

22

www.biodiversityjournal.com

ISSN 2039-0394 (Print Edition)
ISSN 2039-0408 (Online Edition)

with the support of



Biodiversity Journal

MARCH 2016, 7 (1): 1-200

FOR NATURALISTIC RESEARCH
AND ENVIRONMENTAL STUDIES



Polycera quadrilineata (O. F. Müller, 1776) - Eastern Sicily, Mediterranean Sea

BIODIVERSITY JOURNAL
2016, 7 (1): 1-200

Quaternly scientific journal
edited by Edizioni Danaus,
via V. Di Marco 43, 90143 Palermo, Italy
www.biodiversityjournal.com
biodiversityjournal@gmail.com

Official authorization no. 40 (28.12.2010)

ISSN 2039-0394 (Print Edition)
ISSN 2039-0408 (Online Edition)

EDITORIAL STAFF

Managing Editor

Ignazio Sparacio - Palermo, Italy

Chief Editor

Maria Stella Colomba

University of Urbino "Carlo Bo", Italy

Secretary

Fabio Liberto - Cefalù, Italy

Marketing Editor

Michele Bellavista - Palermo, Italy

Assistant Editors

David P. Cilia, Santa Venera, Malta

Salvatore Giglio - Cefalù, Italy

Armando Gregorini

University of Urbino "Carlo Bo", Italy

Tommaso La Mantia - Univ. of Palermo, Italy

Nunzia Oliva - Palermo, Italy

Agatino Reitano - Catania, Italy

Giorgio Sparacio - Palermo

Fabio M. Vigliani - University of Catania, Italy

SCIENTIFIC COMMITTEE

Vittorio Aliquò - Palermo, Italy

Pietro Alicata - University of Catania, Italy

Marco Arculeo - University of Palermo, Italy

Paolo Audisio, Sapienza University of Rome, Italy

Alberto Ballerio - Brescia, Italy

Rostislav Bekchiev - National Museum of Natural History, Sofia, Bulgaria

Christoph Bückle - Tübingen, Germany

Attilio Carapezza - Palermo, Italy

Donald S. Chandler - University of New Hampshire, Durham, U.S.A

Renato Chemello - University of Palermo, Italy

Giulio Cuccodoro - The Natural History Museum of Geneva, Switzerland

Vera D'Urso - University of Catania, Italy

Alan Deidun - University of Malta, Msida, Malta

Giannantonio Domina - University of Palermo, Italy

Gerhard Falkner - Deutsche Malakozoologische Gesellschaft, Germany

Paola Gianguzza - University of Palermo, Italy

Ilija Gjonov - Sofia University, Bulgaria

Adalgisa Guglielmino, Tuscia University, Viterbo, Italy

Peter Hlaváč - Prague, Czech Republic

Ren Hirayama - Waseda University, Shinjuku-ku, Tokyo, Japan

Rumyana Kostova - Sofia University, Bulgaria

Sergey A. Kurbatov - Moscow, Russia

Albena Lapeva-Gjonova - Sofia University, Bulgaria

Oscar Lisi - University of Catania, Italy

Pietro Lo Cascio - Associazione "Nesos", Lipari, Italy

Nathalie Yonow - Swansea University, Swansea, Wales, U.K.

Federico Marrone - University of Palermo, Italy

Bruno Massa - University of Palermo, Italy

Pietro Mazzola - University of Palermo, Italy

David Mifsud - University of Malta, Msida, Malta

Alessandro Minelli - University of Padova, Italy

Pietro Minissale - University of Catania, Italy

Marco Oliverio - University of Roma, Italy

Roberto A. Pantaleoni - CNR National Research Council, Sassari, Italy

Salvatore Pasta - Palermo, Italy

Alfredo Petralia - University of Catania, Italy

Roberto Poggi - Museo civico di Storia naturale "G. Doria", Genova, Italy

Francesco Maria Raimondo - University of Palermo, Italy

Marcello Romano - Capaci, Italy

Giorgio Sabella - University of Catania, Italy

Danilo Scuderi - Catania, Italy

Giuseppe Fabrizio Turrisi - Catania, Italy

Errol Vélà - Université Montpellier, France

***Polycera quadrilineata* (O.F. Müller, 1776) (Gastropoda Polyceridae).** Order Nudibranchia (Mollusca, Opisthobranchia). Nudibranchs are commonly known as "sea slugs" because they are not shelled molluscs. The evolution of the shell in gastropods followed a complexity plan of development, starting from simply low spiral, patelliform structures to highly twisted shells, the most safety house where a soft-body animal could hide from predators. How could shells be more efficient? After the "invention" of the shell, gastropods - which became heavy and slow - started to produce a thin shell. Increasing mobility conducted to shell reduction and this latter required a new plan of defense from predators. Probably around 3 or 4 hundreds of years ago, nudibranchs evolved from shelled molluscs and diversified. What is the successful of this new branch of gastropods due to? Toxicity or simply disgust to predators. This condition was reached by nudibranchs in two different ways. Some accumulate chemical active molecules throughout their tissues from the natural host upon which they feed, thus resulting venomous or stodgy. Some others build an internal equipment of spicules, which make them very hard to eat. How to inform their potential predators of their dangerous internal items? Nudibranchs are very beautiful marine organisms, showing delicate external soft parts and spectacular colors, often comparable to butterflies. The reason of these showy colorations is the aposematic message; warning colorations mean: "I am venomous" so that predators immediately learn it is better to avoid these striking animals.

The photograph shows a specimen of *P. quadrilineata* crawling on an ascidian looking for some encrusting bryozoans to eat (Summer 2004, Riposto, Catania, Eastern Sicily) (cover photo by Danilo Scuderi).

Danilo Scuderi. Via Mauro de Mauro 15b, Belpasso, Catania; e-mail: danscu@tin.it