

**On the rare and less known nudibranch
Piseinotecus sphaeriferus (Schmekel, 1965)
(Gastropoda, Nudibranchia, Piseinotecidae) in the Adriatic Sea**

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*The paper is describing the record of a less known nudibranch *Piseinotecus sphaeriferus* (Schmekel, 1965) in the port of Koper in November 2012. The specimen was found in the environment of dense epifauna, dominated by polyps of *Aurelia aurita*. Taking into consideration the available published data on this species we report on the first record of this less known nudibranch species in the Adriatic Sea.*

Key words: *Piseinotecus sphaeriferus*, Nudibranchia, Gastropoda, Adriatic sea, first record

INTRODUCTION

The genus *Piseinotecus* Marcus, 1955 is represented with four species, *P. divae* Er. Marcus, 1955, *P. gabinieri* (Vicente, 1975), *P. gaditanus* Cervera, García-Gómez & García, 1987 and *P. sphaeriferus* (Schmekel, 1965) with the later three present in the Mediterranean sea (GOFAS *et al.*, 2001). In the Adriatic Sea the only species recorded was *P. gabinieri*, an endemic nudibranch, which was reported on the eastern part of the northern and Middle Adriatic sea (see records in POURSANIDIS, 2011).

During the regular monitoring of the scyphopolip populations of the Port of Koper, a tiny opisthobranch was found, which was not previously reported for the Slovenian coastal sea and neither for the whole Adriatic area. The aim of this study is to present the first record of this less known species for the area.

MATERIAL AND METHODS

On 13 November 2012 a specimen of *Piseinotecus sphaeriferus* (Schmekel, 1965) was recorded in the harbour of Koper (Slovenia; 45°33'51.62" N; 13°44'40.17" E) (Fig. 1) It was found close to a dense population of schyzopolyps of *Aurelia aurita* and sporadic arboriculous colonial hydrozoans at 1.8 m depth. The habitat where the specimen was found was densely overgrown with epifauna, mainly sessile invertebrates such as cindarians, bryozoans and bivalves.

The specimen was photographed under the stereomicroscope Olympus SZX16. Afterwards, the nudibranch was identified with the help of the key for nudibranch determination such as SCHMEKEL & PORTMAN (1982). Special web sites such as Sea Slug Forum (www.seaslugforum.net) were consulted, as well.

RESULTS AND DISCUSSION

Systematic position

Phylum Mollusca,
 Class Gastropoda,
 Subclass Heterobranchia,
 Infraclass Opisthobranchia,
 Order Nudibranchia,
 Infraorder Aeolidida,
 Superfamily Aeolidioidea,
 Family Piseinotecidae,
 Genus *Piseinotecus*



Fig. 1. The map of the studied area with the finding site of *P. sphaeriferus*

The specimen measured 5 mm in total length. Three groups of cerata were present on both sides of the body, but none on the tail. The cerata were spindle-shaped, pointed at the end. The rhinophores were cylindrical and smooth. They measured approximately one third of the total length of the animal. The body was pale

yellow with many tiny white spots. The tail, rhinophores and oral tentacles were translucent with many scattered white spots. Cerata were light brown with the whitish spots at the upper part. The described specimen fits well with the diagnosis of SCHMECKEL & PORTMANN (1982).

The species was described by Schmeckel in 1965 from the specimens found in waters off Napoli (SCHMECKEL, 1965, 1968). This record was mentioned in all successive papers dealing with the species or broader aspects of opisthobranchs



Fig. 2. The specimen of nudibranch *Piseinotecus sphaeriferus* photographed from a) dorsal and b) ventral sides

(ROS, 1981). Additional records are known in waters off Ghana (EDMUNDS, 1977) and in Canary Islands (ORTEA *et al.*, 2003; CERVERA *et al.*, 2004).

SCHMEKEL (1965) found this species feeding on polyps of *Obelia geniculata*. The specimen of *Piseinotecus sphaeriferus* was found on a single occasion during the survey of the epifaunal belt, dominated by *Aurelia aurita* scyphopolyps. According to MCDONALD & NYBAKKEN (2012) only three species were known to feed on the polyps of *A. aurita*.

This is the first documented record of this species for the Adriatic sea and one among few

records in general. Probably, better survey of the sampling area using new approaches in addition to the increased research effort will contribute to new findings of this less known species.

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REFERENCES

- CERVERA, J.L., J.C. GARCÍA-GÓMEZ & F.J. GARCÍA. 1987 [1986]. Una nueva especie de *Piseinotecus* Marcus, 1955 (Gastropoda: Nudibranchia) del litoral ibérico (A new species of *Piseinotecus* Marcus, 1955 (Gastropoda: Nudibranchia) from the Iberian coast). *Boll. Malacol.*, 22(9-12): 215- 222.
- CERVERA, J.L., G. CALADO, C. GAVAIA, M.A.E. MALAQUIAS, J. TEMPLADO, M. BALLESTEROS, J.C. GARCÍA-GÓMEZ & C. MEGINA. 2004. An annotated and updated checklist of the opisthobranchs (Mollusca: Gastropoda) from Spain and Portugal (including islands and archipelagos). *Bol. Inst. Esp. Oceanogr.* 20(1-4): 1-132.
- EDMUNDS, M. 1977. Larval developments, oceanic currents and origins of the opisthobranch fauna of Ghana. *J. Molluscan Stud.*, 43: 301-308.
- GOFAS, S., J. LE RENARD & P. BOUCHET. 2001. Mollusca. In: M.J. Costello, C.S. Embrow, R. White (Editors). *European register of marine species. A check-list of the marine species in Europe and a bibliography of guides to their identification. Collection Patrimoine Naturels*, 50: 180-213.
- MCDONALD, G.R. & J.W. NYBAKKEN. 2012. A List of the Worldwide Food Habits of Nudibranchs. Available at http://www.theveliger.org/nudibranch_food.html
- ORTEA, J., L. MORO, M. CABALLER & J.J. BACALLA-DO. 2003. Resultados Científicos del proyecto "Macaronesia 2000" Chinijo-2002: Moluscos Opistobranquios (Scientific Results of the "Macaronesia 2000" Chinijo-2002: opisthobranch molluscs). *Revista de la Academia Canaria de Ciencias*, 14(3-4): 165-180.
- POURSANIDIS, D. 2011. First record of *Piseinotecus gabinierei* (Mollusca: Gastropoda: Nudibranchia: Piseinotecidae) from the Aegean Sea. *Marine Biodiversity Records*. Doi: 10.1017/S1755267210001223.
- ROS, J. 1981. Desarrollo y estrategias bionómicas en los Opistobranquios (Development and bionomical strategies in the Opisthobranchs). *Oecol. Aquat.*, 5: 147-183.
- SCHMEKEL, L. 1965. *Calmella sphaerifera* n. sp. ein neuer Aelioider aus dem Mittelmeer (Gastr. Opisth.) (*Calmella sphaerifera* n.sp.. A new Aelioider from the Mediterranean). *Pubbl. Staz. Zool. Napoli*, 34: 452-461.
- SCHMEKEL, R.L. 1968. Ascoglossa, Notaspidea und Nudibranchia im Litoral des Golfes von Neapel (Ascoglossa, Notaspidea and Nudibranchia in the littoral of the Gulf of Naples). *Rev. Suisse Zool.*, 75(6):103-155.
- SCHMEKEL L. & A. PORTMANN. 1982. Opisthobranchia des Mittelmeeres: Nudibranchia und Saccoglossa (Opisthobranchia of the Mediterranean: Nudibranchia and Saccoglossa). Springer-Verlag, Berlin, 410 pp.

- VICENTE, N. 1975. Un nouveau espece de gastropode nudibranche en Mediterranee *Facelina gabinieri* n.sp.Trav.(A new species of gastropod Nudibranchia in Mediterranean *Facelina gabinieri* n.sp.Trav) Sci. Parc. Nat. Port. Cros., 1: 67-74.

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**O nalazu rijetkog i manje poznatog puža golaća
Piseinotecus sphaeriferus (Schmekel, 1965)
(Gastropoda, Nudibranchia, Piseinotecidae) u Jadranskom moru**

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SAŽETAK

U radu se iznose podaci o manje poznatom pužu golaću *Piseinotecus sphaeriferus* (Schmekel, 1965) pronađenom u luci Koper u studenom 2012. godine. Primjerak je pronađen u okruženju guste epifaune u kojoj dominira polip *Aurelia aurita*. Uzimajući u obzir raspoložive objavljene podatke o ovoj vrsti, želimo izvijestiti o ovom prvom pronalasku ove manje poznate vrste puža golaća u Jadranskom moru.

Ključne riječi: *Piseinotecus sphaeriferus*, Nudibranchia, Gastropoda, Jadransko more, prvi nalaz