

NOTATKA / NOTE

Interesting records of dragonflies (Odonata) from the Varanger Peninsula (northeastern Norway)

Interesujące stwierdzenia ważek (Odonata) z półwyspu Varanger (Norwegia północno-wschodnia)

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ABSTRACT: New information was provided on the occurrence of three dragonfly species on the Varanger Peninsula. *Somatochlora arctica* was recorded for the first time in the area, and *Coenagrion hastulatum* for only the third time. The new data were discussed with the literature. There is noticeable colonisation of the Varanger Peninsula by at least 6 species of dragonflies in the initial stage, but probably quite intensive in the case of *Aeshna caerulea*. This is a new phenomenon, not yet captured in the key monograph on northern Europe by BILLQVIST (2023).

KEY WORDS: faunistic records, Arctic, Finnmark, expansion, *Coenagrion hastulatum*, *Aeshna caerulea*, *Somatochlora arctica*.

The Varanger Peninsula, with an area of 3,300 km², is the easternmost (28°17'–31°06' E) and almost northernmost (70°03'–70°53' N) part of continental Norway. Surrounded by the Arctic Ocean and with a harsh climate, it has the poorest odonatofauna on the entire Scandinavian Peninsula (BILLQVIST 2023). Every dragonfly observation from Varanger is valuable.

We visited the Varanger Peninsula in July in 2023, 2025, and 2026 – spending a total of approximately four weeks on field observations, which largely covered inland waters and wetlands. We also paid attention to insects, including dragonflies, which we observed at only two sites. We discuss these observations below.

Site no. 1 (Fig. 1A) – Vadsø, Store Vadsøya Island adjacent to the city to the south, Lake Dammen with an area of approximately 1.25 ha (UTM: PT07, 70°03'53.0" N 29°45'53.2" E, 17 m above sea level), located in a marshy depression, partially surrounded by marshes and peat bogs. The water was light brown and clear. The shore was partly mineral, partly with a narrow strip of *Sphagnum* moss, in many places with low *Salix* sp. shrubs. In the littoral zone, there were *Carex* sp. reed beds with an admixture of *Eriophorum* sp.

In slightly deeper water, large patches of *Hippuris vulgaris* L. Mats of filamentous Chlorophyta were also observed, locally moderately large. Observations:

- *Coenagrion hastulatum* (Charpentier, 1825) – 15 July 2026, 1 ♂ hunting among herbaceous vegetation near the western shore of the lake;
- *Aeshna caerulea* (Ström, 1783) – 29 July 2025, 1 ♂ territorial and several individuals (at least 3 ♀♀ and 1 ♂) hunting among *Salix* sp. shrubs west of the lake; 9 July 2026, 1 ♀ passing near the lake;
- *Somatochlora arctica* (Zetterstedt, 1840) – 15 July 2026, 1 ♀ hunting among *Salix* sp. shrubs west of the lake.

Site no. 2 (Fig. 1B) – Ekkerøy, the top of a narrow peninsula jutting into the Arctic Ocean, an old peat excavation, partly with an area of approximately 0.02 ha, a smaller part (two pools with a total area of approximately 0.008 ha) with still open water, the rest overgrown with peat moss (UTM: UC97, 70°04'14.9" N 30°07'27.1" E, 41 m above sea level). The polyhumic pools were largely devoid of aquatic vegetation, with only a narrow *Carex* sp. reed bed and *Sphagnum* sp. growth on one bank. The *Sphagnum* cover was mainly overgrown with *Eriophorum* sp.,

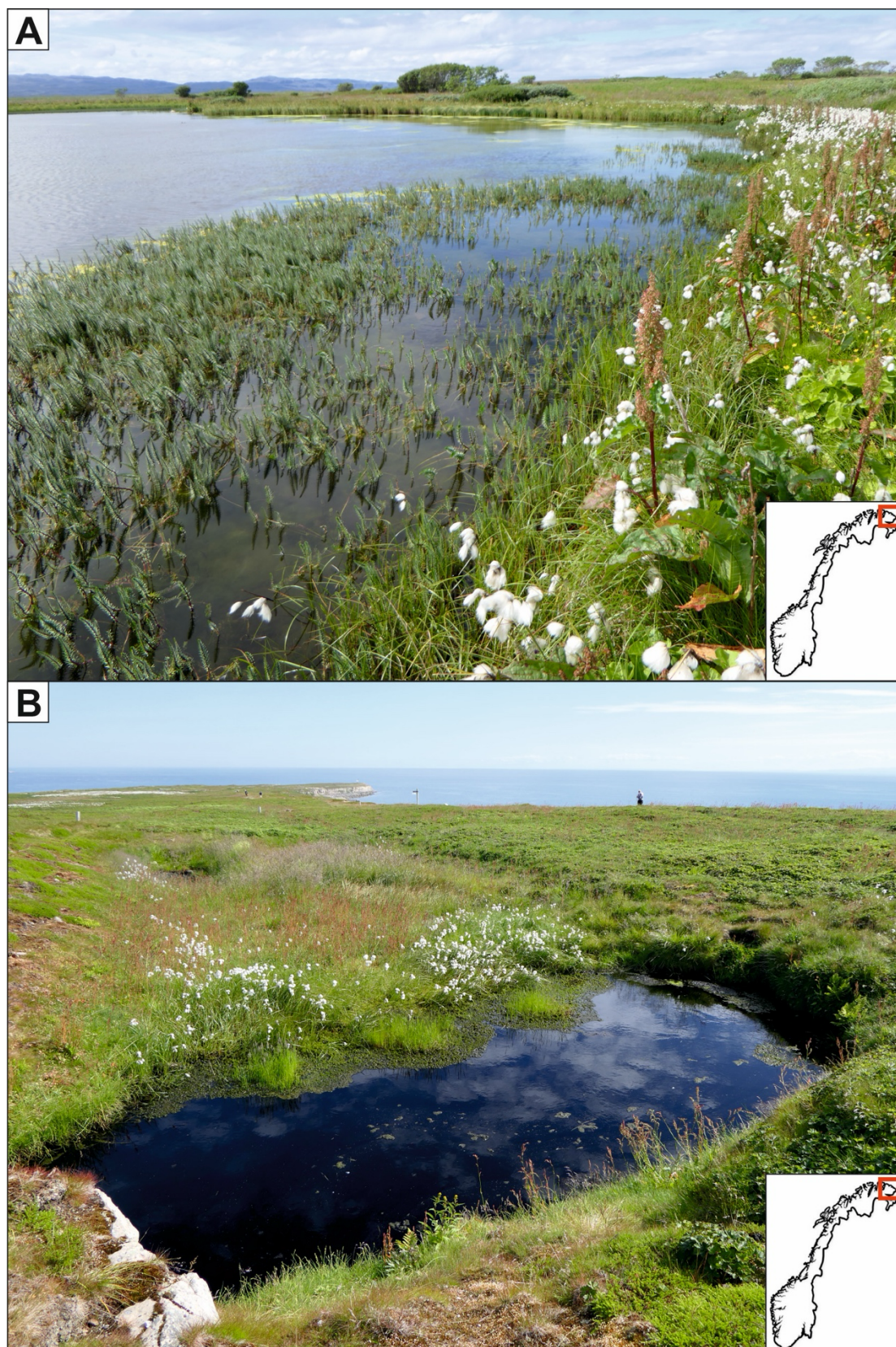


Fig. 1. Observation locations:
1A – the Lake Dammen in the Store Vadsøya island, 1B – the peat excavation in the Ekkerøy peninsula.

Ryc. 1. Miejsca obserwacji:
1A – jezioro Dammen na wyspie Store Vadsøya, 1B – wyrobisko torfu na półwyspie Ekkerøy.

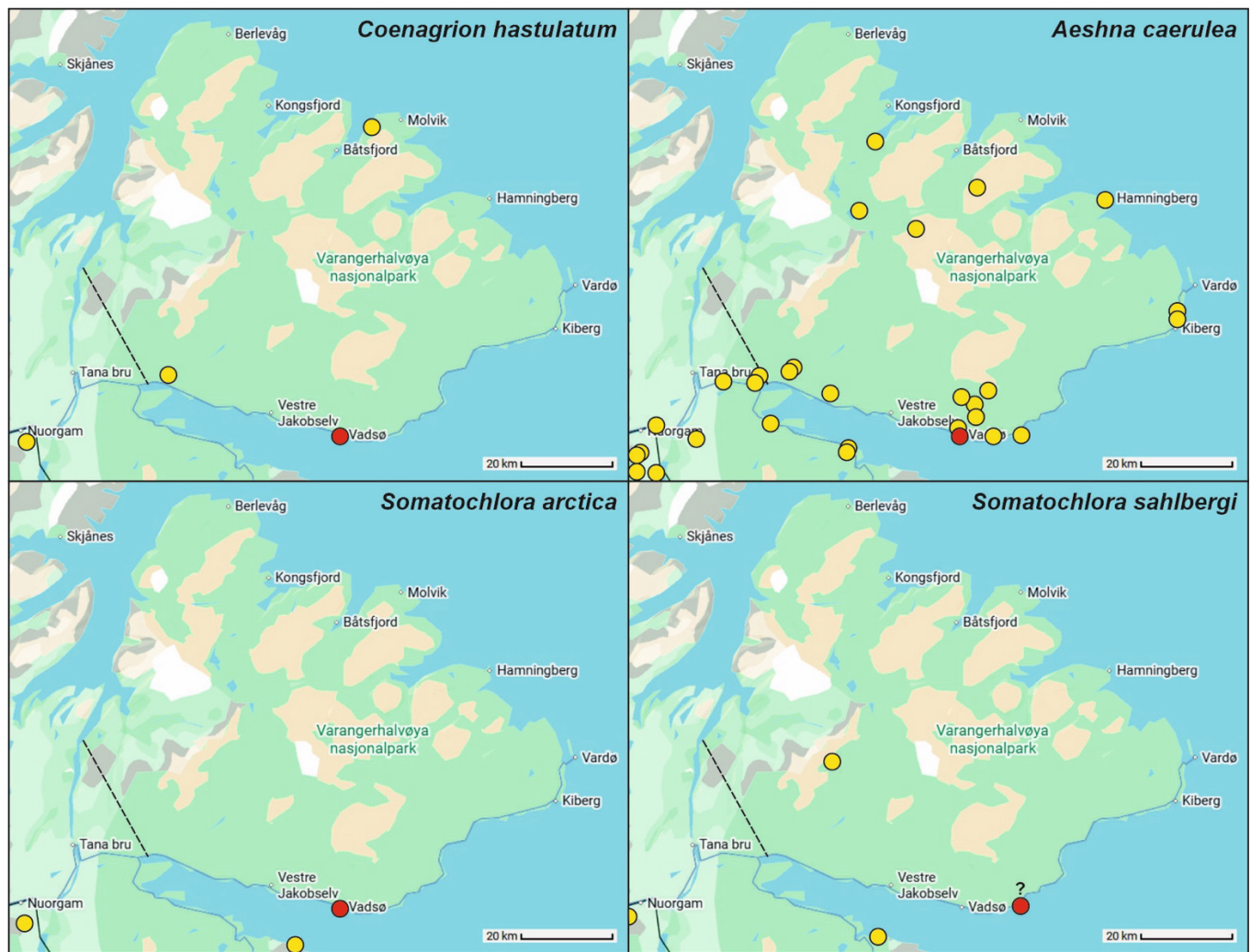


Fig. 2. Records of *Coenagrion hastulatum*, *Aeshna caerulea*, *Somatochlora arctica* and *S. sahlbergi* on the Varanger Peninsula and its immediate surroundings. The dashed line marks the border of the peninsula. Yellow dots – data from literature, GBIF and iNaturalist, red – new data, ? – doubtful record. Background of the maps: www.google.com/maps

Ryc. 2. Stwierdzenia *Coenagrion hastulatum*, *Aeshna caerulea*, *Somatochlora arctica* i *S. sahlbergi* na półwyspie Varanger i w jego bezpośrednim otoczeniu. Linia przerywaną zaznaczono granicę półwyspu. Kropki żółte – dane z piśmiennictwa, GBIF i iNaturalist, kropki czerwone – nowe dane, ? – stwierdzenie niepewne. Podkład map: www.google.com/maps

Carex sp., *Oxyria digyna* (L.) Hill., as well as grassy vegetation. Observation:

- *Somatochlora sahlbergi* Trybom, 1889 (?) – 27 July 2025, 1♂ territorial over a secondary peat bog. The observation was brief and uncertain due to the rapid change of the weather, after which this individual disappeared.

The Varanger Peninsula is covered by Arctic tundra, and in the highland and mountainous interior, alpine tundra. Forest tundra is also found locally. The average annual air temperature in the coastal areas ranges from 0 to 2°C, and in the interior from -3 to 0°C, with permafrost also common. The average July air temperature exceeds 10°C only in the lowland southwestern part (COAT 2026).

It is no surprise, then, that the dragonfly representation is poor under these conditions. BILLQVIST (2023) reported that of the 69 species known from northern Europe, only two occur on Varanger. This is primarily the permafrost-associated *Somatochlora sahlbergi*. Furthermore, the southwestern part of the peninsula is home to *Leucorrhinia dubia* (Vander Linden, 1825). However, very nearby, usually including the southern coast of the Varanger Fjord, are the northernmost parts of occurrence areas of 10 more species: *Enallagma cyathigerum* (Charpentier, 1840), *Coenagrion hastulatum*, *C. johannsoni* (Wallengren, 1894), *C. lunulatum* (Charpentier, 1840), *Aeshna caerulea*, *A. juncea* (Linnaeus, 1759), *Somatochlora alpestris* (Selys, 1840), *S. arctica*, *S. metallica* (Vander Linden, 1825) and *Leucorrhinia rubicunda*

(Linnaeus, 1758) (BILLQVIST 2023). Taking into account climate changes in the Arctic part of Norway, especially the increase in air temperatures in winter (MAYER 2026), changes in their ranges can be expected, including the colonization of the Varanger Peninsula.

Our observations are twofold. They provide a new site of *Somatochlora sahlbergi*, although this remains to be confirmed. Only one locality in the southwest of the Varanger Peninsula has been known so far (BILLQVIST 2023). On the southern shore of the fjord the species was recorded once, and the nearest known group of localities lies west of Nuorgam (PETTERI MAKELA 2009a; TEPPÖ 2009; FENCHELBOY 2025a; BAŃKI et al. 2026a) (Fig. 2). On the other hand, there are three species that BILLQVIST (2023) did not report from this area. However, it is worth referring to other sources. As the example of Finland shows (BUCZYŃSKI & BUCZYŃSKA 2025), dynamic changes are underway in the range boundaries of many dragonfly species in Scandinavia, so three or four years is a long time, and in “frontier” areas, data from earlier may be incomplete. Furthermore, key information is most readily available in citizen science databases. These data indicate that the colonization of the Varanger Peninsula has already begun, as expected, in the warmest areas along the southern coast.

Of the species reported by us, the most dynamic situation is that of *Aeshna caerulea* – almost 20 localities are already known, including from the interior and the northern coast of the peninsula. Many sites are also known in the vicinity of the peninsula (Fig. 2) (PETTERI MAKELA 2009b; PIERREHENRIFABRE 2019; BOBHUNTER 2023; ELANZUCCHETTI 2025; ENRICO CARTA 2025a, 2025b; NINARVANA 2025; PANTIKKA 2025; STAMARADELT 2025a, 2025b; BAŃKI et al. 2026b). Particularly interesting are the data of BOBHUNTER (2023) from the interior in Varanger Regional Park – they were entered into the database only in 2023, but they date from 1992. This means that the first observed individual of *A. caerulea* appeared already then. PIERREHENRIFABRE data (2019) from the Tana bru area are from 2009. The remaining materials are from the last three years.

Coenagrion hastulatum has been recorded only twice so far, near Nesseby, but also on the coast of Sylterfjorden in the north of Varanger. The nearest site outside the Varanger Peninsula is known from the vicinity of Nuorgam (MIRA 2024; FENCHELBOY 2025b; BAŃKI et al. 2026c). However, our finding of *Somatochlora arctica* is the first for the peninsula. This species has so far been known only from single sites on the southern coast of the Varanger Fjord and in the vicinity of Nuorgam (Fig. 2) (BILLQVIST 2023;

BAŃKI et al. 2026c). Therefore, in the case of *Coenagrion hastulatum* and *Somatochlora arctica*, the expansion is only just beginning. From the coastal, southern part of the peninsula, from a few localities (one to three), *Enallagma cyathigerum*, *Aeshna juncea*, *Somatochlora alpestris*, and *S. metallica* are also known (BAŃKI et al. 2026d, 2026e, 2026f, 2026g, 2026h). Of course, the extent to which these populations are autochthonous remains an open question.

The emergence of new species and their spread is worth monitoring as a symptom of climate change, but also in the context of their potential competition for habitats with *Somatochlora sahlbergi* – a Near Threatened (NT) species in Europe and the European Union (DE KNIJF et al. 2024).

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