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A REGIONALISATION OF THE VISUAL CAPABILITIES IN THE EYES OF *TALITRUS SALTATOR* (CRUSTACEA, AMPHIPODA) ?

Many insect species exhibit a typical regionalisation of their visual capabilities since specialized ommatidia are located in the dorsal margin of their compound eyes (Dorsal Rim Area). The supralittoral sandhopper *Talitrus saltator* (Montagu, 1808) during its zonal recovery along the sea-land axis of sandy shores relies on several celestial cues whose identification is dependent on the perception of skylight blue wavelengths The aim of this work is to investigate the eventual regionalisation of the visual capabilities in the compound eye of this species. We conducted behavioural tests in a confined environment to assess the celestial orientation of individuals subjected to the black-painting of the dorsal (1/3) or the ventral (2/3) region of their eyes. Experiments have been carried out by using a grey (neutral density, transmittance = 23.5%) and a blue (transmittance = 73%, λ_{max} = 450 nm) gelatine filter in conditions of screened sun. Furthermore, we investigated the morphological features of ommatidia located in different areas of the compound eye of sandhoppers by means of light microscope observations and 3D reconstructions of their structure. Behavioural tests showed that individuals with the dorsal part of their eyes painted released under the blue filter were more dispersed or worse oriented than the other groups of individuals tested under the grey or the blue filter. Sandhoppers with the dorsal part of their eyes painted met also higher difficulties in their directional choices than the other individuals since the frequencies or radially-orientated animals were in both cases lower with respect those recorded in the other trials. Morphological observations revealed that ommatidia occurring in the dorsal margin of the eye of this species are shorter and straighter than those present in the rest of the eye. Therefore, this work suggests a regionalisation of the visual capabilities of *T. saltator* that appears related to the anatomical structure of ommatidia; in particular, the dorsal 1/3 region seems to be involved in the perception of the celestial orienting factors.

Comunicazione orale □ **Poster** X

□ Simposio 1 **Riconoscimento e comunicazione nel mondo animale**
□ Simposio 2 **La valutazione della biodiversità a diversi livelli di organizzazione**
□ Simposio 3 **Le aree naturali protette per la gestione e protezione della fauna**
□ Simposio 4 **Cellule staminali, differenziamento e riprogrammazione cellulare: modelli tradizionali e modelli innovativi**
X Tema libero (solo poster)

Premio UZI **Partecipa** (solo poster) □ **Non partecipa** □