

SOME ODONATA RECORDS FROM THE TRANSPOLAR AREA IN NORTH-EASTERN EUROPEAN RUSSIA

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Abstract – 9 spp. collected from 4 localities in the Nenetskii Autonomous District (NAD, Russia), 66°38'N-69°50'N probably represent the northernmost Odonata records in eastern Europe and the first reliable data on the odon. fauna of NAD and of the transpolar European Russia. *Aeshna grandis* and *Leucorrhinia rubicunda* are new additions to the Russian transpolar fauna. A most unusual dragonfly occurrence on an arctic isle (Dodgii Island in the Barents Sea), where *Aeshna caerulea* and *A. juncea* were discovered, is discussed in some detail.

Introduction

Nenetskii Autonomous District (NAD) is a large country situated along the Barents Sea coast between the White Sea and the Polar Ural, N of Komi Republic and NE of Arkhangelsk, most of the territory lying beyond the Polar Circle within the tundra and forest tundra zones. The dragonfly fauna of NAD has never been studied so far, nor does any Odonata checklist exist even for Arkhangelsk province, to which NAD belongs according to the Russian administrative division. Taking into account the general insufficiency of faunistic data from the Eurasian Arctic, any records and collections from this area must be called for, however common the species might appear.

A while ago I was invited to see a small dragonfly collection from NAD, collected in 2002-2004 by an expeditionary group of entomologists from Moscow and Arkhangelsk. Having no specialists on dragonflies on the staff they

offered me to identify the collection and kindly allowed me to publish the results under my own name.

Localities

- (1) Lower reaches of the Pechora river near Naryan-Mar town (67°42'N-44°39'E), the capital of NAD. The 60-100 km wide environs represent different forest tundra landscapes with small isolated islands of larch trees (*Larix sibirica*) scattered around a non-forested plain, some of them reaching the town along the river valley. A more forested area begins about 100 km to the South.
- (2) Nyes (Nes') settlement (66°38'N-44°65'E) on the White Sea coast near the Nyes river estuary in the SW of Kanin Peninsula. The site located almost exactly at the boundary between forest tundra and tundra zones. A few stands of larch (*Larix sibirica*) can be seen around the settlement, but all the territory further North is perfectly treeless.
- (3) Shoina village (67°55'N-44°15'E) on the White Sea coast in the northern part of Kanin Peninsula, approximately 150 km N of the boundary of forest tundra zone. The village surrounded by typical tundra with grassy meadows along a river floodplain.
- (4) Dolgii Island (69°50'N-45°30'E) in the Barents Sea, about 20 km from the continental coast and 40 km SW of Vaygach Island. The island is covered by tundra with small and largely shallow (to 1 m deep) lakelets.

The northern limit of forest tundra lies on the continent 180 km down the sea shore.

Records

The material (25 specimens of 9 species, Zoological Museum of the Moscow State University) was identified by the author. The collectors' names are given below as the acronyms V.G. (V.V. Gorbatsky) and B.F. (B.A. Filippov).

- *Coenagrion hastulatum* (Charp.) – (2): 1 ♀, 30-VI-2002, B.F. (on a meadow on the Nyes river bank).
- *Aeshna caerulea* Ström – (1): 1 ♂ 1 ♀, 01-VIII-2004, V.G. (on the bank of the Kuya river); – (2): 1 ♂, 23-VII-2002, B.F.; 1 ♀, 20-VI-2002, B.F. (on the bank of the Nyes river); – (4): 1 ♂, 18-VII-2004, (northern part of the island, on the way to cape Sever-Sale: caught sitting on the stand of trigonometric point "Kosa" at 20.00 local time); – 1 ♀, 19-VII-2004, V.G. (northern part of the island, point "Izba")
- *Aeshna grandis* (L.) – (1): 1 ♀, 31-VII-2004, V.G. (near the town airport).
- *Aeshna j. juncea* (L.) – (1): 1 ♀, 01-VIII-2004, V.G. (50 km W of Naryan-Mar, along the road Naryan-Mar-Usinsk, a bogged depression in a tundra area); – (3): 1 ♂, 17-VII-2003, B.F.; – (4): 1 ♂, 18-VII-2004, V.G. (north part of the island, cape Sever-Sale: caught when sitting on the stand of trigonometric point "Kosa" at 20.00 local time).
- *Aeshna subarctica* Walker – (2): 1 ♂, 09-VII-2002, B.F. (a tundra area on the opposite bank of the Kutina river).
- *Somatochlora arctica* (Zett.) – (3): 1 ♂ 1 ♀, 17-VII-2003, B.F.; (4): 1 ♂, 20-VII-2004, V.G. (central part of the island, point "Banya"); 26-VII-2004, V.G. 2 ♀ (central part of the island, at trigonometric point "Greiben", on coastal rocks); 1 ♂ 1 ♀, 19-VII-2004, V.G. (northern part of the island, point "Izba", a pair caught when copulating in the air).
- *Somatochlora metallica* VanderL. – (2): 1 ♂ 2 ♀, 04-VII-2002, B.F. (White Sea coast near the Nyes river estuary; humpy tundra with a small lake); 1 ♂, 01-VII-2002, B.F. (a tall-grass meadow on the bank of Nyes river); 1 ♀, 5-VII-2002, B.F. (a small-tree birch forest).

- *Leucorrhinia rubicunda* (L.) – (2): 1 ♂ 2 ♀, 04-VII-2002, B.F. (White Sea coast near the Nyes river estuary; humpy tundra with a small lake).
- *Sympetrum flaveolum* (L.) – (3): 1 ♂ 1 ♀, 17-VII-2003, B.F.

Discussion

New data on the arctic odonatofauna – Most of the species are found within their known northern range limits in Eurasia: *A. juncea*, *C. hastulatum*, *S. metallica*, *S. flaveolum* are spread northwards up to 70°N (the estuary of the river Norda in the Lena basin; BELYSHEV, 1965). *A. caerulea* ranges to 74°26'N (western coast of Taymyrskoye lake: GORODKOV, 1956), *A. subarctica* – to 77°24'N (Chelyuskin Cape: BELYSHEV, 1953; GORODKOV, 1956) and *S. arctica* – to 77°20'N (Russkiy Island near Taymyr; GORODKOV, 1956). Nevertheless, the mentioned records from NAD are northernmost for all the species in eastern Europe. The nearest site where the dragonfly fauna was ever studied before (KOLOSKOV, 1928) are the vicinities of Solivychegodsk, near the boundary between Arkhangelsk and Vologda provinces (61°13'N-46°43'E).

Both *L. rubicunda* and *A. grandis* are of particular faunistic interest since they have never been collected nor observed N of the Polar Circle in Russia. The here published records are the northernmost for these species in eastern Europe plus Siberia. In spite of being already known in West-European Arctic, *L. rubicunda* and *A. grandis* should be considered as new additions to the Russian transpolar dragonfly fauna.

The material from Dolgii Island represents an extremely rare case of the dragonflies found on an isle in the Arctic Ocean. The first (and, apparently, the last) record of this kind from Russia was published in 1956 by K.B. GORODKOV (l.c.), who had discovered on Russkii Island (see above) just a single species, *S. arctica*. The latter is also present in the discussed collection while neither *A. caerulea* nor *A. juncea* have ever been recorded outside the continent, so they should now be added to the Arctic island fauna of Russia. The question is, whether these dragonflies were really autochthonous inhabit-

ants on the isle or just temporary visitors driven there by the wind from the continent lying only 20 km southwards. A personal communication by V.V. Gorbатовsky, who had been working on the Dolgii Island for several weeks before all the mentioned species appeared here suddenly, after a storm, counts in favor of the latter suggestion. During a rough hydrobiological survey, no dragonfly larvae were found in the small island lakes. Nevertheless, larvae of some Ditiscidae species dwelt there in abundance, so these lakelets do not look entirely unfit for large aquatic insects, even though they must get frozen to the bottom every winter. Unfortunately, the collecting of aquatic insects was rather casual, with no special attention to Odonata, and the largest and deepest lake on the island remained practically unexplored. Thus, the question of the island dragonfly autochthony is still open.

New data on regional fauna and conservation

– The here described collection is the first reliable contribution to the dragonfly fauna of NAD. Dolgii Island belongs to the territory of the Nenetskii Zapovednik [Nature Reserve] where faunistic investigations were started only in 2004. One of the reported species, *A. subarctica*, is treated as a rare and vulnerable taxon in some regions of Russia. It was discussed in a review of critical Odonata species of the Asian

part of Russia (KOSTERIN et al., 2004) and has recently been included in the Red Data Book of Leningrad province (NOSKOV et al., 2000). BARTENEV (1936) suggested *A. subarctica* to be a glacial relict, although his opinion was afterwards criticized by GORODKOV (1956).

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