



**A DRAGONFLY (ODONATA) COLLECTION FROM THE
BOLSHEKHEKHTSIRSKII STATE NATURE RESERVE
(KHABAROVSKII KRAI, RUSSIA)**

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[О. Э. Костерин, В. В. Дубатов. Коллекция стрекоз (Odonata) из Большехехцир-ского заповедника (Хабаровский Край, Россия)]

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В Большехехцирском заповеднике и на Большом Уссурийском острове (окрестности Хабаровска) в июне-сентябре 2005 г. собрано 25 видов стрекоз. Впервые для Хабаровского Края приводится *Sympetrum infuscatum* (Selys, 1883).

In June-September 2005, the second author undertook an expedition to Khabarovskii Krai, mostly in the Bolshekhekhtsirsksii State Nature Reserve, aimed to inventarise the butterfly fauna of this Reserve. Along with butterflies and moths, he collected also Odonata. It should be noted that he did not specially explored any water reserve, the collecting took place in woody area and concerned foraging dispersed individuals, mostly females. Some individuals were attracted by light at night. However, just 66 specimens collected appeared to represent 25 species. This is not many, but any information on exact distribution of odonate species in the southern Far East of Russia is still to be accumulated to correctly outline species ranges, and especially the data on the fauna of Nature reserves are important in view of the goal of Nature protection. So the list of materials collected is published herewith. The specimens are kept in the collection of the Institute of Systematics and Ecology of Animals of the Siberian Division of the Russian Academy of Sciences, Novosibirsk (SZMN).



THE RESEARCH AREA

The Bol'shekhehtsirskii State Nature Reserve, founded in 1963, is situated 20 km S of Khabarovsk on the Bol'shoi Khekhtsir Mt. Range; it occupies 45439 ha and extends 34 km from west to east and 29 km from north to south. It resides in the middle of the northern subzone of the coniferous-broad leaved forests. It protects an "island" of a Korean stone pine/broad leaved forests among vast boggy (peat-moss) larch open stands (loc. "mari") [Мельникова, 2002].

THE COLLECTING SITES

The collecting sites are designated with conventional names which are explained below.

The following sites belong to the territory of the Reserve:

1. Bychikha [Бычиха]: the Bychikha village environs (48°17-18' N 134°48-50' E); collection at light were carried out at the Reserve office within the village (48°18' N 134°49' E).
2. Sosnenskii: the Sosnenskii Brook [Ключ Сосненский] 5-6 km W of Bychikha, the Ecological Centre of the Reserve, 48°17' N 134°45' E.
3. Chirki: the area of the Chirki River mouth [устье р. Чирки], the Reserve cordone environs (48° 11-12' N 134° 4' E).
4. Bele-Kedrovaya: the eastern part of the Reserve, from the eastern border through the Brook Bele [Ключ Беле] valley towards the Kedrovaya Sopka Mt. [Сопка Кедровая].

The material was collected by V. V. Dubatolov unless otherwise (by A. M. Dolgikh) is indicated.

5. Besides, we mention here some specimens collected on the Bol'shoi Ussuriiskii Island [о. Большой Уссурийский] between Khabarovsk and the Ussuri River (48°20-25' N 134°50-54' E).

ANNOTATED SPECIES LIST

I. Calopteryx japonica Selys, 1869

Bychikha: 13/VI - 1 f; Chirki: 20/VI - 1 m 1 f (Dolgikh); Bele-Kedrovaya: 7/VI - 1 f.

Note: the female of 13/VI has the fore wings diffusely lightened behind the node.



2. *Lestes sponsa* (Hansemann, 1823)

Bychikha: 13/VII - 1 m; Sosnenskii: 28/VI - 1 f.

3. *Lestes dryas* Kirby, 1890

Bychikha: 6/VII - 1 f; Chirki: 30/VI - 1 f.

4. *Sympetma paedisca* (Brauer, 1877)

Bychikha: 15/VII - 1 m; Bol'shoi Ussuriiskii: 20/VII - 1 m 1 f; early August - 1 m; 5/VII - 1 m; 14/IX - 3 m 3 f; 22/IX - 1 f, by light; 24/IX - 1 m.

5. *Coenagrion lanceolatum* (Selys, 1872)

Bychikha: 11/VI - 1 m; 13/VI - 1 f; 14/VI - 1 f (by light); 26/VI - 1 f.

6. *Coenagrion ecornutum* (Selys, 1872)

Bychikha: 26/VI - 1 m; Bol'shoi Ussuriiskii: 20/VII - 1 m 1 f.

7. *Nehalennia speciosa* (Charpentier, 1840)

Bychikha: 29/VI - 1 m (by light).

8. *Aeshna juncea* (Linnaeus, 1758)

Bychikha: 18/IX - 1 m.

9. *Shaogomphus schmidti* (Asahina, 1956)

Bol'shoi Ussuriiskii: 20/VII - 1 m.

10. *Stylurus flavipes* (Charpentier, 1825)

Bychikha: 4/VIII - 1 m.

occultus Selys, 1878

11. *Nihonogomphus ruptus* (Selys, 1857)

Bychikha: 13/VI - 1 m; 26/VI - 2 m; 18/VII - 1 f; 22/VII - 1 m;
Chirki mouth: 14.07 - 1 m.

12. *Trigomphus nigripes* (Selys, 1887)

Bychikha: 13/VI - 1 m.

13. *Eptheca bimaculata* (Charpentier, 1825)

Bychikha: 9/VI - 1 f.

14. *Cordulia aenea* (Linnaeus, 1758)

Bychikha: 9/VI - 1 m 1 f; 11/VI - 1 f.

Note: Molecular phylogeography of *Cordulia* presented in (Joedicke et al., 2004) does not refer to the problem of reproductive isolation; it just revealed a postglacial recolonisation from three Holarctic refugia and speaks nothing about the taxonomic status achieved by the expanded colonisation waves. The very slight difference in the hamuli shape in specimens from



opposite ends of the Palearctics shown in (Dumont et al. 2005) cannot shed light onto situation in the centre of the contiguous Eurasian range of *Cordulia*. The body and wing length were thought to also differentiate the western and eastern representatives, but the preliminary data presented in the same above mentioned paper indicate rather at their clinal change. Therefore, here we see no reason to accept the eastern taxon *amurensis* Selys, 1887 even as a subspecies. At the same time, our three specimens fit to dimensions claimed to be characteristic for *amurensis*: the abdomen is 32 mm long and the fore and hind wing is 29 mm long; the wing basal amber occupies *at* in males and extends halfway to *t* in the female (a shrunk amber was initially proposed as diagnostic but later this was not corroborated) (Бельшев, 1973). The male hamulus dorsal surface lack noticeable concavity, that is also a common characteristic of the Far Eastern representatives of the genus, while those from Europe have a slight concavity (E. I. Malikova, pers. comm.). Note that the legends to figures 5 and 6 in (Dumont et al., 2005), depicting this character, are confused with each other.

15. *Somatochlora exuberata* Bartenev, 1911

2 km W of Bychikha: 11/VII - 1 m.

Note: there are two *ac* veins on the right fore wing.

16. *Macromia amphigena fraenata* Martin, 1907

Chirki mouth: 20/VI - 1 m (Dolgikh).

17. *Sympetrum cordulegaster* (Selys, 1883)

Bychikha: 16/VII - 1 m; 19/VII - 1 m; 24/VII - 1 f; 5/VIII - 2 f; 12/IX - 1 m.

18. *Sympetrum croceolum* Selys, 1883

18/IX - 1 f.

19. *Sympetrum danae* (Sulzer, 1776)

Bychikha: 13/IX - 1 m, by light; 14/IX - 2 m 4 f; 18/IX - 1 f; 24/IX - 2 m 1 f.

20. *Sympetrum depressiusculum* (Selys, 1841)

Bychikha: 5/VIII - 1 f (by light).

21. *Sympetrum eroticum* (Selys, 1883)

Bychikha: 23/VII - 1 m; 24/VII - 1 f; 14/IX - 1 m; Bele-Kedrovaya: 7/VII - 1 f (Dolgikh).

22. *Sympetrum flaveolum* (Linnaeus, 1758)



Bychikha: 26/VI - 2 f; 5/VIII - 1 f; 14/IX - 1 f.

23. *Sympetrum infuscatum* (Selys, 1883)

Bychikha: 4/VIII - 1 m.

24. *Sympetrum pedemontanum* (Müller in Allioni, 1766)

Bychikha: 16/VII - one easily recognisable individual visually.

25. *Leucorrhinia (rubicunda) intermedia* Bartenev, 1910

Bol'shoi Ussuriiskii: 10/VII - 1 f; 20/VII - 1 f.

DISCUSSION

This small collection is the first published report for the Bol'shekhekhtsirskii State Nature Reserve. *Sympetrum infuscatum* has been for the first time recorded in Khabarovskii Krai, as to its fauna as summarised in (Маликова, 1995), hitherto it was not found north of Primorye (E. I. Malikova, pers. comm.) Interesting are findings of species rare in the Far East: *Nehalennia speciosa* and two gomphids, *Stylurus flavipes* and *Shaogomphus schmidtii*. *occultus*

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