

Effect of UV and Blue-Green Light on the Locomotor Activity of the
Deep-Sea Isopod *Bathynomus doederleini* (Crustacea: Isopoda:
Cirolanidae): a Preliminary Report

Tatsuhiro Iwayama¹, Tohru Moriyama², and Ryuichi Kato³

¹Faculty of Textile Science and Technology, ²Young Researchers

Empowerment Center, ³Graduate School of Science and Technology,
Shinshu University, Japan

We evaluated the effect of light wavelength on locomotor activity in the deep-sea isopod *Bathynomus doederleini*. Individuals were placed in aquaria under either UV (392 nm), BL (470 nm), GR (530 nm), or IR (880 nm) light for 6 h. We monitored locomotor activity every 3 min during this period using a digital video recorder. Mean locomotor activity increased during the first 2 h in the groups exposed to UV, BL, and GR (UV: $r=0.974$; BL: $r=0.959$; GR: $r=0.985$, $p<0.01$), but decreased in animals exposed to IR ($r=-0.661$, $p<0.01$). Locomotor activity was relatively constant during the remaining 4 h in all groups. The mean total locomotor activity was higher in the groups exposed to UV and BL than IR (UV: $U=2$; BL: $U=8$, $p<0.05$). Similarly, total locomotor activity was higher in the animals exposed to GR than those exposed to IR, but the difference was not significant ($U=6$, $p<0.063$). Our results suggest that *B. doederleini* is behaviorally responsive to UV and blue-green light. We discuss the possible function of this sensitivity to short wavelength light in the presentation.