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ZOOPLANKTON OF LAKE TARAICA AND ITS NEIGHBOURING WATERS, SOUTHERN SAKHALIN

BY

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(With Plate V)

The present paper is based on the collection of zooplankton made by Mr. YOSHIKAKI KUSUKI of the Hokkaido Imperial University in Lake Taraika and its neighbouring waters in the summer of 1935. The collection consists of nineteen vials of materials collected from the fourteen stations enumerated below.

Localities

- Station 1: Lake Taraika, near the mouth of the outflow, east of the White Island, brackish water; Aug. 16, 9^h 30^m.
- St. 2: A pool in the White Island; Aug. 16, 11^h, pH > 10; the material contained only the ephippia of *Daphnia*.
- St. 3, 4 and 5: Lake Taraika, western parts; Aug. 16, 12–15^h; at the St. 3 a water-bloom consisting of *Anabaena* flourished.
- St. 9 and 10: The outflowing river of Lake Taraika, near the village of Higashi-Taraika; Aug. 17, 17^h.
- St. 11: Lake Taraika, central part of the lake; Aug. 18, 18^h 30^m.
- St. 12: Mouth of a river flowing into the northern part of Lake Taraika; Aug. 18, 11^h.
- St. 13: A bog-pond in the tundra north of the St. 12; Aug. 18, 14^h 20^m, pH = 4.5.
- St. 14: Lake Taraika, eastern part; Aug. 19, 10^h.
- St. 18 and 19: Small ponds in the tundra north of the town of Shisuka; Aug. 21, 16^h 30^m–17^h; the samples contained a large amount of vegetable debris (fragments of *Sphagnum* and chitin-shells).
- St. 21: River Jimutaki, near its mouth; Aug. 22, 10^h; the sample contained sand-particles and vegetable debris.

List of the Species*

Copepoda

1. *Sinocalanus tenellus* (KIKUCHI), St. 1, 3, 4, 5, 9, 10, 11 and 14.
2. *Diaptomus amurensis* RYLOV, St. 13.
3. *Heterocope appendiculata* G. O. SARS, St. 13.
4. *Diacyclops nanus* (G. O. SARS), St. 18 and 19.
5. *Diacyclops minutus* (CLAUS) ?, St. 13.
6. *Paracyclops fimbriatus* FISCHER var. *poppei* (REHBERG), St. 13.
7. *Eucyclops serrulatus* (FISCHER), St. 13.

Cladocera

8. *Holopedium gibberum* ZADDACH, St. 13.
9. *Sida crystallina* (O. F. MÜLLER), St. 13.
10. *Scapholeberis mucronata* (O. F. MÜLLER), St. 19.
11. *Ophryoxus gracilis* G. O. SARS, St. 13 and 19.
12. *Acroperus harpæ* BAIRD, St. 13, 18 and 19.
13. *Alona quadrangularis* (O. F. MÜLLER), St. 18.
14. *Alonella exisa* (FISCHER), St. 18 and 19.
15. *Chydorus sphericus* O. F. MÜLLER, St. 13, 18, 19 and 21.
16. *Chydorus ovalis* KURZ, St. 13.
17. *Polyphemus pediculus* LINNÉ, St. 19.

Rotatoria

18. *Polyarthra trigla* (EHRENBERG), St. 18.
19. *Trichocerca* (= *Rattulus*) sp., St. 19.
20. *Diurella* sp., St. 18.
21. *Keratella cochlearis* (GOSSE), St. 3 and 11.
22. *Keratella quadrata* var. *curvicornis* (EHRENBERG), St. 13.
23. *Conochilus hippocrepis* (SCHRANK), St. 18.
24. *Monostyla lunaris* EHRENBERG, St. 18 and 19.
25. *Cathypna unguolata* GOSSE, St. 18.

Protozoa

26. *Diffugia binucleata* PENARD, St. 18 and 21.
27. *Nebela spumosa* AWERINZEW, St. 18.
28. *Arcella arenaria* GREEFF, St. 18.
29. *Centropyxis aculeata* STEIN, St. 13, 18 and 19.

* The determination of harpacticoid Copepoda (St. 1, 3, 11) is left for a future work.

Insecta

Chaoborinae (Diptera) larva, St. 19.

Short Account of the Zooplanktons***Sinocalanus tenellus* (KIKUCHI)**

This species is found in the samples from various parts of Lake Taraika and is the only copepodan element of the zooplankton of this lake. Since the samples contained the females only, I was unable to determine whether the Taraika form should belong to var. *sachalinensis* RYLOV (R. 1932, p. 102) or not. This species seems to be rather widely distributed in brackish water lakes on the coast of the Sea of Japan. The present localities are another example of this kind of habitat. It is, however, of interest that both the localities, the River Suifun near Vladivostock (SMIRNOV 1932) and a lake at Moskalewo of Northern Sakhalin (RYLOV 1932) are purely freshwater.

***Diaptomus amurensis* RYLOV**

St. 13, ♂♂ and ♀♀ with eggs. This species was first recorded from the Amur district (RYLOV 1930, p. 185) and was subsequently found in the vicinity of Lake Chanka, East Siberia (SMIRNOV 1929, p. 158, 165).

***Hetercope appendiculata* G. O. SARS**

St. 13, ♂♂ and ♀♀; length $\pm 1800 \mu$, somewhat smaller than European forms. Body bluish or greenish blue in colour. The present specimens agree closely with the European typical form, but differ slightly from it in having three denticles on the outer margin of the fifth foot of the female (the typical form having only two denticles). This species is very widely distributed in Europe and in Asiatic USSR (RYLOV 1930, p. 250, 1935, p. 199).

***Diacyclops nanus* (G. O. SARS)**

♂♂ and ♀♀ with eggs. The first antennæ short and 11-jointed. The number of segments of 1-4 swimming feet is 2.2, 3.2, 3.3, 3.3. The relative length of two apical spines of the last segment of the fourth foot agrees well with the description and figures given by KIEFER (1926, p. 348, figs. 5a-e). The fifth foot 2-jointed. Length $\pm 500 \mu$.

***Paracyclops fimbriatus poppei* (REHBERG)**

In the features of the furca and the anal part the present specimen agrees fairly well with REHBERG's *poppei*. The first antennæ 8-jointed; the furca short,

about three times as long as wide. The segments of 1-4 swimming feet are 3.3, 3.3, 3.3, 3.3; the fifth foot 1-jointed.

***Holopedium gibberum* ZADDACH**

♀ only. In the southern parts of Japan this species is found usually in lakes and large ponds, but in Northern Japan it is also found in small ponds and pools much like the present locality as well as various localities in the Northern Kuriles (UÉNO 1933a). In my recent investigation *H. gibberum* is distributed in a lake as far south as the southernmost part of Kyûshû.

***Ophryoxus gracilis* G. O. SARS**

In most respects the present specimens agree very closely with the European typical form (LILLJEBORG 1900, p. 311, pl. 51 and 52). The post-abdomen rapidly narrowed toward the distal end, with about 12 ciliated anal spines; anal claws long, slightly curved, with ciliations along the whole concave margin and with two ciliated basal spines, the distal one of which is twice as long as the proximal. This species is rather widely distributed in the northern parts of the Palæarctic Region and in North America. In the Far East it has been recorded from both Northern Sakhalin (RYLOV 1932) and Southern Kuriles (UÉNO 1933).

***Acroperus harpae* BAIRD**

Most abundantly found in the sample from the St. 18. General form is much like var. *angustatus* G. O. SARS (KEILHACK 1909, p. 78, fig. 184). The dorsal margin slightly arched, the posterior margin distinctly convex, the post-ventral corner provided with 3-4 small denticles. Post-abdomen armed with about 12 groups of fine spinules on each side. This species has been recorded from Japan proper and Northern Sakhalin (RYLOV 1932).

***Polyarthra trigla* (EHRENBERG)**

In size of body and in characteristics of appendages the present specimen seems to be rather referable to var. *minor* VOIGT.

***Conochilus hippocrepis* (SCHRANK)**

Solitary individuals only.

***Keratella cochlearis* (GOSSE)**

Only *tecta*-form is represented.

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Explanation of Plate

A-E. *Ophryoxus gracilis* G. O. Sars, from St. 19.

A. Female, lateral aspect.

B. Young animal, lateral aspect.

C. Antennule of female.

D. Post-abdomen of female.

E. Anal claw.

F-H. *Acroperus harpae* BAIRD, from St. 12.

F. Female, lateral aspect.

G. Post-ventral corner of the shell.

H. Post-abdomen.

I-K. *Heterocope appendiculata* G. O. Sars, from St. 13.

I. Fifth foot of male.

J. Endpart of fifth foot of female.

K. Appendages on the genital opening.

L-M. *Diaptomus amurensis* RYLOV, from St. 13.

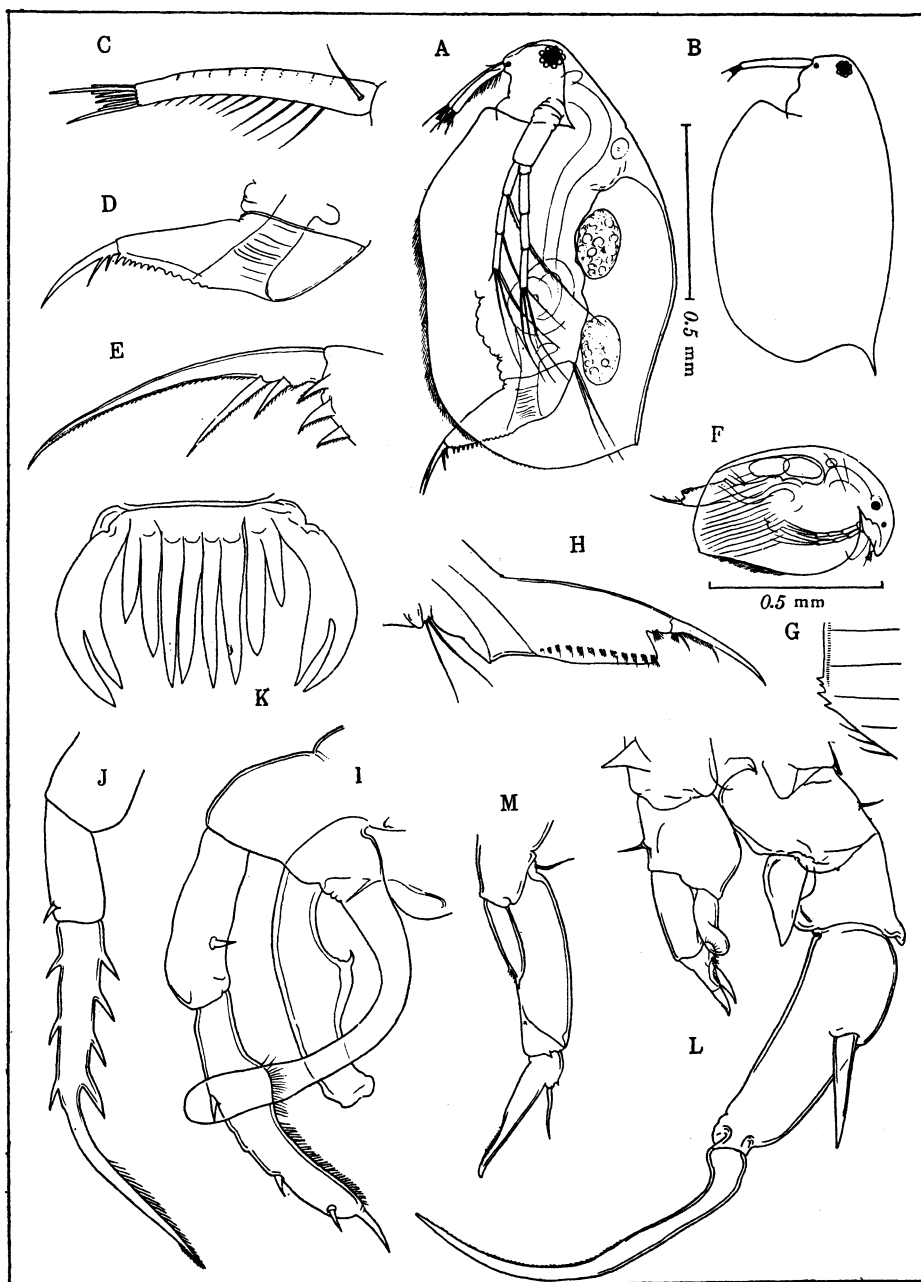
L. Fifth foot of male.

M. Fifth foot of female.

摘 要

南樺太多來加湖及び近隣陸水の動物性プランクトン

理學士楠木義明氏が昭和10年夏、南樺太の多來加湖及びその附近のツンドラ中の池沼で採集せられた材料19瓶を検した。その結果本文に報ずる橈脚類7種、枝角類10種、輪蟲類8種、原蟲類4種並にフサカの幼蟲の合計30種を査定した。注意すべき種類には夫々簡単な記載を添加した。



M. UENO del.