many features, *D. bellanodosa* is set apart from *D. kirstenae* sp. nov. by its characteristic, noded structure, a less wide indented area of the whorl, a slightly smaller apical angle and a different outline of the whorls. We currently, tentatively, consider *Terebra milelinae* Aubry, 1999 as a junior synonym of *D. bellanodosa* with its comparable light shell, general shell morphology and available geographical and bathymetrical information. See Terryn (2007: Pl. 38 fig.4 & Pl. 58) for an image of the type for comparison.

*Pristiterebra bifrons* (Hinds, 1844) – Pl. 1, Fig. 8: has a somewhat similar sculpture as *D. bellanodosa*, but is a much heavier shell with a wide apical angle.

*Duplicaria taylori* (Reeve, 1860) – Pl. 1, Fig. 9: A small species previously regarded as an *Euterebra*, described from the Torres Strait, Australia with a similar indented area of the whorl below the subsutural area, but the sculpture consists of moderately heavy subsutural nodes

and the short, heavy ribs suprasuturally and mamillate protoconch set it apart.

*Duplicaria* species – Pl. 1, Fig. 10: A specimen originating from 'Japan' (GP) shows remarkable general similarities, yet the indented area is relatively wide compared to the previous species including *D. kirstenae* and cannot be assigned to any known taxon.

**Derivatio nominis:** *D. kirstenae* sp. nov. is named for its discoverer, Mrs Kirsten Van Laethem, who collected the specimens during a collecting trip to South Korea in April-May 2017.

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**Plate**

- 1-4: *Duplicaria kirstenae* sp. nov.**  
 W South Korea, Gyeonggi Province, Incheon,  
 Masiran-ro Beach.  
**1:** Holotype, KBIN I.G.33882 MT. 3711,  
 37.2 mm.  
**2:** Paratype 2, KVL, 31.0 mm.  
**3:** Paratype 12, KVL, 41.3 mm.  
**4:** Paratype 11, KVL, 41.2 mm.
- 5-6: *Duplicaria bellanodosa* (Grabau & King, 1928)**  
**5:** Syntype MBM280652,  
 “Petaiho” = Shanghai area, PRC, 29.7 mm.  
**6:** MBM, Yellow Sea, 36.0 mm.
- 7: *Duplicaria badia* (Deshayes, 1859)**  
 YT, Taiwan, Bashi Channel, dredged at 50 m,  
 39.0 mm.
- 8: *Duplicaria bifrons* (Hinds, 1844)**  
 Holotype, NHMUK 1968237 (H. Cuming collection),  
 “Japan”, 51.0 mm. (©The Trustees of the Natural  
 History Museum, London)
- 9: *Duplicaria taylori* (Reeve, 1860)**  
 Lectotype, NHMUK 1874.12.11.300 (T. Lombe  
 Taylor collection)  
 “Torres Straits, Australia”, 19.3 mm. (©The Trustees  
 of the Natural History Museum, London)
- 10: *Duplicaria* species**  
 GP, Japan, 23.9 mm.

Plate 1

