

The originally East Palaearctic crane fly *Tipula (Platytipula) moiwana* (Matsumura, 1916) (Diptera, Tipulidae) found in Oslo, an addition to the Norwegian fauna

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Females of the autumn crane fly *Tipula (Platytipula) moiwana* (Matsumura, 1916) were collected along the river Ljanselva in Oslo. This species was hitherto only known from the easternmost Palaearctic and from the Moscow and Tula regions in Russia. It has a characteristic wing pattern, which made it possible to distinguish even females from other known species in the subgenus *Platytipula* Matsumura, 1916. Its typical habitat and Palaearctic distribution are discussed.

Key words: Diptera, Tipulidae, *Platytipula*, *Tipula moiwana*, Norway, Holarctic.

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Introduction

Tipula (Platytipula) moiwana (Matsumura, 1916) was originally described from Japan, and until recently it was only known from Japan and the Russian Far East. However, since 1999 it has been collected repeatedly in the Tsaritsyno Park in Moscow and in the Tula oblast (Pilipenko 2008; Pilipenko *et al.* 2012). Inspection of Malaise trap material collected in the Oslo area in 2010 revealed five females.

The records

Tipula (Platytipula) moiwana (Matsumura, 1916)

NORWAY AK, Oslo: Nordstrand, the river Ljans-

elva, Liadalen (N59.8481, E10.7927), Malaise trap period 23.VIII.2010–5.IX.2010, leg. G. Søli & M. Steinert, 3♀♀; Idem, 5.IX.2010–28. IX.2010, 2♀♀.

Four specimens are housed in the ethanol collection of the Natural History Museum in Oslo (NHMO, aka ZMUN, barcodes 10073043-10073044); one is donated to Naturalis Biodiversity Center, Leiden.

These specimens were found in material collected in the framework of an entomological survey of the Diptera fauna of the Oslofjord area. The survey was part of a project called “Study of selected insect groups in the Oslofjord-area”, funded by the Norwegian Biodiversity Information Centre (Artsdatabanken), and ran from 2010 to 2011.

The trap in which they were collected was

placed on the bank of the small river Ljanselva. Although parts of the river course run through residential areas, it is one of the most pristine rivers in Oslo and has preserved much of its natural character (Bendiksen & Bakkestuen 2001: 4; Tønnessen 2010).

The trap site is characterised by a mesic, thermophilous deciduous forest with *Ulmus*, *Corylus*, *Alnus* and *Tilia*, but a few larger spruce trees (*Picea*) were also present nearby. The ground flora was heavily dominated by bracken ferns (*Pteridium aquilinum*). The trap was placed on an inner bend of the river, where a few decimetres thick mixture of fine sediment and organic matter covers the rocky bottom.

The Malaise trap was in place from 8 May to 28 September 2010. In the same period, another Malaise trap was placed some 2km upstream along the same river (site Ljanselva, Urskog, N59.85520° E10.81690°), but *T. (P.) moiwana* was not collected at that site.

Identification

Although only females were found, the characteristic habitus and wing pattern allow for its identification. *Tipula (P.) moiwana* is a large crane fly with yellowish thorax, abdomen, legs and wings (Figure 1). It resembles *T. (P.) luteipennis* Meigen, 1830, but while the latter has plain yellowish wings, *T. (P.) moiwana* is characterised by a large brown pterostigma, a broad brown patch running from the base of vein A1 to the tip of A2, and less conspicuous brown markings in the second basal cell and around the anterior margin of the discal cell (Figure 2); compare Figure 9/27 in Kinota (2006: 183), Plate 1 in Nakamura (2006: 168) and Figure 4 in Pilipenko (2010: 88).

The Nearctic species *Tipula (P.) ultima* Alexander, 1915 and *Tipula (P.) spenceriana* Alexander, 1943 have similar wing markings, but these species have two distinct dark spots at the anterior wing margin, and the latter lacks the



FIGURE 1. *Tipula (Platytipula) moiwana* Matsumura 1916. Female from Liadalan, river Ljanselva, Oslo. Photo: Pieter Jan Nellestijn.



FIGURE 2. *Tipula (Platytipula) moiwana* Matsumura 1916 from Oslo, left wing in ventral view. Photo: Pieter Jan Nellestijn.

large spot along vein A2, cf. Figures 2–3 in Taber (2009: 86–87). Another similar looking species is the Nearctic *T. (P.) hugginsi* Gelhaus, 1986, which has a smaller dark spot around the pterostigma than *T. (P.) moiwana*, cf. the photo on Young's (2005) web page. Many of the illustrations and much of the literature cited here can be accessed from the Catalogue of Craneflies of the World (Oosterbroek 2013).

Discussion

The collecting period in Oslo, late August to early September, concurs with the flight period of the species in Moscow and the Tula oblast. Likewise, the biotope of the collecting site along the Ljanselva, swamped brook floodlands with herbaceous vegetation, concurs with the biotope of *T. (P.) moiwana* in western Russia (Pilipenko 2008; Pilipenko *et al.* 2012). Pilipenko (2008) observed that females lay eggs into the moist soil near the water margin.

The collecting site in Oslo also resembles the collecting biotope of the morphologically similar, and presumably closely related, Nearctic species *T. (P.) ultima* and *T. (P.) spenceriana* (Taber 2009). Taber associates these species with stands of bracken fern (*Pteridium*), and notes that they are well camouflaged against the background of drying bracken fronds in late summer and autumn. Interestingly, bracken stands also characterise the Malaise trap site in Oslo where *T. (P.) moiwana*

was collected. Here it remains green until October, however.

So far, relatively few males *T. (P.) moiwana* have been collected. They are known only from the Russian Far East (Savchenko 1961: 82–84, 7 males, 41 females) and from Japan. That is, the figure of the male dististyles in Alexander (1965, Figure 20) is most likely based on Japanese material, cf. Alexander (1924: 601). No male specimens were ever found at the collecting sites in Moscow and in the Tula region, despite dedicated searches over several years since 2008 (Pilipenko 2008; Pilipenko 2009; Pilipenko *et al.* 2012). It will therefore be worthwhile to establish if males of this species occur in the Oslo population.

The fauna of large crane flies (Tipulidae sensu stricto) of Norway is relatively well known (Hofsvang 1986, 1992). Therefore it is remarkable that such a large crane fly with a characteristic wing pattern was not found earlier. *Tipula (P.) moiwana* has not been found in Finland either (Salmela 2012), even though much work on crane fly faunistics has been done in the past decade (references in Salmela 2012). However, the detailed characterisation of this species' habitat may help to find more populations in the West Palaearctic.

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Post Scriptum. *Tipula moiwana* was found again at the same site in Liadalen in 2013. The density was rather low: one female was photographed on 25.VIII; one female was photographed and collected on 27.VIII. leg., det. and col. L. Boumans.

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