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**Description of *Semicassis doughorni* sp. nov.  
(Gastropoda: Cassidae) from Australia and Indonesia**

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**Keywords:** GASTROPODA, CASSIDAE, *Semicassis*, new species, Australia, Queensland, Western Australia, Indonesia

**Abstract:** Several specimens of a deep water *Semicassis* species were obtained from Australia. Based on conchological characteristics, this turned out to be an undescribed species, which is herein described as *Semicassis doughorni* sp. nov. It is compared with the most similar species *Semicassis bisulcata* (Schubert & Wagner, 1829) and *Semicassis japonica* (Reeve, 1848).

**Introduction:** In the past years the author has acquired a few specimens of a rather large *Semicassis* species from Australian waters, which has hitherto only been illustrated from Indonesia by Dharma (2005: pl. 74 fig. 10b). It is a unique species in the genus as it has several uninterrupted brown spiral bands on a light background, very similar to *Tonna sulcosa* (Born, 1778), belonging to **Tonnidae** Suter, 1913. Initially, the author could only obtain three specimens from the original shell dealer, but later on two more specimens from a different locality and source became available. It was decided to describe the species as new to science based on conchological differences with other *Semicassis* species. When finishing this paper for publication, more shells became available and were added to the type material.

**Abbreviations:**

AMD: Aart M. Dekkers, Blokker, The Netherlands  
HD: Henk Dekker, Winkel, The Netherlands  
JZ: Jim Zsovar, Barrack Heights, New South Wales, Australia

MNHN: Museum National d'Histoire Naturelle, Paris, France  
 NCB: NCB Naturalis, Leiden, The Netherlands  
 DT: Doug Thorn, Gladstone, Queensland, Australia  
 H: height  
 W: width

**Systematics:**

Superfamily **Tonnoidea** Suter, 1913

Family **Cassidae** Latreille, 1825

Genus: *Semicassis* Mörch, 1852

Type species: *Cassis japonica* Reeve, 1848 by subsequent designation (Harris, 1897)

*Semicassis doughtorni* sp. nov.

**Type material: Holotype:** NCB nr. RMNH.MOL.252686, H 80.1 mm, W 55.5 mm, Trawled on sand, 50-80 metres deep; **Paratype 1:** type locality, AMD unnumbered, H 73.1 mm, W 48.8 mm; **Paratype 2:** type locality, AMD unnumbered, H 64.8 mm, W 42.6 mm; **Paratype 3:** Western Australia, Rowley Shoals, trawled at 200-300 metres, MNHN IM-2012-23, H 67.8 mm, W 44.1 mm; **Paratype 4:** same locality as paratype 3, HD 29885, H 48.5mm, W 41.5 mm; **Paratype 5:** same locality as paratype 3, HD 30057, H 66.1 mm, W 42.1 mm; **Paratype 6:** type locality, JZ, H 80.0 mm; **Paratype 7:** type locality, DT, H 74.1 mm; **Paratype 8:** type locality, AMD, H 72.5 mm, W 53.5 mm.

**Type locality:** Australia, Queensland, Fraser Island, 20 km offshore Sandy Cape.

**Description:** Shell of medium to large size (48.5 - 80.1 mm in height), thin shelled, rather light weight, globular-ovate. Protoconch of 3 smooth bulimoid whorls, white coloured. Teleoconch with 5 whorls. Teleoconch whorls bear many close-standing strongly developed growth lines which are crossed by stronger and rounded spiral ribs, rendering a cancellate appearance. On the penultimate whorl the number of spiral ribs is about 8, of which 2 are stronger and more elevated [counted number 3 and 5] giving the rounded shoulder a slightly angulated appearance. Suture not deeply incised. On the last whorl the axial ribbing is still visible, getting faint dorsally, but becoming stronger again towards the lip. The 24-28 spiral ribs are flattened and about 2 mm wide while the grooves are only about 0.5 mm wide. Between the first and the second spiral rib

[counted from the suture] the groove is deeper and therefore channel-like. The shell can bear previous varices, from none to 3. Siphonal canal strong and strongly curved, bordered by a smooth gutter entering the deep and about 3 mm broad umbilicus. A second false umbilicus is present at the posterior end centrally caused by the broad columellar shield. Siphonal fasciole longitudinally ribbed. Columellar shield broad, white, covered with stretched granules almost forming ribs. The shield becomes a rather smooth and broad white columellar callus on the body whorl. Aperture 75-80% of shell height. Outer lip strongly reinforced outwards, bearing 25-27 teeth, which start on the inside and cover the lip to the margin, except in the posterior part.

Base colour off-white, with 5 evenly spaced light brown bands on the last whorls. The colour band width varies between 2-4 spiral ribs.

Operculum and animal not studied.

**Habitat:** At the type locality the shells were trawled on sand at a depth of 50-80 metres. They were received together with *Cymbiola pulchra fraseriensis* Bail & Limpus, 1998. Shells from Rowley Shoals in Western Australia came from deeper waters: 200-300 m.

**Distribution:** Known from Australia, Queensland, Fraser Island, off Sandy Cape and Western Australia, Rowley Shoals, and from Indonesia, Kenggan Islands (Dharma, 2005).

**Variability:** There is not much variability in texture, colour and shape of the shells. The brown spiral bands vary from yellowish brown to light brown. The size varies between 48-80 mm for adult specimens, but those size differences are not exceptional in the genus *Semicassis*.

**Comparison and remarks:** Although he figured many cassid species from Australian waters, the new species was not figured by Wilson (1993). It should be mentioned that *Semicassis bisulcata* (Schubert & Wagner, 1829) is a very difficult complex of species, which Abbott (1968: 126) united under this name. The most common forms possess spiral bands of squarish blotches of light brown, but some specimens are devoid of any colour, which are both different from the homogeneously coloured brown spiral bands in the new species.

Most similar to the species described herein is *S. japonica* (Reeve, 1848), of which the type was figured by Abbott (1968: pl. 109). *S. japonica* may form spiral bands of

brown blotches, which are more or less interconnected by a lighter brown colour, but does not have the equally brown coloured bands present in the new species. Additionally, *S. japonica* has much weaker and thinner growth lines on the apex than in the new species.

*Semicassis doughthorni* sp. nov. looks strikingly similar to *Tonna sulcosa* (Born, 1778) and can be confused with it at first sight when seen from the dorsal side. In both species the colour pattern consists of 4-5 uninterrupted brown bands on a white to creamy coloured body whorl. *Tonna sulcosa* belongs to **Tonnidae**, it grows much larger (adults grow well over 90 mm in length), and has a very differently developed outer lip.

**Etymology:** The species is named for Douglas “Doug” Thorn from Gladstone, Queensland, Australia. He is a shell collector, an active shell dealer of mostly Australian shells and a friend. The type material of the new species was obtained from Doug.

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**Plate 1:****1-2: *Semicassis doughthorni* sp. nov.**

Holotype. Australia, Queensland, Fraser Island, 20 km offshore Sandy Cape.  
H 80.1 mm. W 55.5 mm.

**3-4: *Semicassis bisulcata japonica* (Reeve, 1848)**

South China Sea. Trawled in deep water. H 82.8mm.

**Plate 2:****5-6: *Semicassis doughthorni* sp. nov.**

Paratype 3. Australia, Rowley Shoals. Trawled at 200-300 m. H 67.9 mm.

**7: *Tonna sulcosa* Born 1778**

Philippines.

**8-9: *Semicassis bisulcata japonica* (Reeve, 1848)**

Thailand. Siam Gulf.

All photos taken by the author.

All shells (ex.) coll. author.



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