

First report of an adelgid from Malta (Hemiptera, Aphidoidea, Adelgidae)

David MIFSUD¹ & Nicolás PÉREZ HIDALGO²

In recent years, the aphid fauna of the Maltese Islands has received considerable attention. MIFSUD *et al.* (2011) reviewed earlier works on the subject and provided information on previously reported species and on several new records. An updated list of aphids provided therein included 98 Aphididae and a single species of Phylloxeridae. The only other family currently included with aphids, the Adelgidae was not represented in the list. Samples of young shoots of *Pinus halepensis* Mill. were observed infested with a whitish flocculent material (Fig. 1A) in several localities in Malta and examination of this material proved it to belong to an adelgid which we report here under.

Pinus pini (Macquart, 1819)

Material examined. MALTA: Attard, St. Anton Garden, 3.v.2012, numerous apterous colonies on shoots of *Pinus halepensis*, leg. D. Mifsud; Zejtun, 30.xi.2011/1.v.2012, numerous apterous colonies on shoots of *Pinus halepensis*, leg. D. Mifsud.

Using the dichotomous keys of BLACKMAN & EASTOP (2010), the adelgid was identified as *Pinus pini* (Figs. 1B, 1C, 1D), commonly referred to as the pine woolly aphid. This species is anholocyclic on *Pinus sylvestris* and *Pinus mugo* in western and central Europe, with an overwintering (hiemosistens) generation on the twigs and two or more overlapping generations of progredientes attacking the current year's shoots. The second progrediens generation in May-June includes alatae (BLACKMAN & EASTOP, 2010). According to BLACKMAN & EASTOP (2010) the morphs of *P. pini* are almost indistinguishable from the equivalent secondary host generations of *P. orientalis* (Dreyfus), and it seems probable that the anholocyclic *P. pini* arose from the holocyclic *P. orientalis* by loss of a functional sexual generation (see references in BLACKMAN & EASTOP, 2010). *Pinus orientalis* is host-alternating between certain *Picea* spp. and various *Pinus* spp. of the subsection *sylvestris* (*densiflora*, *mugo*, *sylvestris*, *thunbergii*) from Western Europe across Asia to Japan, but there are no species of *Picea* in Malta. *Pinus pini* is present in Italy (including Sicily) and in many other countries in Europe and the Mediterranean area (NIETO NAFRÍA *et al.*, 2004).

A revision of this species complex is required because in the Australian literature populations of *P. pini* group have in the past been given the name of *P. laevis* Maskell and confused with *P. boernerii* Annand, which also occurs on a range of pines in both Australia and New Zealand.

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¹ Department of Biology, University of Malta, Junior College, Msida MSD 1251, Malta. E-mail: david.a.mifsud@um.edu.mt

² Department of Biodiversity and Environmental Management, University of Leon, E-24071, León, Spain. E-mail: nperh@unileon.es

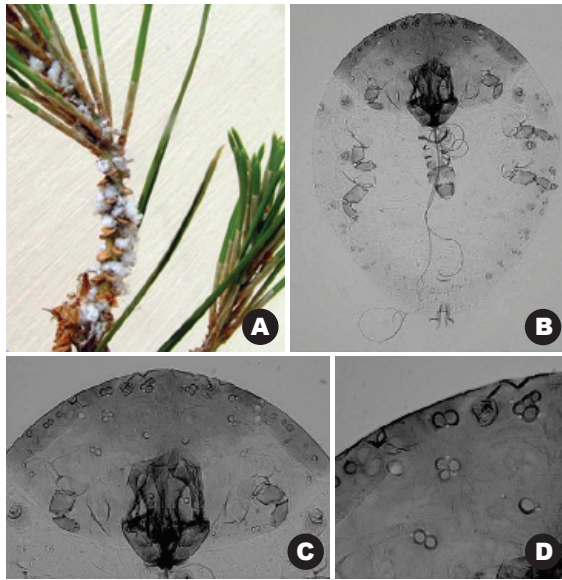


Figure 1: *Pineus pini*. **A:** Colony on *Pinus halepensis*; **B:** habitus of adult (from microscopic preparation); **C:** detail of cephaloprothoracic shield; **D:** detail of wax glands comprising groups of 2-10 facets.

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