

**CORDULEGASTER BOLTONII (DONOVAN) FOUND AT THE POLAR CIRCLE IN KARELIA, NW RUSSIA (ANISOPTERA: CORDULEGASTRIDAE)**

V.E. SKVORTSOV<sup>1</sup> and A.V. MATYOKHIN<sup>2</sup>

<sup>1</sup> Department of Biological Evolution, Faculty of Biology, Moscow State University, RUS-119992 Moscow, GSP-1, Russia; – west-urnus@yandex.ru;

<sup>2</sup> A.N. Severtsov Institute of Ecology and Evolution RAS, Leninsky Prospekt 33, RUS-117071 Moscow, Russia

**Abstract** – 2 new *C. boltonii* localities, located near the Peninga estuary (63°40'50"N, 31°13'50"E) and at the Chernaya Guba bay on the White Sea coast (66°31'03"N, 32°55'35"E), are brought on record. The latter site is situated 4.5 km S of the Polar Circle, therefore, technically, the sp. is (as yet) not to be included on the Arctic fauna list. This is the northernmost locality known for the family in Eurasia. All the previously published *C. boltonii* records from Russia are discussed.

**Introduction**

Although *Cordulegaster boltonii* is known as a species ranging widely across western and central Europe, hard data on its distribution in Russia are very scarce. SPURIS (1964) described its range in the European part of the former USSR only by a short statement: 'Except in the North, mainly in hills and mountains'. It looks as if *C. boltonii* should be widespread all over European Russia, but there are no records to confirm such a statement. In his monograph

on the Odonata of Latvia, SPURIS (1956) cited only four Latvian localities, despite the fact that this country seems to be more suitable for *C. boltonii*, in terms of biogeography, than European Russia. DYAKONOV (1926) gave a district-specified review on the occurrence of *C. boltonii* in Leningrad (St Petersburg) province, mentioning Novoladozhskii, Petergofskii, Gatchinskii and Luzhskii districts plus the city of St Petersburg as the areas from which it was recorded. Nevertheless, no specimens were cited by the author. Further to the East, the only reliable locality of *C. boltonii* was discovered, namely that in Tver province, on Lake Seliger, a large waterbody lying about halfway between Moscow and St Petersburg, where the previous records by Yu.M. KOLOSOV (1915) were recently confirmed by two entomologists from Moscow, E.V. Mimonov and S.V. Kotachkov (pers. comm.). There also exists a hundred-year old report concerning the occurrence of *C. boltonii* in Kirov province: 'Vyatka gub.' (KOLOSOV, 1915; LEVI, 1968). It does not seem absolutely impossible that this species could be collected there, in the middle reaches of the Volga, yet neither any specimens nor even the exact locality are known so far. Finally, ZEINECHAEVA & BAYANOV (1975) included *C. boltonii* on the Bashkortostan fauna list, but the specimen on which the statement was based is unknown or it was lost, so YANYBAEVA et al. (2006) omitted this species from their updated checklist of the Bashkir dragonflies. These records exhaust the information concerning the occurrence of *C. boltonii* in Russia. Any reliable faunistic data for the country would be strongly desirable.

Here, two new Russian localities are presented, one of which is interesting in view of the general distribution of the species (and the genus) in Eurasia.

#### Records

(V.E. Skvortsov's private collection)

- (1) Russian Federation, Republic of Karelia, Peninga district., 150 km W of Segezha railway station, near the estuary of the Peninga river (63°40'50"N, 31°13'50"E), 19-VIII-2000, 1♀, E.G. Ivanitskaya leg., V.E. Skvortsov det.

- (2) Russian Federation, Republic of Karelia, Loukhi district, the Chernaya Guba bay of the White Sea coast, near the estuary of the Chernaya river (66°31'03"N, 32°55'35"E), 13-VIII-2007, 1♀, A.V. Matyukhin leg., V.E. Skvortsov det.

#### Discussion

The Republic of Karelia is found directly up St Petersburg, extending almost 800 km northwards in the shape of a huge 200-300 km wide band between the Finnish border, Lake Onega and the western coast of the White Sea. *C. boltonii* has never been reported from the country. Although it is present in the adjacent St Petersburg province, all the records are from the southern districts. Thus, even the locality (1), on the Peninga river, is worth mentioning: not only as the first record for that vast and hardly accessible area but also as a real northern exclave lying much further to the north than any point in Kirov province.

And yet, the finding on the White Sea coast is unique. The estuary of the Chernaya river is situated almost exactly at the Polar Circle, no more than 4.5 km to the South of it. This locality is no doubt the northeasternmost and, apparently, the northernmost for *C. boltonii*. The northernmost outposts of the species hitherto known in Europe do not reach the northern end of Gulf of Bothnia, which, in turn, is spaced by at least several dozens of kilometers from the Polar Circle.

*C. boltonii* is the sole representative of the genus, ranging quite far to the North in Europe; no congeners occur in Asia. Therefore, the Chernaya Guba record (2) represents the northernmost locality for both the genus and the family in Eurasia.

The habitats in both discussed sites are typical for *Cordulegaster*: cool, fast-flowing rivers with gravel bottom, surrounded by deep rocky gullies. *C. boltonii* is supposed to be autochthonous at any point in Karelia, however its distribution here is probably rather spotty, depending on the environmental conditions.

Technically, we still should not place *C. boltonii* on the Arctic Odonata list, since its northernmost known locality lies 4.5 km south from the Polar Circle, yet it will certainly be found in

this area within the Arctic boundary and most likely also in Murmansk province, the boundary of which runs just about 8 km North of the Chernaya river estuary.

**Acknowledgements** – We would like to thank E.V. MIMONOV and S.V. KOTACHKOV for the confirmation of the presence of *C. boltonii* at Lake Seliger.

**References** – BELYSHEV, B.F. & A. Yu. HARITONOV, 1981, *Geografiya strekoz (Odonata) boreal'nogo faunisticheskogo carstva*, Nauka, Novosibirsk; – DYAKONOV, A.M., 1926, *Nashi strekozy*, Gos. Izdatel'stvo, Moscow-Leningrad [facsimile reprint (1982) by Scientia, Zutphen, ISBN 90-6366-056-1]; – KOLOSOV,

Yu.M., 1915, *Trudy presnov. biol. Sta. S-peterb. Obshch. Estest.* 4: 93-121; – LEVI, E.K., 1968, *Latv. Ent.* 12: 77-84; – SPURIS, Z.D., 1956, *Strekozy Latvviyskoy SSR*, Akad. NaukLatv. SSR, Riga; – 1964, in: G.Ya Bei-Bienko et al., [Eds], *Keys to the insects of the European USSR*, vol. 1, pp. 157-189, Israel Progr. Scient. Transl., Jerusalem [1967]; – VAN PELT, G.J., 2006, in: K.-D.B. Dijkstra, *Field guide to the dragonflies of Britain and Europe*, pp. 210-221, Brit. Wildlife, Gillingham; – YANYBAEVA, V.A., H.J. DUMONT, A.Yu. HARITONOV & O.N. POPOVA, 2006, *Odonatologica* 35(2): 167-185; – ZEI-NECHAEVA, A.N. & M.G. BAYANOV, 1975, *Uchen. Zap. bashkir. gos. Univ.* 76: 63-69.

*Received March 6, 2008*