

SHORT COMMUNICATION

NEW RECORDS FOR THE AZOREAN OPISTHOBRANCH FAUNA (MOLLUSCA: GASTROPODA)

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Seven new species of opisthobranchs are recorded for the first time from the Azores. These are: *Aegires sublaevis* Odhner, 1931; *Doto koenneckeri* Lemche, 1976; *Doto furva* Garcia-Gomez and Ortea Rato, 1983; *Favorinus branchialis* (Rathke, 1806); *Facelina annulicornis* (Charmissou and Eisenhardt, 1821); *Cuthona caerulea* (Montagu, 1804) and *Cuthona foliata*. (Forbes and Goodsit, 1838). The total number of opisthobranch species is thus extended to 116.

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INTRODUCTION

The opisthobranch fauna of the Azores has been under study for several years. Recent revisions (MIKKELSEN 1995; WIRTZ 1998; MALAQUIAS 2001) have brought together virtually all the available information on the recorded species. Subsequently, FONTES et al. (2001) added *Eubranthus farrani* Alder & Hancock, 1844 to the list and confirmed the presence of *Placida cremoniana* (Trinchese 1892). During SCUBA diving surveys carried out around Faial Island, during the years 1996 and 2002, seven new records for the Azores were identified. These results are reported herein.

MATERIAL AND METHODS

Collecting was carried out from the intertidal area down to a depth of 35m, using SCUBA equipment. The following localities around Faial island were surveyed: Monte da Guia and Morro de Castelo Branco during July 1996; Praia de Pedro Miguel, Poça da Rainha, Porto do Salão and Porto de Pedro Miguel during June 2002. Whenever possible, rocky walls and surfaces of

diverse slopes under different lighting conditions (vertical walls, ceilings of caves, overhanging rocky walls, surfaces of large boulders and rocks), were inspected and specimens were picked up individually. The undersides of movable stones or small boulders, usually rich in sessile organisms, were also inspected. Collecting was also carried out by brushing rocky substrata into a 1mm mesh bag. The specimens collected were deposited at the Instituto Português de Malacologia (IPM), together with photographs or videos of the living animals obtained under laboratory conditions.

RESULTS

Order NUDIBRANCHIA Blainville, 1814
Suborder DORIDACEA Odhner, 1934
Family Aegiretidae Fischer, 1883
Aegires sublaevis Odhner, 1931

Material examined

One specimen sorted from brushed material from 15 to 25 m depth at Morro de Castelo Branco (Faial) July 1996.

Diagnosis

MALÁQUIAS et al. (2001: Figure 2G)

Remarks

This species is known from the Canary Islands (ORTEA et al. 2001), Selvagens and Madeira (MALÁQUIAS 1996; MALÁQUIAS et al. 2001), Spanish Mediterranean (CERVERA et al. 1988) and Bermuda (THOMPSON 1981). The amphiatlantism of this species is evident with its presence in the Azores.

Suborder DENDRONATACEA Odhner, 1934

Family Dotoidae Gray, 1853

Doto koenneckeri Lemche, 1976

Material examined

Two specimens collected on the hydrozoan *Aglaophenia pluma* at a depth of 4 m at Praia de Pedro Miguel (Faial) June 2002.

Diagnosis

PICTON & MORROW (1994: 47)

Remarks

The species is widely distributed along the European coasts, from the Spanish Mediterranean to Scotland (PICTON & MORROW 1994). This is the first occasion on which it has been reported from an Atlantic island.

Doto furva García-Gómez and Ortea Rato, 1983

Material examined

Three specimens collected in July 1996 at Monte da Guia (Faial), 35 m depth on the hydrozoan *Serturarella* sp.

Diagnosis

GARCÍA-GÓMEZ & ORTEA RATO (1983: Colour plate); GARCÍA-GÓMEZ et al. (1989: Figure 1A); CERVERA et al. (1988: Third colour plate)

Remarks

This is the first reference of this species so far from its type locality, in the Gibraltar Strait region. Its geographical distribution is widely

extended northwards and westwards. The species with the most similar external appearance is *Doto fluctifraga* Ortea and Pérez, 1982, but in the latter species the main body colour is hyaline white and it has dark pigmentation in the rhinophores (see colour picture in ORTEA et al. 2001: Plate 4B) whereas *Doto furva* is opaque white in body colour and lacks dark pigmentation in the rhinophores. Moreover, specimens from the Gibraltar Strait were found on the hydrozoan *Serturarella cylindritheca* (GARCÍA-GÓMEZ et al. 1989), whereas *Doto fluctifraga* is known to occur in small campanulinid hydroids epibionts in algae (ORTEA & PÉREZ 1982).

Suborder AEOLIDACEA Odhner, 1934

Family Facelinidae Bergh, 1889

Favorinus branchialis (Rathke, 1806)

Material examined

Six specimens on eggs of *Aplysia* sp. collected at Poça da Rainha (Faial), 0.5 m depth. June 2002.

Diagnosis

PICTON & MORROW (1994: 129)

Remarks

The species is widely distributed along European coasts from the Mediterranean Sea to Norway (PICTON & MORROW 1994). It is also found in the Canary Islands (ORTEA et al. 2001). It is probably a common species if searched for on its specific substrata, the eggs of other opisthobranchs.

Facelina annulicornis (Charmissou & Eisenhardt, 1821)

Material examined

One specimen collected directly under a boulder at 8 m depth at Porto do Salão (Faial); 2 specimens collected directly under a boulder at 5 m depth at Porto de Pedro Miguel (Faial). Several non-collected specimens on distinct localities around Faial. June 2002.

Diagnosis

WIRTZ (1999: Plate 5, figure 7).

Remarks

This species appears to be very common in shallow water boulder shores around Faial. It is also widely distributed along European coasts, from the Mediterranean Sea to Scotland (THOMPSON & BROWN 1988). It is also found in the Canary Islands (ORTEA et al. 2001) and Madeira (MALAQUIAS 1996; WIRTZ 1999).

Family Tergipedae Thiele, 1931
Cuthona caerulea (Montagu, 1804)

Material examined

One specimen sorted from brushed material from 15 to 25 m depth at Morro de Castelo Branco (Faial) July 1996.

Diagnosis

PICTON & MORROW (1994: 101).

Remarks

The species is widely distributed along European coasts, from the Mediterranean Sea to Scandinavia. Records of this species from Brazil and Florida probably refer to a separate species (PICTON & MORROW 1994). It is also found in the Canary Islands (ORTEA et al. 2001).

Cuthona foliata (Forbes & Goodsir, 1838)

Material examined

Seven specimens collected on an unidentified hydrozoan at 10 m depth at Porto do Salão (Faial)

Diagnosis

PICTON & MORROW (1994: 103).

Remarks

The species is widely distributed along European coasts, from the Gibraltar Strait (CERVERA et al. 1988) to Norway and the Faeroes (PICTON & MORROW 1994). Previous reports of this species from the Mediterranean appear to be misidentifications of *Cuthona genovae* (O'Donoghue, 1926) (PICTON & MORROW 1994).

FINAL CONSIDERATIONS

In the earliest revision of the opisthobranch fauna of the Azores (MALAQUIAS 2001) the list comprised 107 identified species (excluding *Thecostomata* and *Gymnostomata*). With the present paper and the data reported in FONTES et al. (2001) (two identified species), the number rises to 116. Although in a quite different biogeographical position, especially as far as distance to mainland is concerned, the checklist for Canary Islands comprises 198 identified species (excluding *Thecostomata* and *Gymnostomata*) (ORTEA et al. 2001). This means that new collecting and research campaigns in the Azores would probably result in numerous new findings for the archipelago.

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REFERENCES

- CERVERA, J. L., J. TEMPLADO, J.C. GARCÍA-GÓMEZ, M. BALLESTEROS, J. ORTEA, F.J.GARCÍA, J. ROS & A.A. LUQUE 1988. Catálogo actualizado y comentado de los opisthobranchios (Mollusca: Gastropoda) de la Península Ibérica, Baleares y the Canary Islands, con algunas referencias a Ceuta y la Isla de Alborán. *Iberus*. Suplemento 1, 85pp.
- FONTES, J., F. TEMPERA & P. WIRTZ 2001. On some interesting opisthobranchs (Mollusca: Gastropoda) from the Azores. *Arquipélago. Life and Marine Sciences* 18A: 85-87.
- GARCÍA-GÓMEZ & J.A ORTEA RATO 1983. Una nueva especie de *Doto* Oken, 1815 (Gastropoda: Nudibranchia) del Estrecho de Gibraltar. *Bolletino Malacologico* 19 (9-12): 207-212.

- GARCÍA-GÓMEZ, J.C., C.M. LÓPEZ DE LA CUADRA & M.B. BALBUENA MARCILLA 1989. Adiciones al conocimiento de *Doto furva* García-Gómez y Ortea Rato, 1983 (Gastropoda: Nudibranchia: Dendronotacea). *Bolletino Malacologico* 24 (9-12): 173-178.
- MALAQUIAS, M.A.E. 1996. *Opistobrânquios (Mollusca: Gastropoda) do arquipélago da Madeira e Ilhas Selvagens*. Relatório de Estágio UCTRA. University of Algarve, 72pp.
- MALAQUIAS, M.A.E. 2001. Updated and annotated checklist of the opisthobranch molluscs (excluding Thecostomata and Gymnostomata) from the Azores archipelago (North Atlantic Ocean, Portugal). *Iberus* 19(1): 37-48.
- MALAQUIAS, M.A.E., J.L. CERVERA, A.D. ABREU & P.J. LÓPEZ-GONZÁLEZ 2001. The Opisthobranch Molluscs from Porto Santo Island (Madeira Archipelago, Northeastern Atlantic). *Iberus* 19(1): 75-82.
- MIKKELSEN, P.M. 1995. Cephalaspid opisthobranch of the Azores. *Açoreana*, Suplemento 1995: 193-215.
- ORTEA, J. & J. PÉREZ 1982. Una nueva especie de *Doto* Oken, 1815 (Mollusca, Opisthobranchia, Dendronotacea) de las Islas the Canary Islands. *Iberus* 2: 71-77.
- ORTEA, J., L. MORO, J.J. BACALLADO & R. HERRERA 2001. Catálogo actualizado de los moluscos opistobranquios de las Islas the Canary Islands. *Revista de la Academia Canaria de Ciencias* 12(3-4): 105-134.
- PICTON, B.E. & C.C. MORROW 1994. *A field guide to the nudibranchs of the British Isles*. Immel Publishing Limited, London. 143 pp.
- Thompson, T.E. 1981. Redescription of a rare North Atlantic doridacean nudibranch, *Aegires sublaevis* (Odhner). *The Veliger* 23(4): 315-316.
- THOMPSON, T.E. & G.H. BROWN 1984. *Biology of Opisthobranch Molluscs Vol. II.*, Ray Society, London. 229 pp.
- WIRTZ, P. 1998. Opisthobranch Molluscs from the Azores. *Vita Marina* 45(1-2): 1-16.
- WIRTZ, P. 1999. Opisthobranch Molluscs from the Madeira Archipelago. *Vita Marina* 46(1-2): 1-18.

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