DOI: 10.17387/BULLENTSOCMALTA.2016.11

Two new records of conifer-inhabiting mirid bugs (Hemiptera, Heteroptera, Miridae) from Malta

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In a recent study (Carapezza & Mifsud, 2015), 232 species of heteropteran bugs were confirmed as occuring in the Maltese Islands. Two new records of conifer-inhabiting mirid bugs were recently collected in a Malaise trap located in the private grounds of the Verdala Palace, close to Buskett (35.86198°N, 14.40162°E; altitude 220m). This area represents one of the otherwise rare semi-natural pine woodlands found in the Maltese Islands. The trap is mainly surrounded by *Pinus halepensis* trees but other conifer trees such as *Cupressus sempervirens* and *Tetraclinis articulata* are also present within a range of about 300 meters from where the Malaise trap is located.

Orthotylus (*Parapachylops*) *junipericola regularis* Linnavuori, 1965

Material examined: Malta, Verdala Palace, 30.vi-30.ix.2015, 3 ♂♂ & 15 ♀♀, Malaise trap, leg. D. Mifsud.

Orthotylus (*Parapachylops*) *junipericola regularis* is a subspecies belonging to a species with a Macaronesian-Mediterranean distribution, presently split into eight subspecies: *O. j. attilioi* Ribes et Borges, 2001 (Azores Islands); *O. j. castellanus* Ribes, 1978 (North and northwest Spain); *O. j. armoricanus* Éhanno et Matocq, 1990 (western France and northern Spain); *O. j. balcanicus* Josifov, 1974 (Bulgaria, Greece and Turkey); *O. j. terminalis* Linnavuori, 1965 (Turkey and Rhodes); *O. j. contractulus* Linnavuori, 1965 (Libya); *O. j. junipericola* Linnavuori, 1965 (central Tunisia); *O. j. regularis* Linnavuori, 1965 (northern Tunisia, Sicily and Principality of Monaco) (Carapezza, 1997; Ribes & Borges, 2001; Rieger, 2007; Matocq & Özgen, 2010; Ponel *et al*., 2013; Carapezza & Cusimano, 2014; Matocq *et al*., 2014).

The species has been collected on various Cupressaceae such as *Cupressus sempervirens*, *Juniperus* spp., *Thuja* spp. and *Tetraclinis articulata*; it is often attracted to light (Carapezza, 1997; Ribes & Borges, 2001; Protić & Roganović, 2004; Rieger, 2007; Carapezza & Cusimano, 2014).

Orthotylus junipericola regularis is one of many taxa presently extending their ranges northwards in connection with global increase in temperature and should be regarded as a taxon "alien in Europe" according to the definition of Rabitsch (2010) reserved for those species which originate in the Mediterranean and move northwards in Europe; in addition, its spreading is probably facilitated by the trade in ornamental Cupressaceae. This is shown by the fact that in Sicily it has been found only in the last fifteen years and that all the findings have taken place in habitats under strong human influence, particularly towns. The species has recently been found in the Principality of Monaco, which is the first record for the French-Monegasque fauna; there too it was collected in an urban environment, i.e. the escarpments of the Princely Palace ("Glacis du Palais Princier"), and its status of invasive alien can explain why it was found together with another subspecies of the same species

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(Ponel *et al*., 2013). The species was recently reported from Italy (Sicily) in a paper devoted to Heteroptera in the aeroplancton of Palermo town, where it was intercepted with a Johnson-Taylor suction trap (Carapezza & Cusimano, 2014).

Phytocoris (*Exophytocoris*) *parvulus* Reuter, 1880

Material examined: Malta, Verdala Palace, 30.vi-30.ix.2015, 3 ♂♂ & 6 ♀♀, Malaise trap, leg. D. Mifsud.

Phytocoris (*Exophytocoris*) *parvulus* is a North-Mediterranean species which in recent years has expanded its range to Central Europe. It was one of the very first species calling attention to the phenomenon of Mediterranean taxa spreading their distribution northwards (Rieger & Strauss, 1992; Rieger, 1994). Though it is known as "Juniper mirid", it has been reported from various Cupressaceae and Pinaceae (*Abies* sp., *Cupressus sempervirens*, *Juniperus communis*, *Juniperus oxycedrus*, *Pinus halepensis*, *Pinus sylvestris*, *Thuja* sp.) (Wagner, 1974; Tamanini, 1982; Protić, 2011); in Central Europe it is frequently found on ornamental conifers in residential areas (Wachmann *et al*., 2004; Friess & Brandner, 2014).

An unidentified species of *Phytocoris* was previously reported from Malta from the island of Comino on *Teucrium fruticans* (Cuesta Segura *et al*., 2010). However, this unidentified species is surely not *P. parvulus*, belonging to the subgenus *Exophytocoris* Wagner, 1961, as the *Phytocoris* bugs associated with *Teucrium* belong to a different subgenus, *Ktenocoris* Wagner, 1954 (see Wagner, 1974; Tamanini, 1981; personal observations of AC).

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Received: May 30, 2016
Accepted: August 20, 2016