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Scaling-up the rearing system of *Sclerodermus brevicornis* (Hymenoptera, Bethyliidae) for behavioural studies



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The hymenoptera *Sclerodermus brevicornis* Kieffler (1906) appears to be a good candidate for the control of *Psacotha hilaris hilaris* (Pascoe) (Coleoptera, Cerambycidae, Lamiinae, Lamiini), an invasive xylophagous pest causing damage to mulberry and fig plants in Italy. In order to optimise its release, it is essential to deepen the knowledge of the bioethology. The study was first focused on biological aspects related to the developmental cycle and reproduction, along with the possibility of using a factitious host for a cheaper and easier mass rearing system. Then, considering the particular social aspect of this species, defined as quasi-social (multiple females cooperate to paralyze the host and care for the brood), studies turned to behaviour. Initial evidence has shown that kinship and the number of foundresses per host play a crucial role in parasitism efficiency. A progressive scaling up in the choice tests has been set up to simulate a major degree of interactions between hosts and parasitoids. The results showed that when many females emerge from the same brood they tend to segregate in groups to reach as many hosts as possible. It will remain necessary to evaluate also the kinship factor (thus considering more broods) to see possible changes in behaviour and to simulate better field conditions.

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