

SHORT COMMUNICATION

EIGHT GASTROPODS NEW FOR THE MARINE FAUNA OF MADEIRA

PETER WIRTZ

WIRTZ, P. 2005. Eight gastropods new for the marine fauna of Madeira. *Arquipélago. Life and Marine Sciences* 22A: 81-84.

The prosobranchs *Architectonica nobilis* and *Smaragdia viridis* and the opisthobranchs *Arminia maculata*, *Cyerce* cf. *graeca*, *Elysia papillosa*, *Petalifera petalifera*, *Pleurobranchaea meckeli* and *Pleurobranchus testudinarius* are recorded from Madeira Island for the first time.

Peter Wirtz (email: peterwirtz2004@yahoo.com) - Centro de Ciências do Mar, Universidade do Algarve, Campus de Gambelas, PT-8005-139 Faro, Portugal.

INTRODUCTION

During SCUBA dives along the coasts of Madeira Island, I again noted the presence of numerous species not yet recorded for the area. Similar to previous publications (e.g. WIRTZ 1998, 1999), I here report on eight marine gastropods new for the fauna of Madeira.

MATERIAL AND METHODS

All records were made while SCUBA diving in a depth range of 1 – 60 m. Animals were photographed in the field, collected, and preserved in alcohol. In some cases, specimens or photos were sent to experts for confirmation of my provisional identification (see Acknowledgements). Voucher specimens are deposited in the collection of the Museu Municipal do Funchal (História Natural) under the numbers 36062 (*Architectonica nobilis*), 36222 (*Smaragdia viridis*), 36119 (*Arminia maculata*), 35959 (*Elysia papillosa*), 36226 (*Petalifera petalifera*) and 36118 (*Pleurobranchaea meckeli*). Photos of the opisthobranch species can be seen on the “medslugs” website (www.medslugs.de).

RESULTS

A) “Prosobranchia”

Architectonica nobilis Röding, 1798

This species apparently is common on sandy bottom near Caniçal (south-eastern coast of Madeira); one to three living animals were seen there in 15 – 25 m depth during each of six night dives. Middle of July 2005 a copulating pair was encountered. The photo (Fig. 1), taken at night in about 15 m depth, shows a living animal.

Architectonica nobilis is a tropical West African species previously known from Angola north to the Canary Islands (POPPE & GOTO 1991; ROLÁN 2005).

Smaragdia viridis (Linnaeus, 1758)

This is a common species on the seagrass *Cymodocea nodosa*. I noted the presence of *Smaragdia viridis* in the bay of Machico already in 1995 but it has still not been recorded in the literature. The large and dense seagrass meadow in the bay of Machico has now disappeared completely (the extension of the pier has changed the current system in the bay and the river of

Machico has unloaded large amounts of mud over this area). There are small patches of *Cymodocea* all along the south coast of Madeira (e.g. near Ribeira Brava, where I noted the presence of *Smaragdia viridis* in July 2005) but these are sparse and could not be termed seagrass meadows.

Smaragdia viridis is known from the Mediterranean Sea and in the Eastern Atlantic from the Canary Islands south to Angola (POPPE & GOTO 1991; ROLÁN 2005).



Fig. 1. Living animal of *Architectonica nobilis* (photo Peter Wirtz).

B) Opisthobranchia

Arminia maculata Rafinesque, 1814

An individual of this species was seen at night on the stem of the sea feather *Veretillum cynomorophorum* in about 18 m depth on sandy bottom near Caniçal (southeast coast of Madeira) in May 2005 (Fig. 2). *Arminia maculata* apparently feeds on *Veretillum* (SALVINI-PLAWEN 1983).

The species is known from the Mediterranean Sea and in the eastern Atlantic from the continental coasts of Portugal (CERVERA et al. 1988).

Cyerce cf. *graeca* Thompson, 1988

During a night dive in the natural swimming pool at Porto Moniz (north-western tip of Madeira Island) several individuals of this species were recorded in a few cm water depth. The species has recently been recorded in a similar habitat from the Azores (WIRTZ & DEBELIUS 2004, p 193). The Azorean specimens had been identified by Leopoldo Moro from Tenerife, Canary Islands, *C. antillensis*. However, after seeing the photo in the “medslugs” web site (www.medslugs.de), Angel Valdes (personal communication) suggested that this actually is *Cyerce graeca*, because it fits the description of that species, whereas *C. antillensis* has flatter cerata and a distinctive opaque white pericardium.

Cyerce graeca has previously only been recorded from the Mediterranean Sea.

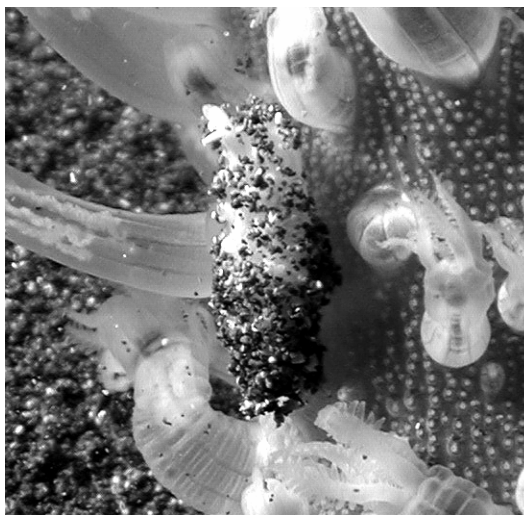


Fig. 2. *Arminia maculata* on *Veretillum cynomorophorum* (photo Pedro Monteiro).

Elysia papillosa Verrill, 1901

Elysia papillosa was encountered in the natural swimming pool at Porto Moniz (north-western tip of Madeira Island); a single individual of this species was recorded in a few cm water depth during daytime.

The species is known from Bermuda, Florida, and the Caribbean in the western Atlantic and from the Canary Islands in the eastern Atlantic.

Petalifera petalifera Rang, 1828

Like the two previous species, *Petalifera petalifera* was encountered in the natural swimming pool at Porto Moniz (north-western tip of Madeira Island); a single individual of this species was recorded in a few cm water depth during daytime.

The species is known from the Mediterranean Sea and in the eastern Atlantic from the Selvagens Islands and the Canary Islands (MALAQUIAS & CALADO 1997).

Pleurobranchaea meckeli Blainville, 1825

In June, July and August 2005, this was a common species on sandy bottom in 15 – 25 m depth near Caniçal (south-eastern coast of Madeira) during the night.

The species is known from the Mediterranean Sea and in the eastern Atlantic from the Azores to the Canary Islands.

Pleurobranchus testudinarius (Cantraine, 1840)

A large adult individual of *Pleurobranchus testudinarius* was photographed by Pedro Gomes of Funchal, Madeira, on the hull of the wreck of the “Madeirense” in front of Vila Baleia, Porto Santo Island.

The species is known from the Mediterranean Sea and in the eastern Atlantic from the Azores to the Canary Islands (MORENO & TEMPLADO 1998).

DISCUSSION

Architectonica nobilis is a large and conspicuous snail. It is quite common in the area of Caniçal (south-eastern coast of Madeira). The fact that it has not been recorded previously could indicate a recent arrival at Madeira Island of this species, perhaps due to global warming (cf. BIANCHI et al. 1999). The known range of *Elysia papillosa* is also extended to the north. The known range of *Arminia maculata* in the Eastern Atlantic is extended to the south. *Cyerce graeca* is another supposedly Mediterranean endemic found in the eastern Atlantic; the degree of endemism of the Mediterranean fauna has been overestimated in

the past (WITTMANN & WIRTZ 1999). All other species reported here have already been noted both north and south of Madeira Island and their presence at Madeira comes as no great surprise.

ACKNOWLEDGEMENTS

Lucas Cervera confirmed my provisional identifications of *Arminia maculata* and *Elysia papillosa*. Frank Swinnen confirmed my provisional identification of *Architectonica nobilis*. Pedro Gomes showed me his photo of *Pleurobranchus testudinarius* taken at Porto Santo Island and permitted the inclusion of this record here. Pedro Monteiro took the photo of *Arminia maculata* on *Veretillum cyomorphorum*. I am grateful for their help. Angel Valdes sent helpful comments on a *Cyerce* photo. I am grateful to all of them.

REFERENCES

- BIANCHI, C.N., C. MORRI, G. SARTONI & P. WIRTZ 1999 Sublittoral epibenthic communities around Funchal (Island of Madeira, NE Atlantic): an update of previous information and a comparison with the Mediterranean Sea. *Boletim do Museu Municipal do Funchal*. Suplemento 5: 59-80
- CERVERA, J., J. TEMPLADO, J.C. GARCIA-GOMEZ, M. BALLESTEROS, J.A. ORTEA, F.J. GARCIA, J. RÓS & A.A. LUQUE 1988 Catalogo actualiza y comentado de los opisthobranchios (Mollusca, Gastropoda) de la península ibérica, Baleares y Canarias, con algunas referencias a Ceuta y la isla de Alboran. *Iberus*. Suplemento 1: 83 pp.
- MALAQUIAS, M.A. & G.J.P. CALADO 1997 The malacological fauna of Salvage Islands. I. Opisthobranch molluscs. *Boletim do Museu Municipal do Funchal* 49 (281): 149-170.
- MORENO, D. & J. TEMPLADO 1998. Nuevas aportaciones al conocimiento de los opisthobranchios del sureste español. II. *Iberus* 16: 39-58.
- POPPE G.T. & Y. GOTO 1991 European Seashells Vol 1. Verlag Christa Hemmen, Wiesbaden. 352 pp.
- Rolán, E 2005. *Malacological Fauna from the Cape Verde Archipelago*. Conchbooks, Hackenheim. 455 pp.
- SALVINI-PLAWEN, L.V. 1983. Gastropoda. Pp. 259-340 in: RIEDL, R. (Ed.). *Fauna und Flora des Mittelmeeres*. Parey, Hamburg. 836 pp.

- WIRTZ, P. 1998 Twelve invertebrate and eight fish species new to the marine fauna of Madeira, and a discussion of the zoogeography of the area. *Helgoländer Meeresuntersuchungen* 52: 197-207
- WIRTZ, P. 1999 Opisthobranch molluscs from the archipelago of Madeira. *Vita Marina* 46 (1-2): 1-18
- WIRTZ, P. & DEBELIUS, H. 2004 *Mediterranean and Atlantic Invertebrate Guide*. ConchBooks. 305 pp.
- WITTMANN, K. & P. WIRTZ 1999 A first inventory of the mysid fauna (Crustacea: Mysidacea) in coastal waters of the Madeira and Canary archipelagos. *Boletim do Museu Municipal do Funchal. Suplemento n.º 5*: 511-533.

Accepted 8 September 2005.