

Programme and Abstracts



sefs-5

symposium for european freshwater sciences

Palermo, Italy, July 8 - 13, 2007

First contribute to the systematics and phylogeography of the *rouboui*-group of the genus *Hemidiaptomus* (Copepoda, Calanoida, Diaptomidae)

Federico MARRONE, Sabrina LO BRUTTO, Marco ARCULEO

Dipartimento di Biologia Animale, Università di Palermo - Palermo, Italy

The genus *Hemidiaptomus* comprises seventeen large-bodied copepod species distributed in temporary water bodies of the Palaearctic region. Based on morphology, the species belonging to the genus have been divided in three subgenera: *Hemidiaptomus* s.s., *Gigantodiaptomus* and *Occidodiaptomus*. The latter, for which a recent morphological revision proposes the status of independent genus, occurs in west Mediterranean countries and is composed by three species and some taxa of subspecific rank whose real meaning is to date unclear. To date, there is no accordance on the systematics of the entire group and no molecular data are available to support the morphological observations. The currently recognized species of the subgenus *Occidodiaptomus*, i.e. *Hemidiaptomus (Occidodiaptomus) roubaii*, *H. (O.) maroccanus* and *H. (O.) ingens*, are hereby cited as the *rouboui*-group of the genus *Hemidiaptomus*.

We investigated the group with a combined morphological and molecular approach with the aim of understanding the real meaning and rank of the taxa with a controversial status and to enlighten the phylogenetic relationships among the taxa of the *rouboui*-group in the frame of the presumptive subgenus *Occidodiaptomus*. The taxon *Occidodiaptomus* itself has been compared with the other presumptive subgenera of the genus *Hemidiaptomus*.

On these bases we compared the present patterns of morphological and genetic diversity and the geographical distribution of the different taxa with the palaeogeography and the climatic history of the Mediterranean region with the aim of reconstructing the phylogeography of the species belonging to the *rouboui*-group.

Freshwater ostracods (Crustacea: Ostracoda) of the circum-Sicilian islandsGiuseppe CASTELLI¹, Valentina PIERI², Federico MARRONE³¹-Dipartimento di Scienze Botaniche, Università degli Studi di Palermo – Palermo, Italy²-Dipartimento di Scienze Ambientali, Università degli Studi di Parma – Parma, Italy³-Dipartimento di Biologia Animale, Università degli Studi di Palermo – Palermo, Italy

The ostracod fauna of eight small islands around mainland Sicily (Ustica, Lipari, Vulcano, Favignana, Levanzo, Isola Longa, Lampedusa and Pantelleria) was studied from February 2003 to December 2005. Ostracods were collected in 32 sites, belonging to different habitat typologies: temporary ponds, rock pools, ground puddles, tyres tracks, concrete reservoir, wells, troughs and flooded meadows. In all, twelve taxa were recorded: *Heterocypris incongruens*, *Eucypris virens*, *Tonnacypris lutaria*, *Ilyocypris decipiens*, *Plesiocypridopsis newtoni*, *Sarscypridopsis aculeata*, *Lymnocythere inopinata*, *Cypridopsis vidua*, *Potamocypris arcuata*, *Potamocypris* cf. *arcuata*, *Cypridopsis* cf. *vidua*, and *Cypria ophthalmica*. Among these, *H. incongruens* proved to be the most widespread taxon.

The maximum number of species recorded in a single island was seven (on Favignana, Egadi Archipelago), and no more than four co-occurring species *per site* were observed.

The distances and relations of the islands with neighbouring mainlands, the origin of the islands, the geological nature of substrata and some habitat features were considered with the aim of pointing out the possible relationships among these variables and the recorded species richness.

A comparison with the ostracod faunas of Sicilian mainland and of other Mediterranean islands was performed using the available datasets.

Contribute to the knowledge of Tunisian amphibians: Notes on distribution, habitat features and phenology

Alessandra SICILIA¹, Federico MARRONE¹, Roberto SINDACO², Souad TURKI³, Marco ARCULEO¹

¹-Dipartimento di Biologia Animale, University of Palermo, Palermo - Italy

²-Istituto per le piante da legno e l'ambiente S.p.A., 10132 Torino - Italy.

³-Institut National des Sciences et Technologies de la Mer (INSTM), la Goulette - Tunisia

About 300 Tunisian water bodies belonging to different habitat typologies were sampled during the period 2004-2007, in order to improve the knowledge on amphibian fauna in Tunisia. In the sites where amphibians were observed, we recorded the terrestrial coordinates, the altitude, the reproductive parameters (presence and number of pairs, male calling activity, eggs, tadpoles) and, in several cases, the following environmental features: habitat typology, hydroperiod, electric conductivity, temperature, turbidity, and macrophyte coverage. The presence of all the seven species currently known with certainty for Tunisia has been confirmed: *Pleurodeles nebulosus*, *Discoglossus pictus*, *Bufo bufo*, *Bufo mauritanicus*, *Bufo boulengeri* (previously reported as "*Bufo viridis*"), *Hyla meridionalis* and *Rana saharica*. Conversely, no evidence on the occurrence in the country of *Salamandra algira*, actually considered as doubtful, was collected.

Our data improve the existing knowledge on the biology and distribution of amphibian fauna in North Africa: we report original data on distribution ranges, breeding phenology and habitat features of the observed species and, particularly, the first data on the ecology of the poorly known *Pleurodeles nebulosus*.

Seasonal changes in respiratory enzyme activity of microplankton, zooplankton and sediment communities in two lakes of different trophic state

Tatjana SIMČIČ, Anton BRANCELJ

National Institute of Biology, Ljubljana - Slovenia

Changes in the respiratory electron transport system (ETS) activity were studied in microplankton, zooplankton and sediment in two Slovenian lakes of different trophic state (i.e. meso-eutrophic Lake Bled and oligotrophic Lake Bohinj) during the year. It was shown that respiratory enzyme activity of communities differed between both lakes. In general, the values of ETS activity as well as their fluctuations were higher in Lake Bled than in Lake Bohinj. ETS activity was mostly changing with seasonal variation of temperature and changing composition of communities in the lakes. Estimation of respiratory carbon losses, calculated from ETS activities, showed that the total carbon loss m^{-2} was higher in Lake Bled than in Lake Bohinj. Contribution of particular community to total respiratory carbon losses differed between lakes. In Lake Bled the most of the organic matter was oxidized in sediment, while in Lake Bohinj plankton contributed similar or even greater percentage to total degradation of organic matter through respiration than microbial organisms in sediment. The main reasons for differences between investigated lakes are larger size and depth of Lake Bohinj and its lower trophic state. Thus, the intensity of energy flow throughout different communities showed the current conditions in both lakes. It is assumed that this could be useful indicator of the susceptibility of ecosystem to environmental changes due to natural process (i.e. aging) and anthropogenic factors that have direct or indirect effects on the processes in lakes.