

Ischnura pumilio (Charpentier, 1825) (Odonata, Coenagrionidae) in Norway

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A male of the damselfly *Ischnura pumilio* (Charpentier, 1825) was captured near a pond at the bottom of a sandpit at Bergsdalen in Nittedal, north of Oslo, on 30 May 2012. The following month, several imagines were spotted and nymphs were caught in the pond. The species is new to the Norwegian fauna and represents the northernmost record for the species.

Key words: Odonata, Zygoptera, Coenagrionidae, *Ischnura pumilio*, Norway.

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The record

The damselfly *Ischnura pumilio* (Charpentier, 1825) is reported from Norway for the first time. Imagines and nymphs were found at **AK**, Nittedal: Bergsdalen (UTM 32V 605226 6661578). The first specimen, a male, was collected on 30 May 2012 (leg. S. Olberg, coll. BioFokus). Three days later, a few imagines were found on the same locality and also nymphs were found in the water body at the bottom of the pit. The following days and weeks, dozens of imagines were observed by several persons visiting the locality.

The locality

The locality Bergsdalen (Figure 1) is a sand-/gravel pit of rather new origin, surrounded by arable land and small patches and corridors of forest. A stream with well developed, forested edges is passing approximately 50m south of the sandpit. The sandpit covers 1 hectare and in the bottom

of the sandpit there is a pond of approximately 300m², which had a maximum depth of 0.5–1m at the time of visitation. A large part of the pond was without or almost without vegetation, but some *Glyceria fluitans* (L.) R. Brown and *Typha latifolia* L. was present. The sandpit was still in use, although sand was extracted from only parts of the pit and to a seemingly limited extent.

In addition to *I. pumilio*, a few specimens of *I. elegans* (van der Linden, 1820), a nymph of *Lestes sponsa* (Hansemann, 1823) and the dragonfly *Libellula depressa* L., 1758 were recorded at the locality. The locality also includes some Red listed insects, as well as birds, and is by biological means regarded as an area of national importance (Olberg 2012).

Description and biology

Ischnura pumilio (Figures 2–3) is a small and tender damselfly, resembling a small *Ischnura elegans*, the only other *Ischnura*-species found in



FIGURE 1. Bergsdalen sandpit (Photo: Stefan Olberg).



FIGURE 2. Female of *Ischnura pumilio* (Charpentier, 1825) (Photo: Ove Bergersen).



FIGURE 3. Male of *Ischnura pumilio* (Charpentier, 1825) (Photo: Ove Bergersen).

Norway. Its body length is usually 26–30mm in males and 28–31mm in females. The pterostigma of the forewing of males is yellowish distally and of different shape and much larger than that of the hindwing. In males of *I. elegans*, the pterostigma in front- and hindwings are similar in size. The male is in colouration similar to *I. elegans*, but differs in having the subapical blue colour on the abdomen shifted posteriorly compared to *I. elegans*. In females the wing pterostigma of both fore and hind wings are pale brownish and the wing veins are brownish orange. Two distinct colour forms of females can be distinguished (Askew 2004). The heterochrome form *aurantiaca* Selys, 1837, is bright orange on thorax and abdomen. All the females recorded at Bergsdalen belong to the form *aurantiaca*, and the females are therefore quite easily recognisable from all other damselfly species in Norway.

According to Askew (2004), *I. pumilio* breeds in shallow ditches, swampy meanders, the boggy edges of pools and streams, and marches. At least in Scandinavia the use of quarry's, gravelpits and sandpits are also important as breeding sites. This

is probably because of a favourable temperature regime in such locations in combination with shallow water conditions with little vegetation. The nymphs can survive in slightly brackish water and are tolerant of a wide variety of water quality conditions and a wide pH range (Allen *et al.* 2010). The species will rapidly colonize newly-formed biotopes, but colonies tend to die out after a few years when succession is allowed to proceed and dense vegetation develop (Allen *et al.* 2010).

Discussion

Ischnurapumilio is predominantly a Mediterranean species, distributed from western North Africa through Europe and the Middle East and across to West and Central Siberia (British Dragonfly Society 2012). A century ago, *I. pumilio* was nearly extinct in Britain. Recently the species has expanded and is now found in the south-western counties of England and Wales, and scattered records are known across Britain and Ireland. In Denmark, the species is a widespread but resent

immigrate, and not mentioned by Askew (2004). In Sweden, *I. pumilio* was only known from the three counties Skåne, Öland and Gotland until a few years ago. In the last couple of years it has also been observed in Bläkinge, Småland, Halland and Östergötland (Figure 4), and it has been found as far northwest as 40km south of Göteborg (ArtDatabanken 2012). The distance to Nittedal in Norway is around 300km, a considerable distance. But this clearly indicates that there is an ongoing expansion of this species' distribution towards the north and west in Sweden.

I. pumilio has been regarded as a 'wandering opportunist' due to its tendency to appear in locations far from known sites. The recently observed expansion in northern Europe substantiates this view. However, Allen & Thompson (2010) suggest that long range movement rarely occurs from prime habitats that are maintained in an early successional stage. Average lifetime movement of 2304 mark-release-recaptured individuals was 56m, and maximum movement was 1165m. This means that *I. pumilio* appears to be the most sedentary damselfly species in the UK (Allen & Thompson 2010). Rapid spreading of this species is therefore likely to be accidental if it is from prime habitats, and is probably a result of a combination of favorable climate in recent years in combination with increasing populations occupying suboptimal or temporarily existing localities. Mated females being taken by strong southern winds might accidentally end up close to a potential breeding locality, and can then easily start a new population. This is the most likely explanation to the origin of the established population at Bergsdalen.

Efforts should be made to look for the species in other sand- and gravelpits in south-eastern Norway as well as other sites with suitable conditions. Several sandpits are quite similar to the one in Bergsdalen, with shallow, regularly

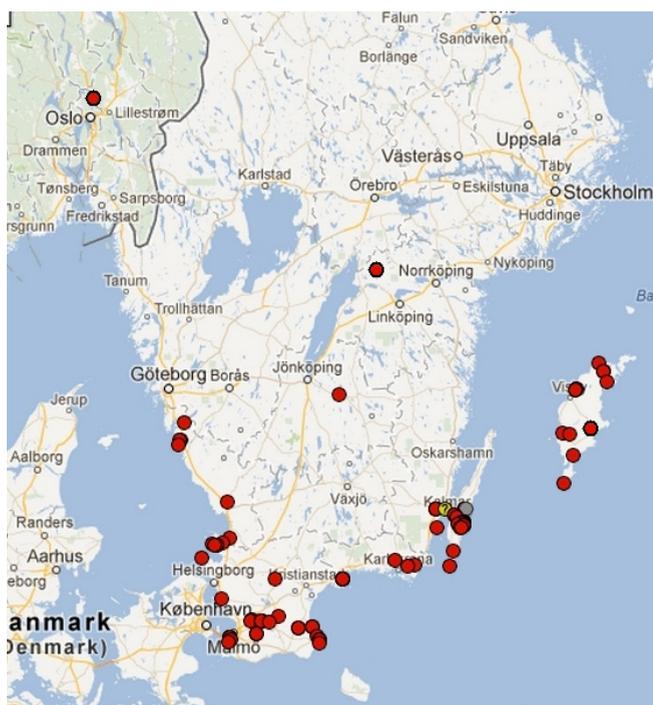


FIGURE 4. Known observations of *Ischnura pumilio* (Charpentier, 1825) in Sweden and Norway. The Swedish records are from <http://www.artportalen.se>.

disturbed ponds. It is therefore not unlikely that *I. pumilio* may have populations in such ponds elsewhere in Akershus, as well as in Østfold, closer to the Swedish border.

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