International Journal on Algae

VOLUME 2, NUMBER 1 2000

Solomon P. Wasser
Editor-in-Chief

begell house, inc.
new york • wallingford, U.K.

International Journal on Algae

Volume 2 / Issue 1 2000

CONTENTS

International Journal on Algae is published quarterly by Begell House, Inc.,79 Madison Avenue, New York, NY 10016, telephone (212) 725-1999; fax (212)-213-8363. The subscription price for 2000 year is $ 585. Add $9.00 per issue for foreign airmail shipping and handling fees to all orders outside the United States or Canada. All subscriptions are payable in advance. Subscriptions are entered on an annual basis, i.e., January to December. Orders should be mailed to Begell House, Inc. Payments should be made by USD checks drawn on a US bank.

Rare algal species of the southern part of the Far East of Russia*

L.A. MEDVEDEVA

Institute of Biology and Soil, Far Eastern Branch, Russian Academy of Sciences, 159, 100 Let Vladivostoku Pr., 690022 Vladivostok, Russia

ABSTRACT

This article presents a list of algal species, which are new and rare for the territory of the Far East of Russia. It includes 69 algal species (*Cyanophyta* – 13, *Euglenophyta* – 1, *Bacillariophyta* – 19, *Xanthophyta* – 5, *Rhodophyta* – 3, *Chlorophyta* – 28). The list of species is accompanied with brief descriptions and comments.

KEYWORDS: Primorskiy Region, Khabarovskiy Region, algae, rare species.

In recent years rare algal species were found in different water bodies and streams of Primorskiy and Khabarovskiy Region. They belong to six divisions: *Cyanophyta* – 13, *Euglenophyta* – 1, *Bacillariophyta* – 19, *Xanthophyta* – 5, *Rhodophyta* – 3, *Chlorophyta* – 28. Their list, as well as the data on their location and frequency of occurrence determined by the scale of Visloukh (Zhizn' ..., 1956), are given below. In some cases, these are also supplied with comments. Sign (*) indicates species recorded by us for the first time on the territory of the Far East of Russia.

CYANOPHYTA

1. ***Calothrix gelatinosa** (Bocher) V. Poljansk. Filaments 22-40 μm broad, sheaths bear 2-4 trichomes each. Trichomes 2.7-6 μm broad. Spores are disposed in the inferior part of the trichome, 17.0-17.5 μm long, 8.0-8.2 μm broad. Khabarovskiy Region, the Bureya River, 05.10.1993, foulings of stones, rarely.

2. ***Calothrix gypsophila*** (Kütz.) Thur. emend. Poljansk. **f. *orsiniana*** (Kütz.) V. Poljansk. Filament 11.2 μm broad. Sheaths laminated, without collars. Trichome 8.7 μm broad, terminated in long hair. Primorskiy Region, Zeva River, below its estuary, the

* Originally published in *Algologia*, 1999, 9(1), pp. 74-84

ISSN1521-9429

Antonovskiy spring, 25.07.1995, foulings of stones, rarely. Previously this species was reported for the territory of the Far East as *Dichothrix orsiniana* (Kütz.) Born. et Flah. found in the hot springs of Kamchatka (Petersen, 1946).

3. ***Gloeocapsa cohaerens*** (Bréb.) Hollerb. Colonies consist of 4 cells, form small plates. Cells 3-5 μm in diameter. Primorskiy Region, peat bog in the vicinity of the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, sporadically. There is an evidence that this species was found in the tributaries of the Kolyma River and in swampy lakes of its basin (Kuz'min, 1985) within the territory of the Far East.

4. ***Homoeothrix balearica*** (Born. et Flah.) Lemm. **f. *tenuis*** (W. et G.S. West) V. Poljansk. Filaments 3.7-5.5 μm broad, slightly thickened at the base, not branched. Sheaths laminated, yellowish. Khabarovskiy Region, nameless spring in the valley of the Bureya River, 03.07.1994, foulings of stones, frequently.

5. ***Microchaete calothrichoides*** Hansg. Filaments up to 16 μm broad. Trichomes 6.0-8.7 μm broad at the base. Apart from basal heterocysts, intercalar heterocyst 11 μm long and 6.7 μm broad was found. Primorskiy Region, peat bog in the vicinity of the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, sporadically.

6. ***Oscillatoria chlorina*** (Kütz.) Gom. **f. *chlorina*.** Trichomes 4.2 μm broad, cross striated. Cells 7.5 μm long. Primorskiy Region, bog in the valley of the Bikin River, 29.07.1995, in aggregations of algae, very frequently.

7. ***Oscillatoria chlorina* f. *perchlorina*** (Lauterb.) Elenk. Trichomes 8 μm broad, slightly constricted. Both species and its form occur frequently.

8. ***Oscillatoria proboscidea*** Gom. Trichomes straight, 12-14 μm broad. Cells 2-3.5 μm long. Primorskiy Region, backwater of the Kedrovaya River, 01.06.1990, in aggregations of algae, not infrequently.

9. ***Pelonema aphane*** Skuja. Filaments straight, long, 1.5 μm broad. Cells cylindrical, 7-16 μm long, with an axial gas vacuole. Primorskiy Region, canal of the Bikin River opposite the estuary of the Takhalo River, 02.08.1990, in aggregations of algae, frequently.

10. ***Phormidium favosum*** (Bory) Gom. Trichomes bent, 4.5 μm broad. Cells as long as broad. Primorskiy Region, the Bikin River opposite the estuary of the Takhalo River, 09.07.1990, foulings of stones, not infrequently.

11. ***Schizothrix vaginata*** (Näg.) Gom. Filaments straight, intricate, abundantly branching at the ends, 15 μm broad, bearing 1-2 trichomes each. Trichomes 3.7 μm broad. Primorskiy Region, swampy canal of the Bikin River above the estuary of the Kilou River, 27.06.1990, in aggregations of algae, sporadically. The only record for the territory of the Far East is the Artemovsk reservoir (Barinova, 1986).

12. ***Scytonema crustaceum*** Ag. Filaments 18-25 μm broad. Trichomes 10-12 μm broad. Khabarovskiy Region, the Urgal River, 01.06.1994, foulings of stones, rarely.

13. ***Tolypothrix tenuis*** Kütz. **f.** ***terrestris*** B.-Peters. Filaments 7.5 μm broad. Trichomes 4 μm broad. Primorskiy Region, backwater of the Kedrovaya River, 01.06.1990, in aggregations of algae, in abundance.

EUGLENOPHYTA

14. ***Strombomonas urceolata*** (Stokes) Defl. Lorica cylindrical, 53 μm long, 19 μm broad. Primorskiy Region, backwater of the Bikin River opposite the estuary of the Takhalo River, 09.07.1990, in aggregations of algae, sporadically.

BACILLARIOPHYTA

15. ***Achnanthes bioretii*** Germ. Frustules elliptical with rounded ends, 17 μm long, 7.5-8.5 μm broad. Striae radial, unequal in the middle part of the frustule, 10 μm bear 24 striae. Primorskiy Region, backwater of the Zeva River, 25.07.1995, in aggregations of algae, sporadically; the Klyuchevaya River estuary, 27.07.1995, foulings of stones, sporadically.

16. ***Achnanthes convergens*** H. Kob. Frustules linear-lanceolate, 13.6-18.0 μm long, 4.0-4.6 μm broad. Striae are spaced widely in the middle part of the frustule, 10 μm bear 18-23 striae. Striae are spaced closely at the ends of the frustule. Primorskiy Region, below the estuary of the Zeva River, the Antonovskiy spring, 25.07.1995, foulings of stones, not infrequently; the Dal'nyaya River estuary, foulings of higher aquatic plants, rarely; the Bikin River near the Khomyakovo natural boundary, 26.07.1995, foulings of stones, in abundance.

17. ***Achnanthes helvetica*** (Hust.) Lange-Bertalot. Frustules elliptical, 11.0-12.2 μm long, 4.5-5.0 μm broad. Striae radial, 10 μm bear 22-24 striae. Primorskiy Region, the Svetlovodnaya River, 28.07.1995, foulings of stones, rarely; residual water body in the valley of the Zeva River near the estuary of the Sagdy-Biasa River, 22.07.1995, in aggregations of algae, sporadically; the Bikin River below the estuary of the Gorely spring, 03.07.1990, foulings of stones, sporadically.

18. ***Achnanthes suchlandtii*** Hust. Frustules linear-elliptical, 12-13 μm long, 4 μm broad. Axial and middle fields unite into the linear-lanceolate area. Striae punctated. Primorskiy Region, the Sagdy-Biasa River, estuary, 23.07.1995, foulings of stones, sporadically.

19. ***Caloneis sublinearis*** (Grun.) Krammer. Frustule almost linear, 20 μm long, 4 μm broad. Striae radial, slightly convergent at the ends of the frustule, 10 μm bear 22 striae. Primorskiy Region, the canal of the Bikin River above the estuary of the Takhalo River, 02.08.1995, foulings of higher aquatic plants, sporadically.

20. ***Cymbella proxima*** Reim. Frustule severely bent, coarse, 83 μm long, 20 μm broad. Axial field narrow, middle field almost spherical. Striae radial, coarsely punctated,

10 μm bear 7-8 striae, as well as 13-15 points, four middle striae terminated in an isolated stigma on the ventral side of the frustule. Primorskiy Region, the Zeva River nearby the Zeva rocks, 17.07.1995, foulings of stones, sporadically.

21. ***Navicula clementis*** Grun. Frustule elliptical-lanceolate, 18.5 μm long, 9.7 μm broad. Axial field narrow, middle field irregularly shaped. Striae radial, long striae alternate with short ones in the middle part. 10 μm bear 14 striae. Primorskiy Region, the Bikin River opposite Krasny Yar settlement, 10.07.1990, foulings of stones, sporadically.

22. ***Navicula constans*** Hust. Frustule elliptical, 27 μm long, 10 μm broad, striae radial, 10 μm bear 12 striae. Primorskiy Region, swampy water body in the valley of the Bikin River within the Khomyakovo natural boundary, 26.07.1995, foulings of higher aquatic plants, sporadically. This species was first found in the Anadyr' River basin (Kharitonov, 1989) within the territory of the Far East.

23. ***Navicula decussis*** Oestr. Frustule elliptical-lanceolate, 18.5 μm long, 6.4 μm broad. Long striae alternate with short ones in the middle part of the frustule. Striae radial, convergent towards the ends of the frustule, 10 μm bear 17 striae. Primorskiy Region, the Bikin River, near Krasny Yar settlement, 10.07.1990, foulings of stones, sporadically.

24. ***Navicula goeppertiana*** (Bleisch) H.L. Smith. Frustules lanceolate, 22-23 μm long, 8-8.5 μm broad. Striae radial punctated, 10 μm bear 14 striae. Primorskiy Region, canal of the Zeva River above the estuary of the Sagdy-Biasa River, 25.07.1995, in aggregations of algae, sporadically; the Bikin River within the Sein natural boundary, 10.07.1990, foulings of stones, sporadically. This species was first found in the Amur River estuary (Kiselev, 1931) within the territory of the Far East.

25. ***Navicula hambergii*** Hust. Frustule elliptical-lanceolate with attenuated ends, 20 μm long, 8.5 μm broad. Long striae reaching the axial field are disposed in the middle field on each side of the frustule; short striae are arranged on the both sides of it. Striae radial, 10 μm bear 13-14 striae. Primorskiy Region, backwater of the Bikin River, above the estuary of the Svetlovodnaya River, 27.07.1995, foulings of higher aquatic plants, sporadically.

26. ***Navicula pupula* var. *nyassensis*** (O. Müll.) Lange-Bertalot. Cell 39 μm long, 11.5 μm broad, 10 μm bear 16 striae. Primorskiy Region, backwater of the Bikin River, opposite the estuary of the Takhalo River, 09.07.1990, in aggregations of algae, rarely.

27. ***Neidium apiculatum*** Reimer. Cell 35 μm long, 17 μm broad, 10 μm bear 19 striae. Primorskiy Region, backwater of the Bikin River, nearby the estuary of the Takhalo River, 09.07.1990, in aggregations of algae, sporadically.

28. ***Nitzschia acidoclinata*** Lange-Bertalot. Frustules narrow-linear, 25 μm long, 3-3.5 μm broad, 10 μm bear 14 carinal points. Primorskiy Region, residual water body in the valley of the Zeva River, nearby the estuary of the Sagdy-Biasa River, 22.07.1995, in aggregations of algae, rarely.

29. ***Nitzshia agnita*** Hust. Cells 23-30 μm long, 3 μm broad. Striae very delicate, indistinguishable. Primorskiy Region, the Zeva River, nearby the Zeva rocks, 17.07.1995,

foulings of stones, rarely; the Sagdy-Biasa River, estuary, 23.07.1995, foulings of stones, rarely; backwater of the Bikin River, nearby the estuary of the Takhalo River, 09.07.1990, in aggregations of algae, rarely.

30. ***Nitzschia graciliformis*** Lange-Bertalot et Sim. Frustules linear-lanceolate, 78-96 μm long, 2 μm broad, 10 μm bear 16 carinal points, striae indistinguishable. Primorskiy Region, backwater of the Bikin River within the Khomyakovo natural boundary, 27.07.1995, in aggregations of algae, not infrequently.

31. ***Nitzschia pellucida*** Grun. Cells 48-56 μm long, 4.8-5.5 μm broad, 10 μm bear 12 carinal points. Primorskiy Region, residual water body in the valley of the Zeva River, nearby the estuary of the Sagdy-Biasa River, 22.07.1995, in aggregations of algae, rarely; backwater of the Bikin River, below the Khomyakovo natural boundary, 26.07.1995, foulings of higher aquatic plants, rarely; Khabarovskiy Region, the Urgal River, 03.07.1994, foulings of stones, sporadically.

32. ***Nitzschia pumila*** Hust. Cells 30-34 μm long, 2.5 μm broad, 10 μm bear 14 carinal points. Primorskiy Region, backwater of the Bikin River nearby the Khomyakovo natural boundary, 26.07.1995, in aggregations of algae, rarely.

33. ***Pinnularia ignobilis*** (Krasske) Cl.-Euler. Cells 16.0-16.2 μm long, 4.3-4.5 μm broad, 10 μm bear 18 striae. Primorskiy Region, residual water body in the valley of the Zeva River, nearby the estuary of the Sagdy-Biasa River, 22.07.1995, in aggregations of algae, not infrequently; the Bikin River, below the estuary of the Gorely spring, 03.07.1990, foulings of stones, sporadically; the Ada River estuary, 24.06.1990, foulings of stones, sporadically.

XANTHOPHYTA

34. ***Botryochloris cumulata*** Pasch. Colonies multicellular. Cells 8.7-9.0 μm in diameter. Primorskiy Region, canal of the Bikin River opposite the estuary of the Takhalo River, 02.08.1995, in aggregations of algae, sporadically.

35. ***Characiopsis sphagnicola*** Pasch. Cells 15-25 μm long, 3 μm broad. Khabarovskiy Region, temporary water body in the valley of the Bureya River, 01.07.1994, epiphyte of *Spirogyra*, not infrequently.

36. ***Chytridiochloris acus*** Ettl. Cell 42 μm long, 3.7 μm broad. Primorskiy Region, canal of the Bikin River opposite the estuary of the Takhalo River, 02.08.1995, in aggregations of algae, epiphyte of *Melosira varians*, sporadically.

37. ***Pleurogaster*** sp. Cell thickened semilunar, 62 μm long, 20 μm broad. A large papilla is disposed at one end of the cell, whereas a long thin prickle is placed on the other. Primorskiy Region, swampy water body in the valley of the Bikin River, in the estuary of the Khandagon spring, 05.07.1990, in aggregations of algae, sporadically. This species differs from the species belonging to the genus *Pleurogaster* described in the report by Ettl (1978) in its considerably larger dimensions.

38. ***Tribonema gayanum*** Pasch. Filament 18-20 μm broad. Primorskiy Region, residual water body in the valley of the Zeva River in the estuary of the Sagdy-Biasa River, 22.07.1995, in aggregations of algae, sporadically. Previously this species was reported for the territory of the Far East in the Komsomol'skiy Reserve, namely in Lake Vtoroye Zolotoye, in the Gorin River, and in the bog located in the lower reaches of the Ulami River (Barinova & Medvedeva, 1989).

RHODOPHYTA

39. ****Batrachospermum globosporum*** Israelson. Cells of the whorled twigs 25 μm long, 10 μm broad. Primorskiy Region, estuary of the Sagdy-Biasa River, 23.07.1995, foulings of stones, sporadically.

40. ****Chantransia leibleinii*** Kütz. Cells 15-18 μm broad, three-four times as long as broad. Hairs are absent. Khabarovskiy Region, in the rivers Bureya, Levaya Bureya, Sergekta, 05.09.1993, foulings of stones, September, rarely – very frequently; the Urgal River, 01.07.1994, foulings of stones, not infrequently.

41. ***Chantransia pygmaea*** Kütz. Cells 10-11 μm broad, two times as long as broad. Primorskiy Region, estuary of the Sagdy-Biasa River, 23.07.1995, foulings of stones, not infrequently. Previously this species was reported for the territory of the Far East in the Bol'shekhekhtsirskiy Reserve (Kukharenko et al., 1986).

CHLOROPHYTA

42. ****Actinotaenium cucurbitinum*** (Biss.) Teil. Cells 52-58 μm long, 22-24 μm broad. Cell wall sparse punctated. Chloroplasts stellate, bearing one pyrenoid. Primorskiy Region, peat-bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, frequently.

43. ****Chaetophora tuberculosa*** (Roth) Ag. Cells 12 μm broad. Terminal branching racemiform. Khabarovskiy Region, temporal water body in the valley of the Chegdomynka River, 08.07.1994, rarely.

44. ****Chlorhormidium flaccidum*** (Kütz.) Fott. Cells cylindrical, 5.5-9.0 μm broad, as long as broad. Primorskiy Region, canal of the Bikin River, opposite the estuary of the Takhalo River, 02.08.1995, in aggregations of algae, not infrequently; the Zeva River estuary, 26.07.1995, foulings of stones, not infrequently; Khabarovskiy Region, mine water and sewage from Chegdomyn settlement, 08.07.1994, in aggregations of algae, rarely.

45. ****Chlorophysema inertis*** (Korsch.) Pasch. Cell 8.2 μm in diameter. Primorskiy Region, canal of the Bikin River opposite the estuary of the Takhalo River, 02.08.1995, in aggregations of algae, sporadically.

46. ***Coenococcus polycoccus*** (Korsch.) Hind. Cells 14 μm in diameter. Primorskiy Region, backwater of the Zeva River above the estuary of the Kamenny spring, 25.07.1995, in aggregations of algae, rarely.

47. ***Cosmarium microsphinctum*** Nordst. **var.** ***crispulum*** Nordst. Cell 32.5 μm long, 25 μm broad, isthmus 11.2 μm broad. Cells are slightly undulate at the edges. Primorskiy Region, residual water body in the valley of the Bikin River below the estuary of the Ada River, 25.06.1990, in aggregations of algae, sporadically.

48. ***Cosmarium notabile*** Bréb. Cell hexagonal, 32 μm long, 21 μm broad. Semi-cells with slightly convex quadriundulate edges. Primorskiy Region, residual water body in the valley of the Bikin River below the estuary of the Ada River, 25.06.1990, in aggregations of algae, sporadically.

49. ***Cosmarium sphagnicolum*** W. et G.S. West. Cells almost quadrate, 10.2-10.5 μm long, 11.5-12 μm broad, isthmus 5.5 μm broad. Primorskiy Region, swampy water body in the valley of the Bikin River below the estuary of the Gorely spring, 03.07.1990, in aggregations of algae, rarely; peat bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, rarely. The first record for the territory of the Far East is Khabarovskiy Region, the Komsomol'skiy Reserve, the Gorin River (Barinova & Medvedeva, 1989).

50. ***Cosmarium subimpressulum*** Borge. Cells 21-23 μm long, 16-17 μm broad. Semi-cells with quadriundulate edges, the third lateral process most convex. Primorskiy Region, backwater of the Kedrovaya River, in aggregations of algae, 01.06.1990, sporadically.

51. ***Cosmarium tetragonum*** (Näg.) Arch. **var.** ***davidsonii*** (Roy et Biss.) W. et G.S. West. Cells hexagonal, 36-39 μm long, 25 μm broad, isthmus 13-14 μm broad. Semi-cells with a truncate diundulate apex. Primorskiy Region, the Zeva River above the estuary of the Sagdy-Biasa River, 25.07.1995, foulings in the near-shore zone, sporadically.

52. ***Cosmarium umbilicatum*** Lütkem. Cell octagonal, 22 μm long, 18 μm broad, deeply constricted. Khabarovskiy Region, temporal water body in the valley of the Bureya River, 08.08.1994, in aggregations of algae, sporadically.

53. ***Cosmoastrum dispar*** (Bréb.) Pal.-Mordv. Cell 26 μm long, as long as broad, isthmus 7.5 μm broad. Primorskiy Region, peat bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, sporadically.

54. ***Cylindrocapsa geminella*** Wolle. Filaments 10-12 μm broad. Primorskiy Region, the Bikin River, nearby Soboliny settlement, 10.07.1990, foulings of stones, rarely; swampy canal of the Bikin River, above the estuary of the Kilou River, 27.06.1990, in aggregations of algae, rarely.

55. ***Euastrum verrucosum*** Ehr. **var.** ***coarctatum*** Delp. Cell 97 μm long, 80 μm broad. Primorskiy Region, swampy water body in the valley of the Bikin River below the estuary of the Gorely spring, 03.07.1990, in aggregations of algae, sporadically.

56. ***Microspora amoena*** (Kütz.) Rabh. **var.** ***gracilis*** (Wille) De Toni. Filaments 17.5 μm broad, cells (35) 60-65 μm long. H-shaped parts of the cell wall are distinctly

visible, they reach the middle section of the cell. Primorskiy Region, canal of the Bikin River below the estuary of the Ada River, 25.06.1990, in aggregations of algae, in abundance. *Microspora amoena* f. *amoena* was previously reported for the Artemovsk reservoir (Barinova, 1986).

57. ***Microspora willeana*** Lagerh. Filaments 15 μm broad, cells 28 μm long. Primorskiy Region, swampy water body in the valley of the Bikin River in the estuary of the Khandagon spring, 05.07.1990, in aggregations of algae, in abundance.

58. ***Monoraphidium tortile*** (W. et G.S. West) Kom.-Legn. Cells 32-36 μm long, 2.5 μm broad. Primorskiy Region, canal of the Bikin River opposite the estuary of the Takhalo River, 02.08.1990, in aggregations of algae, sporadically.

59. ***Protoderma viride*** Kütz. Cells 7 μm broad, as long as broad. Primorskiy Region, swampy canal of the Bikin River above the estuary of the Kilou River, 27.06.1990, in aggregations of algae, rarely.

60. ***Staurastrum inconspicuum*** Nordst. Cells 17.5 μm long, as broad as long. Primorskiy Region, peat bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, sporadically. The only reference to this species is in the publication by Hirano concerning desmids of Kunashiri Island (Hirano, 1960).

61. ***Staurodesmus glaber*** (Ehr.) Teil. Cells 27-29 μm long, as broad as long, isthmus 9 μm broad. Primorskiy Region, peat bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, rarely. The first locality of this species within the territory of the Far East is Khabarovskiy Region, the Komsomol'skiy Reserve, the Baturina River and nameless tributary of the Gorin River (Barinova & Medvedeva, 1989).

62. ***Staurodesmus megacanthus*** (Lund.) Thom. Cells 58-61 μm long, 72-84 μm broad, isthmus 12-15 μm broad. Primorskiy Region, peat bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, sporadically. The first locality of this species within the territory of the Far East is Khabarovskiy Region, the Komsomol'skiy Reserve, Lake Pervoye Zolotoye (Barinova & Medvedeva, 1989).

63. ***Stigeoclonium amoenum*** Kütz. Main filaments 37.5 μm broad, three-four times as long as broad. Terminal cells acuminate, hairs are absent. Khabarovskiy Region, the Ivanov spring, 03.07.1994, in aggregations of algae, in abundance. *S. amoenum* var. *insigne* (Näg.) Islam. was previously found in the Ussuriyskiy Reserve (the Komarovka River) (Nikulina et al., 1996).

64. ***Stigeoclonium farctum*** Berth. Cells of the basal disk 8-10 μm long, 6-8 μm broad. Cells of the filaments 6-6.8 μm broad, up to 14 μm long. Khabarovskiy Region, temporal water body in the valley of the Chegdomynka River, 03.07.1994, in abundance.

65. ***Stigeoclonium libricum*** (Dillw.) Kütz. Cells 13-15 μm broad, two times as long as broad. Primorskiy Region, right nameless tributary of the Bikin River, 29.06.1990, foulings of higher aquatic plants, in abundance.

66. ***Stigeoclonium protensum*** (Dillw.) Kütz. Cells 15-15.5 μm broad, as long as broad. Khabarovskiy Region, mine waters from Chegdomyn settlement, 03.07.1994, in abundance.

67. ***Stigeoclonium subsecundum*** (Kütz.) Kütz. Filaments only of the first order, 10 μm broad, long, scarcely branched, with a very long hair. Primorskiy Region, the Dal'nyaya River, below Vostok settlement, 21.07.1991, foulings of stones, rarely; swampy canal of the Bikin River above the estuary of the Kilou River, 27.06.1990, in aggregations of algae, sporadically; Khabarovskiy Region, the spring of with H_2S content nearby Chegdomyn settlement, 03.07.1994, in aggregations of algae, not infrequently.

68. ***Tetmemorus brebissonii*** (Menegh.) Ralfs. **f. *minor*** (De Bary) Kossinsk. Cells 85-87 μm long, 20-21 μm broad. Primorskiy Region, peat bog nearby the Zeva rocks, the Zeva River basin, 15.07.1995, in aggregations among bog moss, rarely.

The genus *Tetmemorus* Ralfs is first reported by us from the territory of Primorskiy Region. Four species of this genus were previously recorded from the territory of the Far East. They include *Tetmemorus minutus* De Bary – in Kamchatka (Elenkin, 1914); *T. brebissonii* (Menegh.) Ralfs var. *minor* De Bary, *T. granulatus* Ralfs var. *granulatus, T. granulatus* var. *attenuatus* W. West and *T. laevis* (Kütz.) Ralfs – in the Kurile Islands (Okada, 1934a, b, 1939; Hirano, 1960), as well as *T. granulatus* f. *minor* Nordst. – in water bodies of the Zeya River basin (Skvortsov, 1917).

69. ***Uronema confervicola*** Lagerh. Filament 4.5 μm broad, two times as long as broad. Primorskiy Region, canal of the Bikin River opposite the estuary of the Takhalo River, 02.08.1995, in aggregations of algae, sporadically.

ACKNOWLEDGMENTS

The research has been possible through the support of the Russian Foundation of Fundamental Investigations, Grant N 96-04-51019.

REFERENCES

Barinova, S.S. 1986. Concerning algal flora of the Artemovsk reservoir (Primorskiy Region). Pp. 3-21 in: *Flora i sistematika sporovykh rasteniy Dal'nego Vostoka* [Flora and taxonomy of cryptogams of the Far East]. DVNC AN SSSR, Vladivostok. [Rus.]

Barinova, S.S. & L.A. Medvedeva. 1989. Algae. Pp. 66-109 in: *Griby, lishainiki, vodorosli i mokhoobraznyye Komsomol'skogo zapovednika (Khabarovskiy Region)* [Fungi, lichens, algae, and bryophytes of the Komsomol'skiy Reserve (Khabarobskiy Region)]. DVO AN SSSR, Vladivostok. [Rus.]

Elenkin, A.A. 1914. Freshwater algae of Kamchatka. Pp. 3-402 in: *Kamchatskaya ekspeditsiya F.P. Ryabushinskogo* [The Kamchatka expedition of F.P. Ryabushinskiy]. Issue 2. Moscow. [Rus.]

Ettl, H. 1978. *Xanthophyceae*. 1. Teil. In: *Süsswasserflora von Mitteleuropa.* Bd. 3. Gustav Ficher Verlag, Stuttgart; New York.

Hirano, M. 1978. Freshwater algae of Kunashiri Island, the South Kuriles. *Jap. J. Limnol.* **21**(1-3): 113-123.

Kharitonov, V.G. 1989. *K flore Bacillariophyta Severo-Vostoka Azii (basseyn r. Anadyr')*. Preprint [Concerning flora of *Bacillariophyta* of the Northern-East of Asia (the Anadyr' River basin). Preprint]. IBPS DVO AN SSSR, Magadan. [Rus.]

Kiselev, I.A. 1931. Composition and distribution of phytoplankton in the Amur Estuary. Pp. 31-116 in: *Issledovaniye morey SSSR* [Studies of seas of the USSR]. V. 14. Leningrad. [Rus.]

Kukharenko, L.A. et al. 1986. Algae. Pp. 13-29 in: *Flora i rastitel'nost' Bol'shekhekhtsirskogo zapovednika (Khabarovskiy Region)* [Flora and vegetation of the Bol'shekhekhtsirskiy Reserve (Khabarov Region)]. DVNC AN SSSR, Vladivostok. [Rus.]

Kuz'min, G.V. 1985. *Vidovoy sostav fitoplanktona vodoyemov zony zatopleniya Kolymskoy GES.* Preprint [Species composition of phytoplankton in water bodies within the flood zone of the Kolymskaya GES. Preprint]. IBPS DVNC AN SSSR, Magadan. [Rus.]

Nikulina, T.V., S.K. Gambaryan & T.S. Vshivkova. 1996. Freshwater flora (species composition of algae and aquatic littoral bryophytes and their ecological and geographical characteristics). Pp. 3-56 in: *Gidrobiologicheskiye issledovaniya v Ussuriyskom zapovednike im. akad. V.L. Komarova.* Chast' II [Hydrobiological studies in the Academician V.L. Komarov Ussuriyskiy Reserve. Part II]. Vladivostok. [Rus.]

Okada, Y. 1939. Desmids from the Sinsiru Island in the Middle Kuriles. *J. Imp. Fish. Inst.* **33**(2): 107-122.

Okada, Y. 1934a. Preliminary notes on desmids in the Northern Kurile Islands. *Bull. Biogeogr. Soc. Jap.* **4**(4): 351-365.

Okada, Y. 1934b. The desmid flora of the Northern Kurile Islands. *J. Imp. Fish. Inst.* **30**(3): 123-199.

Petersen, J.B. 1946. Algae collected by Eric Hultén on the Swedish Kamchatka expedition 1920-1922, especially from hot springs. *Dan. Vid. Selesk. Biol. Medd.* **20**(1): 1-122.

Skvortsov, B.V. 1917. Materials on the algal flora of Asiatic Russia. 4. Algae of the upper reaches of the Zeya River in the Amur region. *Zhurn. Rus. Bot. Obshch.* **2**: 117-120. [Rus.]

***Zhizn' presnykh vod SSSR.* 1956.** [Life in fresh waters of the USSR]. AN SSSR Press, Moscow; Leningrad. [Rus.]