

***Trapania pallida* Kress, 1968 (Gastropoda, Nudibranchia): first record for Italian waters and new additional notes on its diet and on Mediterranean records**

Egidio TRAINITO^{1*}, Marco FANTIN² & Giulia FURFARO³

^{1*}Villaggio i Fari, Via Corallo 11, 07020 Loiri Porto San Paolo, Italy, e-mail: et@egidiotrainito.it

²Sistiana Diving, Parco Caravella, 34011 Sistiana, Italy

³Department of Science, University of "Roma Tre", Viale G. Marconi446, I-00146 Rome, Italy

ABSTRACT

A single individual of *Trapania pallida* was recently found in the Ligurian sea (Central Mediterranean Sea) on a colony of the gorgoniid *Leptogorgia sarmentosa* (Esper, 1789). This is the first finding for Italian Seas confirming its presence, albeit extremely rare, in the Mediterranean Sea. Furthermore, new additional data report evidences that Entoprocta are its favorite diet.

Keywords: *Trapania pallida*, Nudibranchia, Italian seas, Entoprocta

INTRODUCTION

On the 7th October 2018, during a scuba dive one nudibranch was found on a branch of the gorgoniid *Leptogorgia sarmentosa* at 17 m depth in 'Grotta Byron' site, Porto Venere, La Spezia, Italy (44°03'34.41'' N, 9°50'16.95'' E). The individual was photographed in situ and, subsequently identified as *Trapania pallida*, Kress 1968. This record is the first for the Italian waters. This species has to be considered very rare since it was found only 2 times in the Mediterranean basin before the present study (Horst, 2010; Meudic et al. 2016). The individual here described was

observed on a brach of *Leptogorgia sarmentosa* colonized by solitary Entoprocta.

MATERIAL AND METHODS

During a scientific scuba dive, the individual was found and photographed in situ with a compact Sea & Sea 2G camera equipped with Sea & Sea YS D1 strobes and Nauticam CMC1 macro lens. Post production on photos has been performed with Photoshop CS 6 and Camera Raw.

RESULTS

The Ligurian individual here reported (Fig. 1a) was 15 millimeters in length and it matches with the peculiar morphology proposed by Kress in the original description of *Trapania pallida* (1968): “body translucent, elongated, smooth, foot with long tentacle-like anterior projections and a single pair of tentacles. Lamellate club-shaped rhinophores, with a protruding rounded tip, with basal processes curved backward. Lateral to gills is a

backward projecting appendage on each side. Iridescent white lines are on the tentacles, rhinophores, gill-edges, tail-tip, and all appendages” In the Ligurian individual, interrupted white lines are also scattered on the flanks. The nudibranch here reported was found on a branch of a colony of *L. sarmentosa*. A more accurate observation of the pictures taken in situ, revealed that on the *L. sarmentosa* colony several individuals of Entoprocta were settled, although visible only with a relevant image magnification (Fig. 1b).

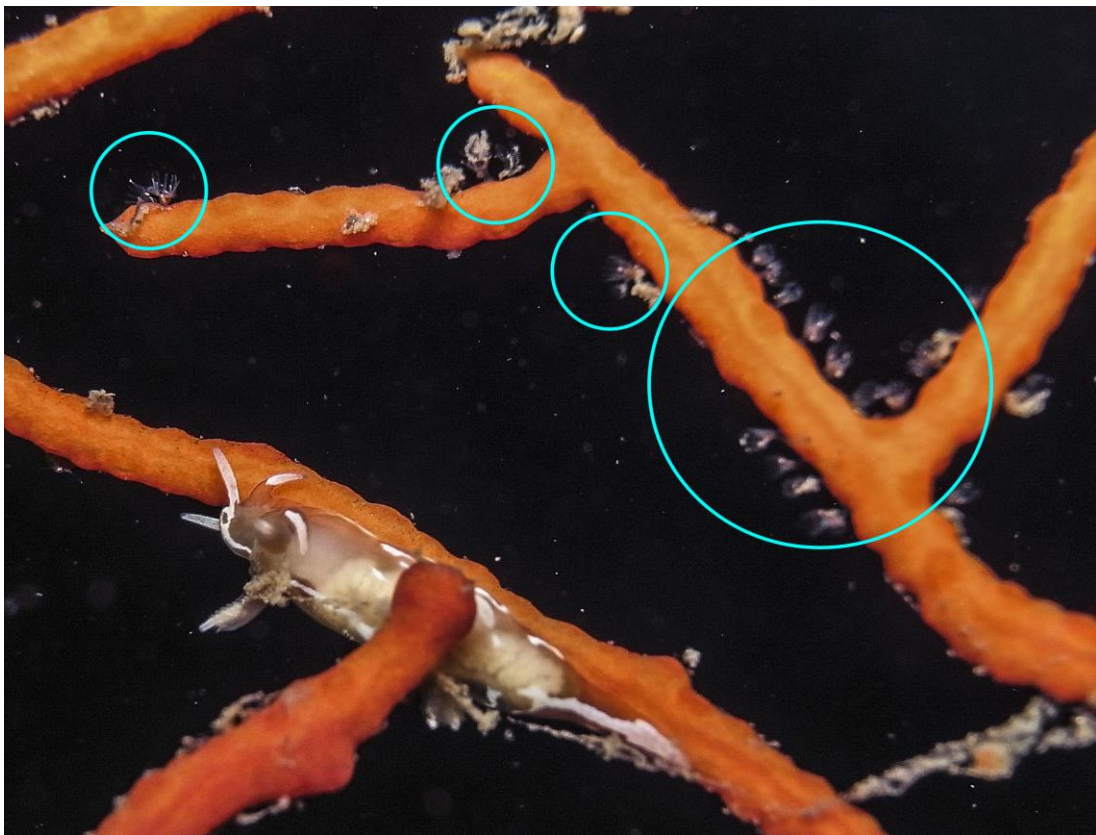


Figure 1. a. *Trapania pallida* on *Leptogorgia sarmentosa*, 07 October 2018 ‘Grotta Byron’, photo by Marco Fantin. Torquoise circles highlight the presence of Entoprocta.



Figure 1. b. High magnification of the detail from the previous image clearly reveals solitary Entoprocta individuals

DISCUSSION

Cattaneo-Vietti & Thompson (1989) in their checklist of the Mediterranean opisthobranchs, reported seven species belonging to the genus *Trapania* Pruvot-Fol, 1931: *Trapania fusca* (Lafont, 1874); *T. lineata* Haefelfinger, 1960; *T. maculata* Haefelfinger, 1960; *T. oratei* Garcia-Gomez & Cervera, 1989; *T. pallida* Kress, 1968; *T. hispalensis* Cervera & Garcia-Gomez, 1989; *T. tartanella* (Ihering, 1886). *T. lineata* was listed as endemic to the Mediterranean, while *T. oratei* and *T. pallida* were respectively listed as Atlantic-Mediterranean and Boreal. At that time these two latter species were reported among the fauna of Spain and this may have led to their inclusion in the Mediterranean checklist, while their presence was documented only for the Atlantic coasts of Spain (Ortea & Urgorri, 1981; Urgorri & Besteiro 1983; 1984; Thompson, 1988).

The first evidence of the presence of these two species in the Mediterranean was documented in Trainito & Doneddu (2014): *T. oratei* on the basis of a personal communication by Fabio Russo of several individuals observed between 21 May 2010 and 05 September 2011 at Sant'Agnello (Naples, Italy, 40°38'01.8"N 14°23'18.6"E); *T. pallida* on the basis of 2 individuals photographed in 2010 by Dominique Horst at Cagnes, France (Horst, 2010) (Fig. 2) and by Gilles Cavignaux in Cote d'Azur, France (Meudic et al. 2016).

The checklist of Italian Opisthobranchs by Cattaneo-Vietti & Giovine (2008) excluded both *T. oratei* and *T. pallida* from the Italian fauna. To date, while the first species has been already reported by Trainito & Doneddu (2014), the presence of *T. pallida* for Italian basins has never been recorded until the present study.



Figure 2. *Trapania pallida* on *Leptogorgia sarmentosa*, 31 January 2010 Cagnes sur Mer, photo by Dominique Horst. Torquoise circles highlight solitary Entoprocta individuals.

An accurate examination of the photographs of the Italian individual here described and of the previous French individuals provides the opportunity for speculations also on the peculiar diet of *T. pallida*, adding some useful information on its ecology. In particular, all the findings reported here show individuals feeding on a branch of the gorgonian *L. sarmentosa*. This gorgonian species is known to be predated by other nudibranchs that feed on single polyps, in particular in the Mediterranean it is the case of *Tritonia nilsodhneri* Marcus Ev., 1983 (Furfaro et al., 2017). The species of the genus *Trapania* have in common the fact of eating Entoprocta (Sánchez Tocino & Cervera, 2006), generally on sponges, where the small invertebrates settle, but they have never yet been reported on gorgonians. Interestingly, images shown here (Figs 1a-b, 2) highlight individuals of solitary Entoprocta clearly visible settled on the cenenchima of the gorgonian colony. The presence of Entoprocta settled on gorgonian colonies gives an explanation on the atypical substrate on which the Italian and French individuals of *T. pallida* have been found, confirming that the diet of *T. pallida* consists on Entoprocta, what was only supposed by Thompson (1988) and Rudman (Horst, 2010). A deeper insight on *T. pallida* diet and on the presence of Entoprocta on the gorgoniid *Leptogorgia sarmentosa* is needed to ascertain which are the prey species, considering that only two taxa of solitary Entoprocta are recorded in the Ligurian sea (Balduzzi et al. 2008).

CONCLUSION

Trapania pallida is added to the Heterobranchia fauna of the Italian Seas and its presence in the Mediterranean is therefore confirmed. It is also confirmed that the

presence of *Trapania pallida* and of the other species of the genus *Trapania* on different substrata is directly dependant on the presence of Entoprocta settled on the surface of the host.

ACKNOWLEDGEMENTS

Authors wish to thank Dominique Horst for the willingness to make available his image; a special thank to Fabio Russo for sharing his data and to Ilaria Gonnelli of La Tribù Diving Academy, Lerici, for diving support.

REFERENCES

- Balduzzi, A., C. Chimenz Gusso & A. Rosso (2008): Kamptozoa (= Entoprocta). In: Relini, G. (Ed): Checklist della flora e della fauna dei mari italiani (Parte I). Biol. Mar. Mediterr. 15 (suppl.1): 223-225
- Cattaneo-Vietti R. & F. Giovine (2008): Opisthobranchia. In: Relini, G. (Ed): Checklist della flora e della fauna dei mari italiani (Parte I). Biol. Mar. Mediterr. 15 (suppl.1): 279-295
- Cattaneo Vietti, R. & Th. E. Thompson (1989): Mediterranean opisthobranch molluscs: a zoogeographic approach. Boll. Malacologico 25 (5-8) 183-204
- Furfaro, G., E. Trainito, F. De Lorenzi, M. Fantin & M. Doneddu (2017): *Tritonia nilsodhneri* Marcus Ev., 1983 (Gastropoda, Heterobranchia, Tritoniidae): first records for the Adriatic Sea and new data on ecology and distribution of Mediterranean populations. Acta Adriatica 58(2): 261-270
- Kress, A. (1968): *Trapania pallida* sp. nov. (Opisthobranchia, Gastropoda), a genus

- new to Britain. Proc. malac. Soc. Lon. 38,161
- Horst, D. (2010): *Trapania pallida* from French Mediterranean. [Message in] Sea Slug Forum. Australian Museum, Sydney. (Available at <http://www.seaslugforum.net/find/23180>)
- Meudic, J., A.P. Sittler & D. Horst (2016): *Trapania pallida* Kress, 1968, in : DORIS, 08/08/2016 (Available at <http://doris.ffesm.fr/ref/specie/1484>)
- Ortea, J. & V. Urgorri (1981): Opisthobranchios nuevos para el litoral ibérico colectados en Galicia. I. Boletín del Instituto Español de Oceanografía 6: 49-60.
- Sánchez Tocino, L. & J. L. Cervera (2006): Preliminary data on the diet of *Trapania maculata* Haefelfinger, 1960 and *Trapania hispalensis* Cervera and García-Gómez, 1989 (Mollusca: Nudibranchia) ISSN: 1130-4251 (2006), vol. 17: 85-89
- Thompson, T. E. (1988): Molluscs: Benthic Opisthobranchs (Mollusca: Gastropoda). Synopses of the British Fauna (New Series) No. 8. The Linnean Society of London, 356 pp.
- Trainito, E. & M. Doneddu (2014): Nudibranchi del Mediterraneo. Seconda edizione. Il Castello, Cornaredo (Mi), 192 pp.
- Urgorri, V. & C. Besteiro (1983): Inventario de los moluscos Opisthobranchios de Galicia. Investigación Pesquera 47 (1): 3-28.
- Urgorri, V. & C. Besteiro (1984): La alimentación de los Moluscos Nudibranchios de Galicia. Iberus 4: 51-58.

Received: 13. 11. 2018.

Accepted: 05. 12. 2018.

***Trapania pallida* Kress, 1968 (Gastropoda, Nudibranchia):
prvi nalaz za italijanska mora i nove dodatne napomene o
njenoj ishrani i nalazima u Sredozemnom moru**

Egidio TRAINITO, Marco FANTIN & Giulia FURFARO

ABSTRACT

Jedna individua *Trapania pallida* je nedavno nađena u Ligurijskom moru (centranlno Sredozemno more) na koloniji gorgonije *Leptogorgia sarmentosa* (Esper, 1789). Ovo je prvi nalaz za italijanska mora koji, iako je izuzetno rijetka, potvrđuje njeno prisustvo u Sredozemnom moru. Osim toga, novi dodatni podaci svjedoče da je Entoprocta njena omiljena hrana.

Keywords: *Trapania pallida*, Nudibranchia, italijanska mora, Entoprocta