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REPORT OF AN INTERESTING *TRAPANIA* (GASTROPODA: NUDIBRANCHIA: GONIODORIDIDAE) SPECIMEN FROM CENTRAL EASTERN SICILY

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ABSTRACT

The present note reports the finding in the Mediterranean Sea of a particular specimen belonging to the genus Trapania. *Comparing the external morphological data of the found specimen with the relevant literature and sitography, it was observed that this specimen cannot be attributed to any of the hitherto known species of this genus. Future studies that will comprehend a more in-depth investigation of both morphological and anatomical characters, supported by molecular analyses, could allow in the future to do a complete and accurate description of this species.*

Key words: Doridina, Goniodorididae, Ionian Sea, marine Heterobranchia, *Trapania*

SEGNALAZIONE DI UN INTERESSANTE ESEMPLARE DI *TRAPANIA* (GASTROPODA: NUDIBRANCHIA: GONIODORIDIDAE) DALLA SICILIA CENTRO ORIENTALE

SINTESI

La presente nota riporta il ritrovamento nel Mediterraneo di un particolare esemplare appartenente al genere Trapania. *Confrontando i caratteri morfologici esterni dell'esemplare rinvenuto con la letteratura e la sitografia di riferimento, è stato osservato che quest'esemplare non può essere attribuito a nessuna delle specie finora conosciute appartenenti a questo genere. Futuri studi che comprenderanno una più approfondita indagine dei caratteri sia morfologici che anatomici, accompagnati da analisi molecolari, potranno consentire in futuro di effettuare una completa e accurata descrizione di questa specie.*

Parole chiave: Doridina, Goniodorididae, mar Ionio, Heterobranchia marini, *Trapania*

INTRODUCTION

The nudibranch species belonging to the genus *Trapania* Pruvot-Fol, 1931 present a characteristic aspect, which makes them easily distinguishable from other dorids. The body is longitudinally elongated, and the only evidences of the mantle ridge are represented by two pairs of curved lateral processes, the first located laterally to the rhinophores and the second on each side of the gills.

The rhinophores are club shaped and lamellated. The gills are three and can be bipinnate or tripinnate. The oral tentacles are relatively short and round and beneath them, from the anterior edge of the foot, two tentacular eversions originate (Rudman, 1987). Rudman (1987) highlighted that, to diversify and determine the species of this genus, one of the most important features is the external colouration.

Examining the scientific literature (Cervera *et al.*, 2000; Trainito & Doneddu, 2014; Trainito *et al.*, 2018; Doneddu *et al.*, 2020), it appears that currently in the Mediterranean the species belonging to this genus are seven: *Trapania graeffei* (Bergh, 1880); *T. lineata* Haefelfinger, 1960; *T. maculata* Haefelfinger, 1960; *T. orteai* Garcia-Gomez & Cervera in Cervera & Garcia-Gomez, 1989; *T. pallida* Kress, 1968; *T. hispalensis* Cervera & Garcia-Gomez, 1989 and *T. tartanella* (Ihering, 1886). This assemblage of species emerged by the fact that, recently, Doneddu *et al.* (2020) highlighted that all the Mediterranean findings previously attributed to *T. fusca* (Lafont, 1874) [a species until recently considered present in the Mediterranean Sea (Trainito & Doneddu, 2014)], are actually reports of *T. graeffei*. Indeed, these two species were considered as synonyms (e.g. Pruvot-Fol, 1954; Schmekel & Portmann, 1982) or probable synonyms (e.g. Rudman, 1987). Instead, Doneddu *et al.* (2020) have recently re-established the taxonomical validity of *T. graeffei*, considering it as a separate species, different from *T. fusca*. Consequently, according to these authors, *T. fusca* is an Atlantic species exclusively known for its type locality (Arcachon basin, French Atlantic coasts) and thus not present in the Mediterranean.

Recently, during a scuba dive in a site located along the central-eastern coast of Sicily, we encountered a nudibranch specimen belonging to the genus *Trapania*, which presented an external morphology not corresponding to no other species of this genus so far described. Consequently, with the present note, it is documented the finding of an interesting *Trapania* specimen, which if found again in the future, would deserve further morphological-anatomical and genetic investigations.

MATERIAL AND METHODS

The present report was carried out in a site called Scalo Pennisi (37°38′23.2″ N - 15°11′04.6″ E) situated in the hamlet of Santa Tecla (in the municipality of Acireale) located along the central-eastern coast of Sicily (Italy).

The found specimen of *Trapania* was not collected, but it was photographed through an Olympus TG-4 Underwater Camera, during a scuba dive, conducted by the authors between 9–11:30 a.m. on 20th January 2022. The specimen identification was carried out by examining photographs and comparing them with information contained in the relevant literature and sitography (Haefelfinger, 1960; Kress, 1968; Schmekel & Portmann, 1982; Rudman, 1998; Cervera *et al.*, 2000; Gosliner & Fahey, 2008; Trainito & Doneddu, 2014; Doneddu *et al.*, 2020; MolluscaBase, 2022).

RESULTS

On 20th January 2022, in the site of Scalo Pennisi, it was found at 21.7 m of depth (seawater temperature = 15°C) a nudibranch specimen belonging to the genus *Trapania*. The animal (Fig. 1 A-G) presented a greyish general body colouring. On most of the body surface, there were scattered brown dots. These latter were easily visible dorsally, in the space between the rhinophores and the gills and at the base of them. Moreover, these dots were also present on the flanks, on either side of the head and behind the gills. On the body surface there were also rough white longitudinal lines/spots arranged as follows: a characteristic inverted V-shaped pattern that went from each oral tentacle to the antero-dorsal part of the head; some longitudinal spots scattered in the space between the rhinophores, the gills, the flanks, on the dorsal part of the tail and on all body processes. These last presented all (including the point of the tail) distally a yellow-lemon coloration. Rhinophores presented 8-9 lamellae. The specimen presented a body length of 8-9 mm. The animal was observed while climbing on a thallus of *Halopteris filicina* (Grateloup) Kützing. However, in order to improve the photographic output, the specimen was moved on a thallus of *Zonaria tournefortii* (J. V. Lamouroux) Montagne.

DISCUSSION

Through the comparison of the external morphology of our specimen with the other 47 known species of *Trapania* (MolluscaBase, 2022), it was observed that the individual described in the present note does not match to no other species belonging to this genus. Indeed, the presence of

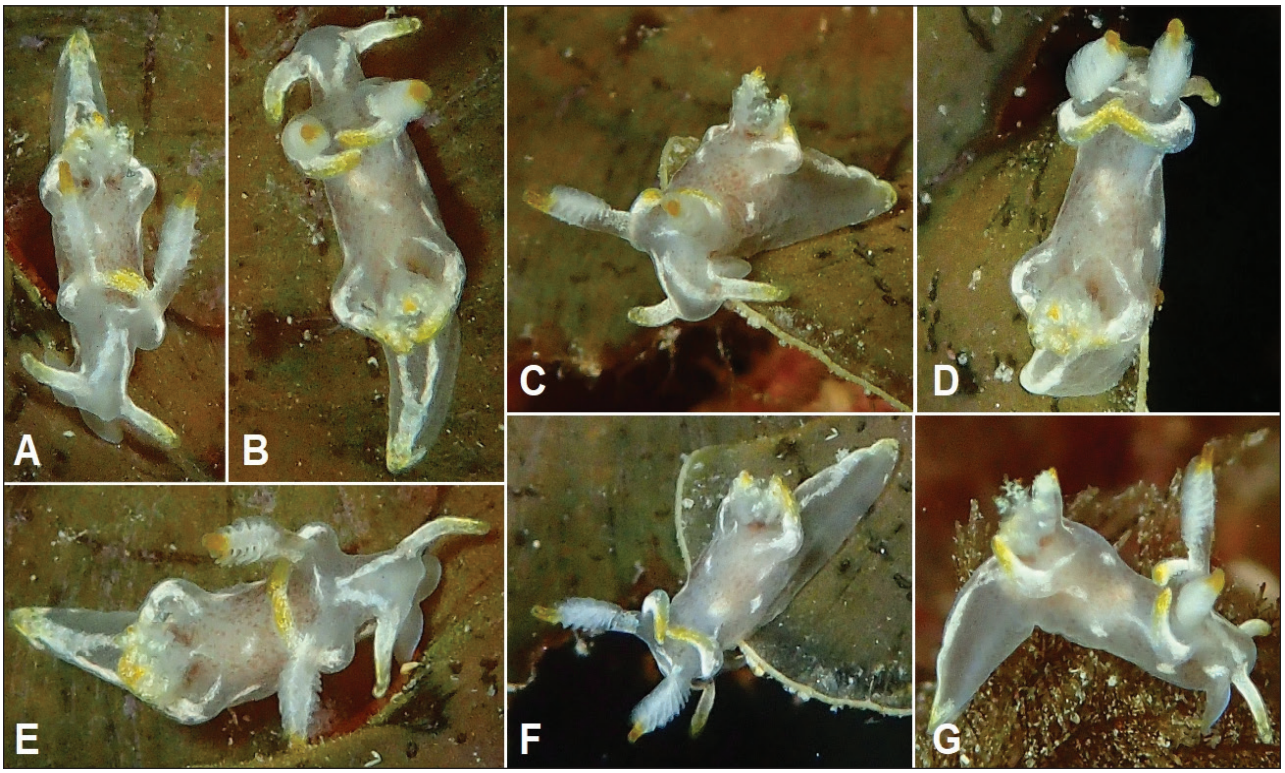

Fig. 1: *Trapania* ***sp. found in Scalo Pennisi (Sicily, Italy). A) anterior view; B) dorsal view; C) left antero-lateral view; D) postero-dorsal view; E) dorso-lateral view during crawling; F) left dorso-lateral view; G) right dorso-lateral view (Photos by A. Lombardo).***
Sl. 1: Primerek vrste iz rodu *Trapania*, ***najden na lokaliteti Scalo Pennisi (Sicily, Italy). A) pogled od spredaj; B) pogled od zgoraj; C) pogled s sprednje bočne strani; D) pogled zadnjega dela od zgoraj; E) pogled od zgoraj in z boka med plazenjem; F) levi hrbtno-bočni pogled; G) desni hrbtno-bočni pogled (Fotografije: A. Lombardo).***

a particular discontinuous pattern of white lines/spots and of brown dots scattered along some areas of the body, makes this animal not attributable to no other known species belonging to this genus. The unique description, which reflects some of the external features found in our specimen, is that reported by Schmekel and Portmann (1982), for some specimens detected at Ischia (Italy) and identified by them as *T. fusca*: "General body-colour yellowish. The tips of the gills, cerata, oral tentacles and the tip of the tail are bright cadmium yellow. Opaque white dots form a broad diffuse stripe dorsally, which runs from the upper lip to the base of the rhinophores, over the pericard, to the appendages of the gills and to the tail. On each side of the body there is another vague, white, longitudinal stripe. Fine brown pigment covers the surface, wherever the opaque white is absent". Nevertheless, this description does not correspond to the original description of *T. fusca* written by Lafont (1874): "Body brown, speckled with small white dots; anterior tentacles yellow, with brown base; upper tentacles with translucent base, cylindrical apex, greenish-yellow and middle part lamellate with 7 lamellae; branched gills, pale yellow in color". Moreover, as above-mentioned, recently Doneddu *et al*. (2020) highlighted that all Mediterranean records of *T. fusca* are actually attributable to *T. graeffei*. However, the specimens found by Schmekel and Portmann (1982) and by us are completely different from *T. graeffei* (they do not present either black blotches or pink nuances). Consequently, it is likely that the specimen here reported, as well as those described by Schmekel and Portmann (1982), are not ascribable to either *T. fusca* or *T. graeffei*, but, on the contrary, might belong to a different taxonomical entity. In our opinion, these individuals could represent a new species that here we limit ourselves to denote as *Trapania* sp., due to the insufficient amount of morphological and anatomical data. Therefore, future studies, which will comprehend a more in-deep investigation of both morphological and anatomical features, supported

by molecular analyses, could allow to perform a complete description of this species. Moreover, continuous monitoring activities in field may increase the knowledge on this group and on the Mediterranean biodiversity.

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ZAPIS O ZANIMIVEM PRIMERKU IZ RODU *TRAPANIA* (GASTROPODA: NUDIBRANCHIA: GONIODORIDIDAE) IZ OSREDNJE VZHODNE SICILIJE

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POVZETEK

Avtorja poročata o najdbi nenavadnega primerka iz rodu Trapania *v Sredozemskem morju. Primerjava zunanjih morfoloških znakov najdenega primerka je pokazala, da je ne moremo uvrstiti v nobeno doslej znano vrsto iz tega rodu. Prihodnje raziskave, ki bodo upoštevale poglobljeno analizo morfoloških in anatomskih znakov in bodo podprte z molekularnimi analizami, bodo omogočile popoln in natančen opis te vrste.*

Ključne besede: Doridina, Goniodorididae, Jonsko morje, morski zaškrgarji, *Trapania*

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