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J.G.M. (Han) Raven, S.J. (Sylvia) van Leeuwen

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Philinissima denticulata (J. Adams, 1800), new for the Netherlands (Gastropoda, Heterobranchia: Aglajidae)

J.G.M. (HAN) RAVEN 

Research Associate, Naturalis Biodiversity Center, Leiden, The Netherlands; han.raven@naturalis.com.

S.J. (SYLVIA) VAN LEEUWEN

Van der Helstlaan 19, 3723 EV Bilthoven, The Netherlands; fbsylvia@xs4all.nl



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Summary

During 2021 ‘Stichting Duik de Noordzee Schoon’ (DDNZS Foundation, or Dive to Clean the North Sea) organised two campaigns of dive teams recovering fishing nets and other materials from wrecks in the North Sea. From a sample of seabed sediment next to the wreck of SS Ara, north of Schiermonnikoog, the Netherlands, a single shell of *Philinissima denticulata* (J. Adams, 1800) was recovered. This is the first record for the Netherlands, but it is expected to have a wider distribution in the area.

Samenvatting

Gedurende 2021 organiseerde ‘Stichting Duik de Noordzee Schoon’ (DDNZS) twee rondes van duikteams die visnetten en andere materialen van wrakken in de Noordzee verwijderden. In een sedimentmonster van de zeebodem naast het wrak SS Ara, ten noorden van Schiermonnikoog werd één schelp van *Philinissima denticulata* (J. Adams, 1800) gevonden. Het is de eerste melding van Nederland, maar naar verwachting is de soort wijder verspreid in dit gebied. Als Nederlandse naam suggereren we de naam Getand schepje.

Key words: Gastropoda, Aglajidae, *Philine*, *Philinissima*, Netherlands, North Sea

INTRODUCTION

For several years ‘Stichting Duik de Noordzee Schoon’ (DDNZS Foundation, or Dive to Clean the North Sea) has organised campaigns of dive teams recovering fishing nets and other materials from wrecks in the North Sea. In 2021

two campaigns were organised (separate reports will be written on the organisms recovered). The second campaign visited wrecks close to the islands bordering the Wadden Sea, from the Netherlands to Denmark. Besides nets and trash from the wrecks, 0.5 to 1 litre samples of seabed sediment were collected by Tammo Bult (DDNZS) and sieved/picked by several volunteers. From one such sample of seabed sediment collected of 19th September 2021 at 25 m depth next to the wreck of SS Ara (NL.1113), 53°38.726'N, 06°07.020'E, north of Schiermonnikoog, Groningen, the Netherlands (Fig. 1), a fresh shell of *Philinissima denticulata* (J. Adams, 1800) was recovered (Fig. 2). It is a transparent, fresh empty shell of 1.1 mm high, which indicates that it is nearly fully-grown. The shell is stored in the private collection of the second author.

DISCUSSION

Philinissima denticulata has a very small (L to 1.5 mm), transparent shell with a clearly protruding apex and strong



Fig. 1. Localities around the southern North Sea and nearby areas from where *Philinissima denticulata* has been recorded. Orange star: type locality; orange dots: other localities; green dot: fossil record; dotted ellipse: approximate position of the specimen encountered in a starfish (Christensen, 1970). Base map Google Earth.



Fig. 2. *Philinissima denticulata*, seabed next to the wreck SS Ara, north of Schiermonnikoog, The Netherlands, leg. & coll. S.J. van Leeuwen, length 1.1 mm.

shoulder. The flat shoulder has a thick inner spiral rib and a very slender riblet on the periphery, both ending in a minute spine. It has almost no umbilicus and the surface is smooth, with microscopic spiral lines. As Dutch vernacular name we propose “Getand schepje”.

Until recently the species was known as *Philine denticulata* (Philinidae), although the absence of gizzard plates, mentioned by Ohnheiser & Malaquias (2013), already created some doubt. Oskars et al. (2015) removed several species from the Philinidae, but left *Philine denticulata* unchanged. In a specific study of that species, Chaban et al. (2023) described, based on various factors, including shell morphology, anatomy and molecular data, a new genus *Philinissima*, with *P. denticulata* as single species. The genus is placed in the Aglajidae, superfamily Philinoidea. The authors note that further review of the Cephalaspidea is required as other taxonomical problems were found.

The species has been recorded from shallow subtidal mud, sand and shell gravel in northern Europe (Norway, Denmark including Faroe Islands, Great Britain) and the Mediterranean (Ohnheiser & Malaquias, 2013), whereas numerous specimens were found in very fine shell grit on the beach of Laredo, NW Spain (Raven, 2023). The NBN Atlas (2018) has only three records from the British Isles: one in Wales, one along the west coast of Scotland and one west of Shetland. It includes no records from the North Sea, even though the type locality is The Wash, NW of Norfolk (Fig. 1). Hirikoshi (1967) describes two populations from slightly silty to silty sand at 18 m depth in the Øresund (Fig. 1) between Denmark and Sweden where it is locally abundant (more than 2000 individuals per m²), and mentions additional literature records from west and south coasts of the

UK and the Isefjord in Denmark. Christensen (1970: table 4) records a specimen from the stomach contents of a starfish collected on a seabed of clay with some sand at one of Dana 1953 expedition stations 8458, 8517 & 8519 in the southwestern part of the North Sea. Based on Ursin (1960: appendix 1), the three stations are located in an area in the north of the Dutch and German sectors (dotted ellipse in Fig. 1), but the precise locality for this record could not be found. Christensen (1970: table 8) also records 23 specimens found in 20 starfishes collected in the Kattegat off Frederikshavn, Denmark. Also, Naturalis Biodiversity Center (Leiden, The Netherlands) has a specimen (RGM.929078), present-day or late Holocene from -45 m at 57°11'N - 8°00'E in the Skagerrak, NW of the Danish coast (Ronald Pouwer, pers. communication).

This is the first record for the Netherlands, but based on the type locality and the populations in Denmark it is likely to occur at more localities in the North Sea. As all other records are from embayments and semi-enclosed waterways, the Wadden Sea and SW Netherlands could also form natural habitats, although there the changes in water temperature are much higher than in open seas and oceans. As it is such a small species, not mentioned in identification guides on Dutch and European seashells, maybe it has been overlooked? The new observation of *Philinissima denticulata* in NW Spain (Raven, 2023) and this specimen in the Netherlands indicate that the species might have a much wider and more connected distribution than known so far.

Fossils of this species of unconfirmed age, but possibly Pliocene, have been recorded from the Western Scheldt, SW Netherlands (van Regteren Altena, 1965: 48-49, pl. 22 fig. 211). A specimen found at the lime kiln of Brielle, originating from the Western Scheldt off Ellewoutsdijk is kept at the Natuurhistorisch Museum Rotterdam (2012; coll. no. NMR983000025916). Just across the border, at Kallo near Antwerp, a single specimen was recorded from the Oorderen Member of the Lillo Formation, Upper Pliocene (Marquet, 1997: 115, pl. 12 fig. 2). However, that fossil is not *Philinissima denticulata* as it is too large (L 5.5 mm, W 5 mm), has a sunken apex, lacks a shoulder and has a fully rounded aperture.

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