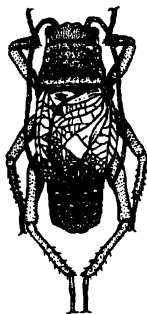


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A PRELIMINARY DATA ON CHIRONOMID FAUNA (DIPTERA, CHIRONOMIDAE) OF THE SAKHALIN AND KUNASHIR ISLANDS

E.A.Makarchenko and M.A.Makarchenko

Institute of Biology and Pedology, Vladivostok-22, 690022, Russia

The eighty eight species of Chironomidae (Diptera) from Sakhalin and 65 species from Kunashir (Kurile Islands) are listed. *Kaluginia lebetiformis* Makar. is endemic of Sakhalin and *Syndiamesa mira* (Makar.) is endemic of Kunashir. *Diamesa japonica* Tok., *Euryhapsis subviridis* (Sieb.), *E. cilium* Ol., *Pagastia lanceolata* (Tok.), *Sympotthastia gemmaformis* Makar. and *Paraboreochlus* Edw. are new to Russia.

KEY WORDS: Diptera, Chironomidae, faunistics.

Е.А.Макарченко, М.А.Макарченко. Предварительные данные по фауне Chironomidae (Diptera) островов Сахалин и Кунашир // Дальневосточный энтомолог. 1994. № 5. С. 1-8.

Приведен список 98 видов хирономид для острова Сахалин и 65 видов для острова Кунашир. Отмечается возможный эндемизм *Kaluginia lebetiformis* Макара. для Сахалина и *Syndiamesa mira* (Макара.) для Кунашира. Впервые для России указываются род *Paraboreochlus* Edw. и 5 видов: *Diamesa japonica* Ток., *Euryhapsis subviridis* (Сиб.), *E. cilium* Ол., *Pagastia lanceolata* (Ток.) и *Sympotthastia gemmaformis* Макара.

Биолого-почвенный институт, Дальневосточное отделение Российской Академии наук, Владивосток, 690022, Россия.

INTRODUCTION

Up to the middle 1970, information about Chironomidae from the Sakhalin and Kunashir Islands was mainly indirectly derived from studies of fish food and zoobenthos (Kluchareva et al., 1969; Zhuikova, 1973, 1974, 1975; Zhulkov, Shershnev, 1975). In order to achieve more precise knowledge about the occurrence and distribution of chironomids in the region we initiated a survey which included other life history stages of the species. This particular focus on chironomids has produced a series of taxonomical papers (Makarchenko 1976, 1980, 1985, 1987, 1994; Makarchenko et al., 1988).

The material used for the compilation of this report was collected in rivers and lakes of Kunashir Island in 1976, 1978 and 1989, and from Sakhalin - during 1979-1989 by the authors and by other staff (Drs. I.M. Levanidova, T.S. Vshivkova, I.A. Chereshev, T.M. Tiunova) of the Laboratory Freshwater Hydrobiology (Institute of Biology and Pedology FEB RAS). We also received some material from Drs. L.A. Zhiltzova (Zoological Institute RAS, St-Petersburg) and A.I. Zhulkov (Tikhookeanskiy Institute Rybnogo Hozyaistva i Okeanografii, Yuzhno-Sakhalinsk).

For the purpose of summarizing distribution data, the Sakhalin Island is conventionally divided into three parts, the Northern (I), Middle (II) and Southern Region (III). The following rivers and streams are included in these regions:

I - River Tym' with its tributaries Pilenga, Blagodatnyi and Rybovodnyi; River Dagi and the streams around Neftegorsk.

II - Rivers Pritornaya, Nerpichya, Ai, Malaya Ainka, Sigma Stream.

III - Lyutoga River with tributary Bystraya (Brjanka); the rivers Belaya, Zalom, Takoi, Shuya, Komissarovka, Otchepuha, Rogatka and Taranai.

The data from Kunashir Island are based on records from the following rivers and lakes:

IV - streams around Alekhino and Sernovodsk Villages, streams around Lake Kipyashchee (Golovnin's volcano); Rivers Tyurino, Andreevka, Peschanaya, Lesnaya, Ozernaya; Lake Peschanoe.

Additional abbreviation is used throughout the list of species: gr. - group of species.

LIST OF THE CHIRONOMIDAE OF THE SAKHALIN AND KUNASHIR ISLANDS

Taxa	Regions & Rivers			
	I	II	III	IV
1	2	3	4	5

Subfamily Podonominae

1. <i>Boreochlus thienemanni</i> (Edw.)	-	-	+	-
---	---	---	---	---

	1	!	2	!	3	!	4	!	5	.
2. <i>Paraboreochlus</i> sp.			-		-		+		-	
Subfamily Tanypodinae										
3. <i>Ablabesmyia</i> gr. <i>monilis</i> L.			-		-		-		+	
4. <i>Apsectrotanypus</i> sp.			-		-		-		+	
5. <i>Clinotanypus</i> gr. <i>nervosus</i> Mg.			-		-		-		+	
6. <i>Macropelopia</i> <i>paranebulosa</i> Fittkau			+		-		+		+	
7. <i>Meropelopia</i> sp.			-		+		-		+	
8. <i>Procladius</i> gr. <i>choreus</i> Mg.			+		-		+		-	
9. <i>P. ferrugineus</i> K.			-		-		+		-	
10. <i>P. nigriventris</i> K.			-		-		-		+	
11. <i>Procladius</i> sp.			-		-		-		+	
12. <i>Psectrotanypus</i> <i>sibiricus</i> (Tshern.)			-		-		+		-	
13. <i>Rheopelopia</i> sp.			+		-		+		+	
14. <i>Nilotanypus</i> sp.			-		-		+		-	
15. <i>Thienemannimyia</i> sp.			-		-		-		+	
16. <i>Telmatopelopia</i> sp.			+		-		-		-	
17. ? <i>Zavreliomyia</i> sp.			-		-		-		+	
Subfamily Diamesinae										
18. <i>Boreoheptagyia</i> <i>brevitarsis</i> (Tok.)			-		-		+		-	
19. <i>Diamesa</i> <i>alpina</i> Tok.			-		-		-		+	
20. <i>D. daktyloidea</i> Makar.			-		-		+		-	
21. <i>D. japonica</i> Tok.			-		-		-		+	
22. <i>D. leona</i> Rob.			-		-		+		-	
23. <i>D. tsutsuii</i> Tok.			+		+		+		+	
24. <i>D. vernalis</i> Makar.			-		-		+		-	
25. <i>D. zernyi</i> Edw.			+		-		+		-	
26. <i>Kaluginia</i> <i>lebetiformis</i> Makar.			-		-		+		-	
27. <i>Pagastia</i> <i>angarensis</i> (Linev.)			-		-		+		+	
28. <i>P. lanceolata</i> (Tok.)			-		+		+		+	
29. <i>P. orientalis</i> (Tshern.)			+		-		-		-	
30. <i>Pothastia</i> sp.			+		-		+		-	
31. <i>Protanypus</i> <i>caudatus</i> Edw.			-		-		+		-	
32. <i>Pseudodiamesa</i> ? <i>branickii</i> (Now.)			-		-		+		+	
33. <i>P. stackelbergi</i> G.			+		+		+		-	
34. <i>Sympothastia</i> <i>gemmaformis</i> Makar.			-		+		-		-	
35. <i>S. takatensis</i> (Tok.)			+		-		+		-	
36. <i>Syndiamesa</i> <i>mira</i> (Makar.)			-		-		-		+	
Subfamily Prodiamesinae										
37. <i>Monodiamesa</i> gr. <i>bathyphila</i> K.			-		+		+		+	
38. <i>Prodiamesa</i> <i>levanidovae</i> Makar.			+		-		+		-	

	1	!	2	!	3	!	4	!	5
39. <i>P. olivacea</i> Mg.			+		-		+		-
Subfamily Orthoclaadiinae									
40. <i>Brillia flavifrons</i> (Joh.)			+		+		+		-
41. <i>B. modesta</i> (Mg.)			-		-		+		+
42. <i>Chaetocladius</i> gr. <i>vitellinus</i> K.			-		-		+		-
43. <i>Corynoneura</i> gr. <i>scutellata</i> Winn.			-		+		+		+
44. <i>Cricotopus</i> gr. <i>silvestris</i> K.			-		-		-		+
45. <i>Diplocladius cultriger</i> K.			+		-		+		-
46. <i>Epoicocladius ephemerae</i> K.			-		-		-		+
47. <i>Eukiefferiella</i> gr. <i>brehmi</i> Gowin			-		+		+		+
48. <i>E. calvescens</i> Edw.			-		-		+		-
49. <i>E.</i> gr. <i>claripennis</i> Oliver			+		-		+		+
50. <i>E.</i> gr. <i>cyanea</i> Thien.			-		-		+		-
51. <i>E.</i> gr. <i>devonica</i> Saeth. et Halv.			-		-		+		-
52. <i>E.</i> gr. <i>gracei</i> G.			-		-		+		+
53. <i>E.</i> gr. <i>rectangularis</i> G.			-		-		-		+
54. <i>Eukiefferiella</i> sp.			-		-		-		+
55. <i>Euryhapsis cilium</i> Oliver			-		-		+		-
56. <i>E. subviridis</i> (Siebert)			-		-		+		-
57. <i>Heterotrissocladius</i> gr. <i>marcidus</i> (Walk.)+					+		+		+
58. <i>H.</i> gr. <i>subpilosus</i> (K.)			-		-		+		-
59. <i>Hydrobaenus</i> sp.			-		-		+		-
60. <i>Krenosmittia camptophleps</i> (Edw.)			-		-		+		+
61. <i>Limnophyes</i> gr. <i>prolongatus</i> K.			-		-		+		-
62. <i>Metriocnemus fuscipes</i> (Mg.)			-		-		+		-
63. <i>Nanocladius (Plecopteracoluthus)</i> sp.			-		-		+		-
64. <i>Oliveridia tricornis</i> (Oliver)			-		+		+		-
65. <i>Orthocladus (Eudactylocladius)</i> sp.			+		-		+		+
66. <i>O. (Euorthocladus) frigidus</i> (Zett.)			-		-		+		-
67. <i>O. (E.) reofilus</i> Linev.			-		-		+		-
68. <i>O. (E.) tridentifer</i> (Linev.)			-		+		+		+
69. <i>O. (E.)</i> sp. 1			+		+		+		+
70. <i>O. (E.)</i> sp. 2			-		+		+		+
71. <i>O.</i> gr. <i>saxicola</i> K.			-		-		+		+
72. <i>O. (Orthocladus)</i> sp. 1			-		-		+		+
73. <i>O. (O.)</i> sp. 2			-		+		+		+
74. <i>O. (O.)</i> sp. 3			+		-		+		+
75. <i>O. (O.)</i> sp. 4			+		-		+		+
76. <i>O. (O.)</i> sp. 5			-		-		+		-
77. <i>Paracricotopus</i> sp.			-		-		-		+

	1	!	2	!	3	!	4	!	5
78. <i>Parametricnemus stylatus</i> K.	-		-		-		+		+
79. <i>Parorthocladius oxyrhynchus</i> K.	-		+		-		-		-
80. <i>Psectrocladius</i> gr. <i>dilatatus</i> (Wulp)	-		-		-		+		-
81. <i>P.</i> gr. <i>psilopterus</i> K.	+		-		-		+		+
82. <i>Pseudorthocladius</i> gr. <i>curtistylus</i> G.	-		-		-		+		-
83. <i>Rheocricotopus eminollobus</i> (Saether)	-		-		-		-		+
84. <i>R. doriei</i> (G.)	-		-		-		+		-
85. <i>Stilocladius</i> sp.	-		-		-		+		+
86. <i>Symposiocladius lignicola</i> (K.)	+		-		-		-		-
87. <i>Synorthocladius</i> sp. (aff. <i>semivirens</i>)	-		-		-		+		-
88. <i>Thinemanniella</i> gr. <i>clavicornis</i> K.	+		-		-		+		+
89. <i>Tvetenia</i> gr. <i>bavarica</i> G.	-		-		-		+		+
90. <i>T.</i> gr. <i>discoloripes</i> (G.)	+		-		-		+		-
91. <i>T. duoditaria</i> K.	-		-		-		+		-
Subfamily Chironominae									
92. <i>Chironomus</i> sp.	-		-		-		-		+
93. <i>Ch. yoshimatsui</i> Mart. et Subl.	-		-		-		+		-
94. <i>Cladotanytarsus</i> sp.	-		-		-		+		-
95. <i>Constempellina</i> sp.	-		-		-		+		-
96. <i>Cryptochironomus</i> sp. (Chironominae genuinae N 9 Lipina)	-		-		-		+		-
97. <i>C.</i> gr. <i>defectus</i> K.	-		-		-		+		+
98. <i>C.</i> gr. <i>pararostratus</i> K.	-		-		-		-		+
99. <i>C.</i> gr. <i>viridulus</i> Fabr.	-		-		-		-		+
100. <i>Demycryptochironomus</i> <i>vulneratus</i> (Zett.)	+		-		-		+		-
101. <i>Einfeldia</i> gr. <i>carbonaria</i> Mg.	-		-		-		-		+
102. <i>Glyptotendipes</i> gr. <i>gripekoveni</i> K.	-		-		-		-		+
103. <i>Limnochironomus</i> gr. <i>nervosus</i> St.	-		-		-		-		+
104. <i>L.</i> gr. <i>tritonus</i> (K.)	-		-		-		+		+
105. <i>Micropsectra</i> sp.	+		+		-		-		+
106. <i>Microtendipes pedellus</i> (De Geer)	-		-		-		+		-
107. <i>Paracladopelma camptolabis</i> (K.)	-		+		-		+		-
108. <i>Paratanytarsus</i> sp.	+		-		-		+		-
109. <i>Paratendipes albimanus</i> (Mg.)	-		-		-		-		+
110. <i>Polypedilum bicrenatum</i> K.	-		-		-		+		+
111. <i>P. convictum</i> (Walk.)	+		-		-		+		+
112. <i>P.</i> gr. <i>nubeculosum</i> Mg.	-		-		-		-		+
113. <i>P.</i> gr. <i>pedestre</i> (Mg.)	-		-		-		+		-

	1	!	2	!	3	!	4	!	5	.
114. <i>Polypedilum</i> sp. (Chironominae genuinae N 3 Lipina)			-		-		+		+	
115. <i>P. scalaenum</i> (Schr.)			-		-		+		+	
116. <i>Rheotanytarsus</i> sp.			+		-		-		+	
117. <i>Sergentia</i> gr. <i>coracina</i> (Zett.)			-		-		+		-	
118. <i>S. flavodentata</i> Tshern.			+		-		-		-	
119. <i>S.</i> gr. <i>longiventris</i> K.			-		-		+		-	
120. <i>Stempellinella</i> sp.			-		+		-		-	
121. <i>Stictochironomus</i> gr. <i>histrio</i> (Fabr.)			+		+		+		+	
122. <i>Tanytarsus</i> gr. <i>bathophilus</i> K.			-		-		-		+	
123. <i>Tanytarsus</i> sp.			-		-		+		-	
124. <i>T.</i> gr. <i>gregarius</i> K.			-		-		-		+	
125. Tendipedini ? <i>g.macrophthalma</i> Tshern.			-		-		-		+	
Number of species			32		20		87		65	.

DISCUSSION

The preliminary list of chironomids of Sakhalin Island includes 98 species of adult and larval forms, 58 genera from 6 subfamilies. On Kunashir Island 65 species and 41 genera from 6 subfamilies have been collected.

Several species appear to have restricted distributions. *Kaluginia lebetiformis* Makar. was described on a male from the middle reaches of Belaya River (Makarchenko, 1987). It is a monotypic genus and appears to be an endemic of South Sakhalin. Likewise, *Syndiamesa mira* (Makar.) is known only from the type locality, the Tyurino River at the village of Sernovodsk (Makarchenko, 1980, 1985). *Sympothastia gemmaformis* Makar. is known only from Sakhalin and Hokkaido (Makarchenko, 1994). Other species, including *Diamesa japonica* Tok., *Euryhapsis subviridis* (Siebert), *E. cilium* Oliver, *Pagastia lanceolata* (Tok.), and *Paraboreochlus* sp. were unknown in Russia before our survey started. *Euryhapsis subviridis* was originally described from Austria, based on a single male only. In Sakhalin we collected all stages of this species and described the immatures and the karyotype (Makarchenko et al., 1988). The genus *Paraboreochlus* which was previously known from West Europe and North America, was found in Belaya River (South Sakhalin).

In a previous paper, we stated that the continental species *Pagastia orientalis* occurs in South Sakhalin and Kunashir (Makarchenko, 1985). However, we now realize that this was a misidentification of *P. lanceolata*. Material from Japan and a detailed examination of karyotypes and genital structures of males from island

and continental populations show that *P. lanceolata* occurs in South Sakhalin, Kunashir, Iturup, Hokkaido and the Honshu Islands whereas *P. orientalis* is distributed from northern Sakhalin over the continental part of the Far East.

Unfortunately, many records of chironomid taxa from this region are still based on larvae which have not yet been associated with imagines of known taxa. The conclusions that can be drawn from distributional patterns are therefore limited and more efforts are needed in order to identify all life history stages of the species.

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Address: Institute of Biology and Pedology, Far East Branch of Russian Academy of Sciences, 690022, Vladivostok-22, Russia.

FAX: (4232) 310 193

E-mail: entomol@stv.iasnet.com