

## **Morphology of *Marchalina hellenica* (Gennadius) (Hemiptera: Coccoidea: Marchalinidae) from Greece, with a discussion on the identity of *M. caucasica* Hadzibeyli from the Caucasus**

CHRIS HODGSON<sup>1</sup> & SOFIA GOUNARI<sup>2</sup>

<sup>1</sup>Department of Biodiversity and Systematic Biology, The National Museum of Wales, Cathays Park, Cardiff, CF10 3NP, Wales

<sup>2</sup>Laboratory of Honeybee Pathology, Institute of Veterinary Research, NAGREF, 25 Neapoleos, 15341, Athens, Greece

### **Abstract**

The morphology of the adult female, 1st-, 2nd- and 3rd-instar female nymphs, plus the pupa (4th-instar male) and apterous adult male of *M. hellenica* (Gennadius), are described and illustrated, along with the prepupa (3rd-instar male) of *M. caucasica* Hadzibeyli. A key is provided to separate these stages. The adult female and 3rd-instar female of *M. caucasica* were also seen and considered to be identical with the same stages of *M. hellenica*. The morphology of the other stages of *M. caucasica* (as described by Hadzibeyli) are compared with those of *M. hellenica* described here and it is noted that there are some possibly significant differences in the 2nd-instar and apterous adult males. In addition, the known biology of these two species is also discussed and it is concluded that, despite the similarities of the adult females, these populations could still represent two separate species. A key is provided to separate the adult females of margarodoids on pines in the eastern Mediterranean.

### **Introduction**

Scale insects or Coccoidea are sap-sucking insects related to the Psylloidea (jumping plant lice), Aphidoidea (aphids) and Aleyrodoidea (whiteflies). These four superfamilies collectively comprise the hemipterous suborder Sternorrhyncha, a group characterised by the labium apparently arising from the prosternum. The superfamily Coccoidea embraces at least 20 families. Until fairly recently, one of these families was Margarodidae *sensu* Mor-