Priesneriella clavicornis (Knechtel 1935) on the Baltic seaside in Poland. Is its' discontinuous range a result of global warming?

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Introduction

Priesneriella clavicornis is a one of eight species of this genus known hitherto in the world. It was described by Knechtel (1935) from Romania under the name *Hoplothrips clavicornis* and twenty years later by Bournier (1956) from France under the name *Parallothrips tuzetae*. Both of these species were synonymized by Mound and Palmer (1983) and were classified into the *Priesneriella* genus.
Species of this genus are found widely around the world, but their distribution is disrupted (ThripsWiki 2021). To date the *Priesneriella* genus species were known from North America, Australia, New Zealand and Mediterranean regions in Europe.
This genus belongs to the Idolothripinae subfamily of the Phlaeothripidae family. The body of species included in this genus is rather small with fusion of antennal segment VI to the fused segments VII and VIII. They have wide maxillary stylets, which are adapted to eat whole fungi spores.

Methods

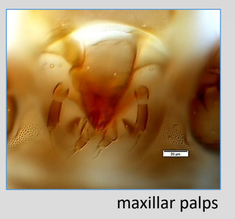
Four females and four males were caught on May 22, 2014, by tapping the dead branches of *Pinus sylvetris* in Dźwirzyno near Kołobrzeg on the Baltic Sea coast.

ordo	Thysanoptera
subo.	Tubulifera
fam.	Phlaeothripidae
subfam.	Idolothripinae
tribe	Pygothripini
subtribe	Allothripina
genus	*Priesneriella*
species	*Priesneriella clavicornis* (Knechtel) (Mound & Palmer 1983)


head – ventral side

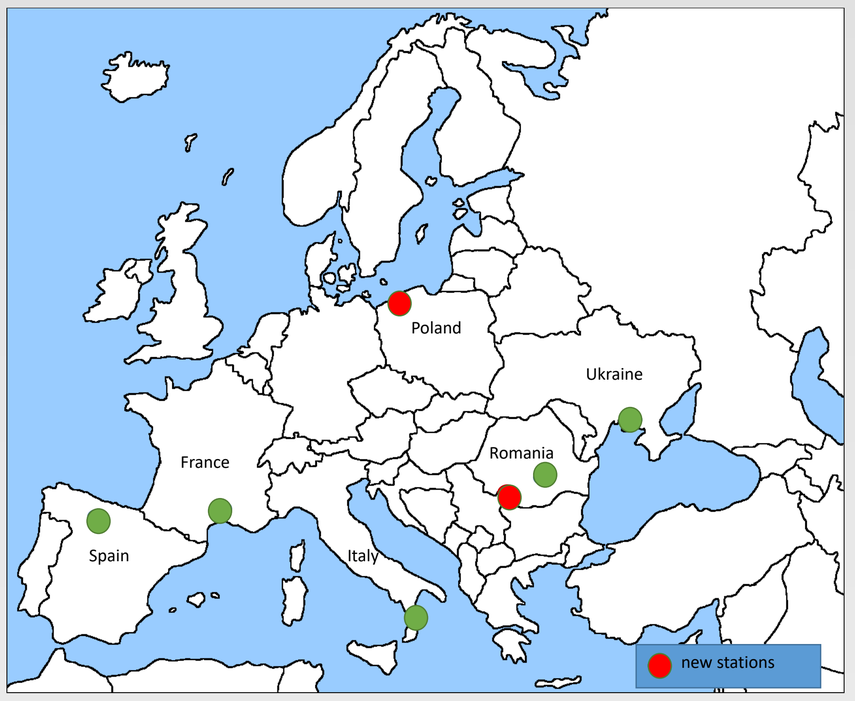

female


male


maxillar palps


thorax & pelta

country	station	date	host	author
Romania	Sfăcăru	IV-VIII. 1951	*Prunus* sp., Rosaceae	Knechtel
Romania	Rogova	18.05.2015	*Vitis vini*fera, Vitaceae	Graczyk
France	Montpellier	10.12.1956	*Crataegus* sp., Rosaceae	Bournier
France	St. Jean de Cuculles	01.03.1979	*Pyrus* sp., Rosaceae	Reynaud
Ukraine	Kherson	11.03.1953	*Prunus* sp., Rosaceae	Dyadetchko
Spain	Tafalla	18.01.1997-25.01.1998	*Quercus rotundifolia*, Fagaceae	Goldarazena, Mound
Italy	South part	?	*Lygeu*m sp., Poaceae	Marullo, de Grazia
Poland	Dźwirzyno	22.05.2014	*Pinus sylvestris*, Pinaceae	Graczyk



Results and discussion

To date *P. clavicornis* was found in the southern parts of Europe on dead branches of different trees and shrubs belonging to Rosaceae family mainly. Specimens found in Poland were feeding on fungi covering dead pine branches. In Italy this species was caught on *Lygeum* sp. of the Poaceae family (Marullo & De Grazia 2013) (see table and map). Such differentiated host plants may suggest that this thrips is not connected with plant but with fungi species on which it feeds, and which are not distinguished to date. The characteristics which differ *P. clavicornis* of the other species of that genus are: maxillary stylets wide apart, antennal segments VI-VIII fused one to the other without sense cone on III and with two sense cones on IV segment.; pelta wide with median lobe, tube width/tune length in Polish specimens 0,63 (females)-0,73 (males) (see figure on the top).
The ranges of species occurrence are limited by numerous abiotic and biotic factors, including a milder coastal than inland climate (Mound 1983). In 2017, Zvariková and others published information about *Allothrips pillichellus* - a thermophilic and fungivorous species in Slovakia. Previously, it was known from Romania, southern Italy and Hungary. The authors suggested that the presence of this species in Slovakia may be due to recent temperature changes. Likewise, the northernmost position of *P. clavicornis* and its disjunctive distribution in Europe may be due to climatic factors, especially the warming trend in recent decades. Other factors include its hidden lifestyle, diffuse occurrence, and insufficient knowledge of its biology. Perhaps that is why *P. clavicornis* has not been found in other parts of Europe so far.

Literature

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Mound L.A. 1983. Natural and disrupted patterns of geographical distribution in Thysanoptera Insecta). Journal of Biogeography 10: 119-133
Mound L.A. & Palmer J.M. 1983. The generic and tribal classification of spore-feeding Thysanoptera (Phlaeothripidae: Idolothripinae). Bulletin of the British Museum (Natural History). Entomology 46: 1-174.
ThripsWiki, https://thrips.info/w/index.php?title=Main Page&oldid=53513, (July 13, 2021)
Zvariková M., Masarovič R., Bohuš M., Prokop P., Fedor P. 2017. Another climate change induced infiltration? The northernmost record of thermophilous spore-feeding Allothrips pillichellus (Thysanoptera: Phlaeothripidae: Idolothripinae). Biologia, 72 (8): 961-963.