BOOK OF ABSTRACTS

International Symposium Mediterranean Temporary Ponds

Sassari, April 15-16-17, 2015

PaulisProject

REGIONE AUTONOMA DELLA SARDEGNA

uniss UNIVERSITÀ DEGLI STUDI DI SASSARI

Università degli Studi di Cagliari

Universitat de Girona Institut d'Ecologia Aquàtica

Stefania Pisanu and Simonetta Bagella (editors)

Papers should be cited as (e.g.):

Bagella S., Boix D., Caria M.C., Compte Ciurana J., Gascón S., Filippino G., Pisanu S., Elena Pittao E., Sala J., Cogoni A., 2015. "PAULIS" PROJECT: a challenge from a neglected habitat. In: Pisanu S. and Bagella S. (eds.) International Symposium on Mediterranean Temporary Ponds. Book of abstracts. Edizioni P.Ass.I.Flora Ambiente, Italy. p. 5

ISBN 978-88-940864-0-9

Piazza Pedra e Zana 18, Bolotana (NU) - ITALY
cooperativapassiflora.ambiente@gmail.com

PLANARIANS OF TEMPORARY WATERS (PLATYHELMINTHES TRICLADIDA)

Stocchino Giacinta A.[1], Cadeddu Barbara[1], Onnis Carlo[2], Marcia Paolo[1], Demurtas Daniela[1], Manconi Renata[1]

[1] *Department of Science for Nature and Environmental Resources, University of Sassari, V. Muroni 25, 07100 Sassari, Italy. stocchin@uniss.it*

[2] *Via XXV Aprile 16, 09040 Maracalagonis (Cagliari), Italy.*

Freshwater planarians are fragile animals susceptible to desiccation and high temperature and characterized by a poor dispersal power requiring contiguous freshwaters to survive and disperse. They are indeed excellent biogeographic models. However, some species of Planariidae (genera *Phagocata* and *Hymanella*) and Dugesiidae (genus *Spathula)* are known inhabiting temporary waters particularly from the Nearctic, Palaearctic and Australasian regions. It is noteworthy that some species of these flatworms are specifically adapted to these habitats and do not occur in permanent water bodies. The adaptation of the species to the intermittent waters and to their extreme fluctuations in time and space, is achieved by resistant stages and modifications of the reproductive cycle. Sexual species can produce thick-shelled cocoons capable of withstanding drought. Species reproducing both sexually and asexually face the unfavourable environmental conditions by processes driving the encasing of the entire individual in a mucous coat which hardens forming a cyst. In other cases these flatworms undergo to multiple fission or fragmentation followed by encystment of each body fragment. As far as Sardinian biodiversity only recently a sexual population of *Schmidtea* sp. (Dugesiidae) was discovered in ephemeral waters of North-West Sardinia. A cave-dwelling sexual population of Planariidae was recently found in a comparable SE-Sardinian habitat *i.e.* intermittent dripping water. Studies on the reproductive cycles and modes of these populations are in progress both in the field and in laboratory conditions to clarify the life history and survival strategies of flatworms in both underground and surface ephemeral waters. These new discoveries and previous data suggest underestimated values of taxonomic richness and confirm the status of Sardinia as a biodiversity hot spot.

*Research funded in part by RAS2012-CRP60215 “Conservazione e valorizzazione delle grotte sarde: biodiversità e ruolo socio-economico-culturale”, Master&Back (RAS), Fondazione Banco di Sardegna, and MIUR-PRIN