

Phytodietus (Neuchorus) maculator and *Phytodietus (Phytodietus) basalis*, two parasitic wasps (Hymenoptera, Ichneumonidae, Tryphoninae) new to Sweden

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Johansson, N.: *Phytodietus (Neuchorus) maculator* and *Phytodietus (Phytodietus) basalis*, two parasitic wasps (Hymenoptera, Ichneumonidae, Tryphoninae) new to Sweden. [*Phytodietus (Neuchorus) maculator* och *Phytodietus (Phytodietus) basalis* (Hymenoptera, Ichneumonidae, Tryphoninae) två nya brokparasitsteklar för Sverige.] – Entomologisk Tidskrift 138 (3-4): 233-237. Uppsala, Sweden 2017. ISSN 0013-886x.

Two species of *Phytodietus*, *Phytodietus basalis* Kasparyan, 1993 and *P. maculator* Kasparyan & Shaw, 2008, are reported as new to Sweden. One specimen of *P. maculator* was collected by a malaise trap situated by a riverside in the northern part of the country and two specimens of *P. basalis* was collected by malaise traps in two oak dominated sites in southeastern Sweden.

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Within the morphologically heterogeneous subfamily Tryphoninae (Hymenoptera, Ichneumonidae) the genus *Phytodietus* Gravenhorst, 1829 together with the mainly nocturnal genus *Netelia* forms the tribe Phytodietini. Morphologically *Phytodietus* consist of mid-sized (fore wing length approximately 4-9 mm) species distinguished from other members of Tryphoninae by the inner margins of the eyes being more or less parallel, the mandible with upper tooth longer than lower tooth, and the propodeum devoid of any trace of carination (Kasparyan 1981, 1993). As far as is known, all *Phytodietus* species are koinobiont ectoparasitoids of lepidopterous larvae, mainly Tortricidae and Pyralidae (Benett 2015). The long ovipositor is used to attack the host in a leaf spinning or other semi-concealed situation (Kasparyan & Shaw 2008). 24 species representing 3 subgenera have so far been recorded in Europe while 12 species have been recorded from Sweden (de Jong et al. 2014, Kostro-Ambroziak & Magnusson 2014). Recently, the newly described *Phytodietus januszi* Kostro-Ambroziak, 2007

was recorded from Sweden (Kostro-Ambroziak & Magnusson 2014) and several recent publications have revealed new species to science and revised the geographical distribution for others (Kasparyan 2016, Kasparyan & Shaw 2008, Kolarov 2003, Kostro-Ambroziak & Sawoniewicz 2007, Kostro-Ambroziak 2007a, 2007b, Kostro-Ambroziak & Magnusson 2014, Kostro-Ambroziak & De Giovanni 2016). This indicates that the distribution patterns of Western Palearctic *Phytodietus* is still poorly known and that the number of species found to occur in Sweden and Scandinavia can be expected to increase. In this paper two species, *Phytodietus basalis* Kasparyan, 1993 and *P. maculator* Kasparyan & Shaw, 2008 are reported as new to Sweden (Fig. 1).

Material and methods

Both species presented in this paper were collected by malaise traps placed in various habitats in Sweden by the author in order to increase the knowledge on Swedish Ichneumonid wasps.

All Swedish and presumably Swedish species

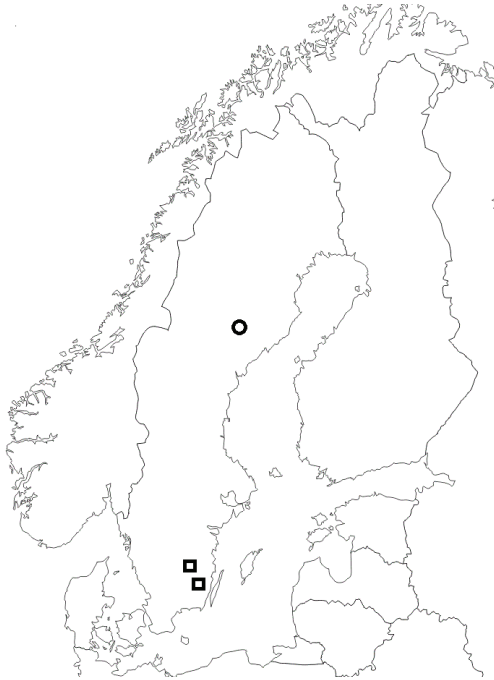


Figure 1. Map of Scandinavia with localities for *Phytodietus maculator* (circle) and *Phytodietus basalis* (squares).

Karta över Skandinavien med lokaler för *Phytodietus maculator* (cirkel) och *Phytodietus basalis* (kvadrater).

can be determined by using Kasparyan (1993) supplemented by Kasparyan & Tolkanitz (1999) Kasparyan & Shaw (2008), Kostro-Ambroziak (2007b) and Kasparyan (2016).

The new species

Phytodietus maculator Kasparyan & Shaw, 2008
1 ♀ Sweden, **Åsele lappmark**, Fredrika, Kåringberget 16.vi-26.vii.2016. Leg. Sven Hellqvist. Coll. Niklas Johansson.

The specimen was determined by the author and compared to and found to completely agree with the description in Kasparyan & Shaw (2008).

Phytodietus maculator (Fig. 2) belongs to the subgenera *Neuchorus* Uchida, 1931 which is characterized by its elongate first abdominal segment. *P. maculator* exhibits relatively few flagellar segments (34) in relation to other species of the subgenus *Neuchorus*, which have



Figure 2. *Phytodietus maculator*. Female from Kåringberget.

Phytodietus maculator. Hona från Kåringberget.

more than 36 segments. Kasparyan & Shaw (2008) depicts and provides a detailed description of the species. Owing to the apparent rarity of *P. maculator*, its preferred habitat is not known in detail, but it has been collected in Malaise traps in wetlands (Kasparyan & Shaw 2008). The only known Swedish female was collected in a Malaise trap at an herb-rich riverside below a rocky slope with old aspen *Populus tremula*. The trap was situated in the direct vicinity of a beaver lodge which contributed to the semi-open environment (Fig. 3). *P. maculator* is hitherto known from England (Chippenham Fen, Cambridgeshire) and Russia (Chelyabinsk District) (Kasparyan & Shaw 2008).

Phytodietus basalis Kasparyan, 1993.

Sweden: **Småland**: Alseda, Karintorp, 1 ♀, 1.vii-1.viii.2013. Malaise trap. Leg. Daniel Karelid; 1 ♀; Bäckebo, Bjällingsmåla, 15.vii-1.viii.2015. Malaise trap. Leg. Niklas Johansson. Coll. Niklas Johansson.

The specimens were determined by the author and compared to and found to completely agree with the description in Kasparyan (1993). Notably the smaller female from Bjällingsmåla (Fig. 4) lacks the anterolateral spots on mesoscutum a feature regarded as rare in the original description.

Phytodietus basalis (Fig. 4) is quite a distinct member of the subgenera *Phytodietus* Gravenhorst, 1829 and is primarily characterized by the basal portion of the first metasomal tergite being surrounded by a complete carina and the characteristic coloration of the metasoma. Kasparyan (1993) depicts and provides a detailed description of the species. The two Swedish females were both collected by Malaise traps in semi-open deciduous woodlands dominated by oak *Quercus robur*. One of the traps (Kärintorp) was placed in a grazed herb rich pasture with old oaks, while the other (Bjällingsmåla) was situated at the edge of a clearcut by a mixed forest with oak, aspen and scots pine *Pinus sylvestris* (Fig. 5). This corresponds well to the known habitat preferences of the species which at least in part seems to be oak-dominated deciduous forests in southern taiga areas (Kaspa-



Figure 4. *Phytodietus basalis*. Female from Bjällingsmåla. *Phytodietus basalis*. Hona från Bjällingsmåla.

ryan 1993). *P. basalis* is transpalearctic in its distribution (Kasparyan 1993) but according to de Jong et al (2014) and Kasparyan (1993) the species is only known from the eastern parts of Europe including Belarus, Ukraine and the European part of Russia.

Figure 3. Käringberget-riverside by Lögdeälven, parish of Frederika, province of Åsele lappmark. Habitat for *Phytodietus maculator*. Note the beaver lodge in the background.

Käringberget-strandremsa längs Lögdeälven, Frederika kommun i Åsele lappmark. Livsmiljö för *Phytodietus maculator*. Notera bäverhyddan i bakgrunden.





Figure 5. Bjällingsmåla, parish of Bäckebo in the province of Småland. Habitat for *Phytodietus basalis*

Bjällingsmåla, Bäckebo församling i Småland. Habitat för *Phytodietus basalis*.

Discussion

Phytodietus species are rather sparsely encountered in Swedish malaise trap samples and apart from the more common and widely distributed species *Phytodietus variegatus* (Boyer de Fonscolombe, 1854) and *P. gelitorius* (Thunberg, 1822) most species are usually sampled by single specimens. This might reflect that some species are being connected to particular habitats or being mainly arboreal. *Phytodietus basalis* is probably widespread in the southeastern part of the country in oak dominated areas and can be expected to occur in most provinces in southern Sweden. *Phytodietus maculator* on the other hand is probably confined to wetland areas, which are rarely visited by hymenopterologists,

and might also have more pronounced northern distribution, both being factors that might contribute to the fact that the species is rarely collected.

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Sammanfattning

Två brokparasitsteklar, *Phytodietus basalis* Kasparyan, 1993 and *P. maculator* Kasparyan & Shaw, 2008 presenteras som nya för Sverige. *P. basalis* är påträffad i två exemplar i de lövskogsrika trakterna i Östra Småland och *P. maculator* noterades i Karingbergets ekopark i anslutning till Lögdeälven i Åsele lappmark. Båda hittades i malaisefällor som placerats ut på lite olika platser i Sverige med målet att utöka kunskapen om Sveriges insektsfauna. Arterna i släktet tycks vara ovanliga i malaisefällematerial och påträffas i enstaka exemplar, med undantag av de något vanligare *Phytodietus variegatus* (Boyer de Fonscolombe, 1854) och *P. gelitorius* (Thunberg, 1822). Antalet kända arter av *Phytodietus* i Sverige är nu uppe i 14 och ytterligare arter kan förväntas i takt med att kartläggningen av landets parasitstekelfauna fortskrider.