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Platybunus pinetorum (Arachnida, Opiliones) new to Sweden

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In 2013 and 2015 several specimens of the opilionid *Platybunus pinetorum* (C.L. Koch, 1839) were found in Sweden in two different places almost 500 kilometers from each other. The species was not previously known in the country. The discovery initiated a survey of specimens reported as *Rilaena triangularis* (Herbst, 1799) on two Swedish web pages, in search for misidentified *P. pinetorum*. A further three specimens of the new species were found, indicating that it is already rather widespread in southern Sweden.

Introduction

In July 2015, several specimens of a dark and interesting looking opilionid were seen and photographed by the first and third authors in Huddinge in central Sweden. The specimens were found on trunks of old pine trees (*Pinus sylvestris*) but also by beating lower branches of Norway spruce (*Picea abies*) and on moss on ground layer. The species turned out to be *Platybunus pinetorum* (C. L. Koch, 1839), which was not previously reported in Sweden or Fennoscandia (Stol 2007). Its congener *Platybunus bucephalus* (C. L. Koch, 1835) was previously reported in Finland, but all checked specimens turned out to be juvenile *Rilaena triangularis* (Herbst, 1799) (Uddström et al. 2013). Later on it turned out that sixteen specimens of *P. pinetorum* had already been caught in two forest patches separated from each other by a road in southern Sweden (Svedala) using pitfall traps during the European smallFOREST project in 2013. Since especially juvenile *R. triangularis* can fairly easily be mixed up with *Platybunus* spp. on general habitus, we conducted a survey of specimens reported as *R. triangularis* together with photographs on Artportalen (www.artportalen.se, a web-page for reporting Swedish species observations) and specimens at least tentatively determined as *R. triangularis* on the Facebook page of Swedish spiders ”Spindelnätet”.

Results

In the early summer of 2013, fifteen adult females were caught in ten different pitfall traps located in two nearby forests is southern Sweden (Svedala). The traps were active from 7.6.2013

to 20.6.2013. Twelve of these individuals were caught in the centers of the forests and the other three at the W-NW edge of one of the forests. Later in the summer of the same year, one additional adult female was caught in one of the aforementioned forests (pitfall trap active from 22.7.2013 to 4.8.2013). This pitfall trap was also located in the center of the forest.

Skåne: Svedala, Skabersjö, Västrabyskogen, 15 ad. ♀, 7.6.2013 – 20.6.2013 and 1 ad. ♀, 22.7. 2013 – 4.8.2013 (leg. Sam Van de Poel).

Among the *R. triangularis* with photos on Artportalen (n=53) we did not find any misidentified *P. pinetorum*. On Spindelnätet (n=13) we found three specimens that we consider belonging to *P. pinetorum*, all from the southwestern part of Sweden (one of these was also reported on Artportalen but without picture).

Bohuslän: 1 juv., Gothenburg, Hisings Kärra, 12.3. 2015 (leg. Kjell Nilsson); Småland: 1 ad. ♀ or subad., Jönköping, Torpa, Ladugårdsgatan, 26.5.2015 (leg. Martin Sjödahl); Halland: 1?subad., Varberg, Gässlösa ravin, 26.5.2015 (leg. David Andersson).

In addition the only eastern record and the northernmost one is the one found by us.

Södermanland: Several ♀♀, Huddinge, Gladö (Sofielund landfill site), 24.7.2015 (leg. N.R. Fritzén & M. Sunhede) (Figs 1 & 2).

Identification

All *Platybunus* species are characterized by a very broad ocularium (breadth = 1.5× length), which is situated close to the anterior edge of the prosoma (distance 0.25–0.5 times the length of ocularium). The yellowish brown ocularium also usually contrasts well with the darker prosoma. The pedipalps of *Platybunus* have distinctively long femoral spines and a long apophysis on patella and tibia. The body is slender and especially the male opisthosoma is clearly tapering posteriorly (Martens 1978).

Platybunus pinetorum is a long-legged and rather dark coloured opilionid. The body length of males is 5.1–5.8 mm and of females 7.0–8.1 mm. Males are almost black, and females dark brown with a well-defined saddle bordered with white in the anterior part. The hind femora reach beyond the opisthosoma by 0.6 of their lengths in males and 0.3 in females. The legs of the Central European *P. bucephalus* are clearly shorter. The male pedipalpal tarsus of *P. bucephalus* is thickened at the basal part, whereas the pedipalpal tarsus of male *P. pinetorum* is simple. Females of *P. bucephalus* have a median apical spine on their pedipalpal femora, which is lacking in *P. pinetorum* (Martens 1978, Wijnhoven 2009). However it is notable that this spine is present in juveniles of both above mentioned *Platybunus* species, and also in juveniles (but not in adults) of *Rilaena triangularis*.

Platybunus pinetorum can be confused with the common *Rilaena triangularis*, which is usually pale yellowish brown when adult. The pedipalps of *R. triangularis* are similar to the ones of *P. pinetorum*, but the femoral spines are shorter than the width of the femur and they are also more conical. The ocularium of *R. triangularis* is narrower, with a width of only 1.2–1.3 times its length. The ocularium is also usually concolorous with the surrounding prosomal region. Males of *R. triangularis* are easily identified by the triangular process on their chelicerae. Juveniles of *P. pinetorum* and *R. triangularis* are sometimes very similar, but the shape and colour of the ocularium in addition to the length of the spines of the pedipalpal femora can be used for their identification as in adults but with some precaution.

Distribution and habitat

Platybunus pinetorum originates from the mountainous areas of Central Europe (Martens 1978). Over the last few decades it has spread northwards and to more low-lying areas. Nowadays *P. pinetorum* is widely distributed in Central Europe, yet scarce in many areas. The northern limits of the known distribution of the species have previously been Denmark and the United Kingdom. *P. pinetorum* was discovered for the first time in the UK in 2010 and in Denmark in 2013 (Wijnhoven & Noordijk 2011, Enghoff et al. 2014).

Platybunus pinetorum occurs mainly in deciduous and mixed forests. It prefers cool, damp and shady surroundings. Adult and subadult specimens can be found on tree trunks and on shrubs in the herbaceous layer, and based on our observations also on lower branches of spruce. The Swedish specimens have been found in mixed

Fig. 1. Closeup of *Platybunus pinetorum* ♀ in dorsal view (Huddinge, Sweden), showing the dark colouration and the very broad ocularium. Photo: N.R. Fritzén.

Fig. 2. *Platybunus pinetorum* ♀ in lateral view showing the long ventral spines on the pedipalpal femur. Photo: N.R. Fritzén.

evergreen/deciduous forests, in a ravine in a beach forest and on an apple tree in a garden. The specimens from the pitfall traps in Svedala were caught in deciduous forest dominated by Sycamore maple (*Acer pseudoplatanus* L.), mixed with birch (*Betula* sp.) and some larch (*Larix* sp.). A shrub layer was absent. The three individuals caught at the edge of the forest were found under oak trees (*Quercus robur* L.), with elm (*Ulmus glabra* Huds.) and hawthorn (*Crataegus monogyna* Jacq.) in the understory.

Juveniles live in the litter layer. Unlike most European opilionids (but similar to e.g. *R. triangularis*) *P. pinetorum* overwinters as a juvenile (Wijnhoven 2009, Wijnhoven & Noordijk 2011). Adults can be found in the early summer, but little is known about the phenology in its new northern habitats. Our observations indicate that adult females can be found at least until late July.

Parthenogenesis

As previously suggested by Wijnhoven and Noordijk (2011) for this species in The Netherlands, *P. pinetorum* would be able to reproduce in a parthenogenetic way beside normal sexual reproduction. It is difficult to draw conclusions based on the few observations in Sweden so far, but because all the specimens, the sex of which is known, are female, this could support the hypothesis. This adaptation can make it easier for the species to colonise new areas.

Conclusions

The several recent findings of *P. pinetorum* indicate that it is already rather widespread in Southern Sweden as far north as Södermanland and Bo-

huslän. Since 2012, Finnish Opiliones have thoroughly been studied as a part of the research programme of deficiently known and threatened forest species (PUTTE), resulting in several species new to Finland (Uddström et al. 2013). However, this project has provided no indices that *P. pinetorum* would occur in Finland yet.

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