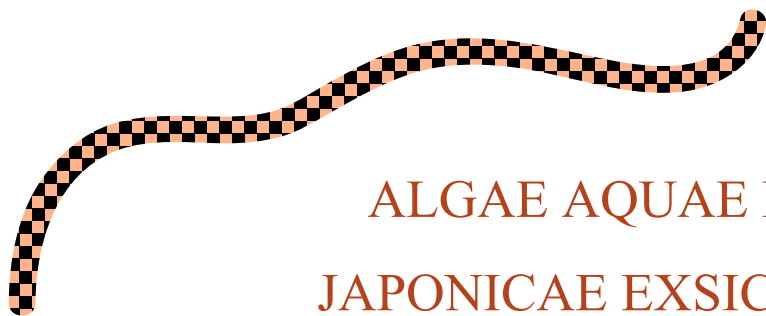


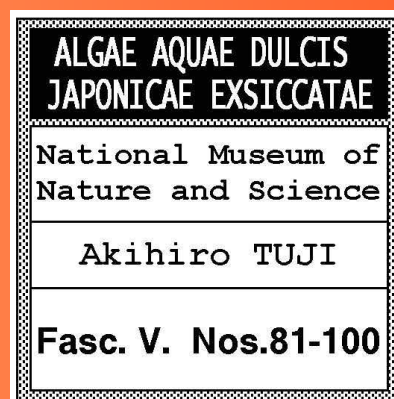


ALGAE AQUAE DULCIS JAPONICAE EXSICCATAE V

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1 Feb. 2013

PREFACE

This exsiccata set, made from Japanese freshwater micro-algal specimens, is issued by the National Museum of Nature and Science. This fifth fascicle comprises 20 slides.

Most of slides in this fascicle were made using the culture strains. It is second trial for me for making a useful exsiccata set followed third fascicle. These culture strains were isolated by me from the various places using the pipette method, and d medium (Tuji 2000: J. Phycol. 36: 659-661), which is, modified WC medium. Because of the difficulty of maintain diatom culture strains for long time, most of these strains have been died.

The study using culture strains is important for the understanding of morphological variation of diatom species, though many strain have abnormal forms in the end of culture periods. The molecular analyses for these strains have also done. It will publish these moleclar data in future papers.

If there is any problems experienced using this exsiccata, please contact me. I will send another slide. I am always pleased to receive any comments and suggestions.

CITATION

Tuji, A. 2013. Algae Aquae Dulcis Japonicae Exsiccatae. Fasc. V. nos. 81-100. 21pp. National Museum of Nature and Science, Tsukuba.

Nos. 081

Tyatate Spring, Akita Prefecture, Japan.

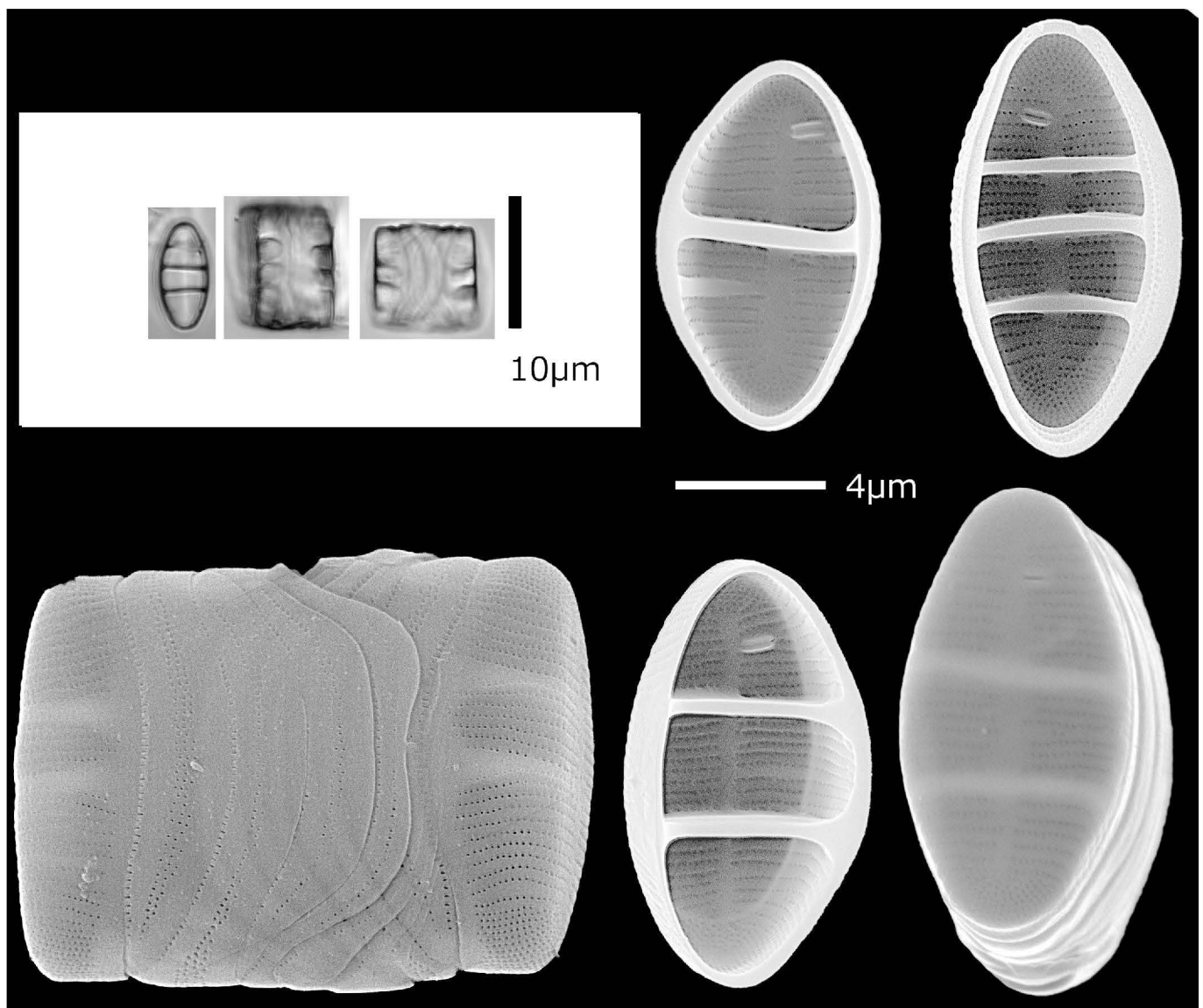
Date: 6/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57615m in TNS).

Diatoma mesodon (Ehrenb.) Kütz., Bacill. 47. pl. 17. f. xiii. 1844.

≡ *Fragilaria mesodon* Ehrenb. Abh. Preuss. Akad. Wiss. Berlin **1838**: 57. pl. 1.2. f. 9. 1839.

SEM examination: Williams, Bibl. Diat. **8**: 147-155. pl. 4. f. 38-41. pl. 19. 1985.



Nos. 082

Tyatate Spring, Akita Prefecture, Japan.

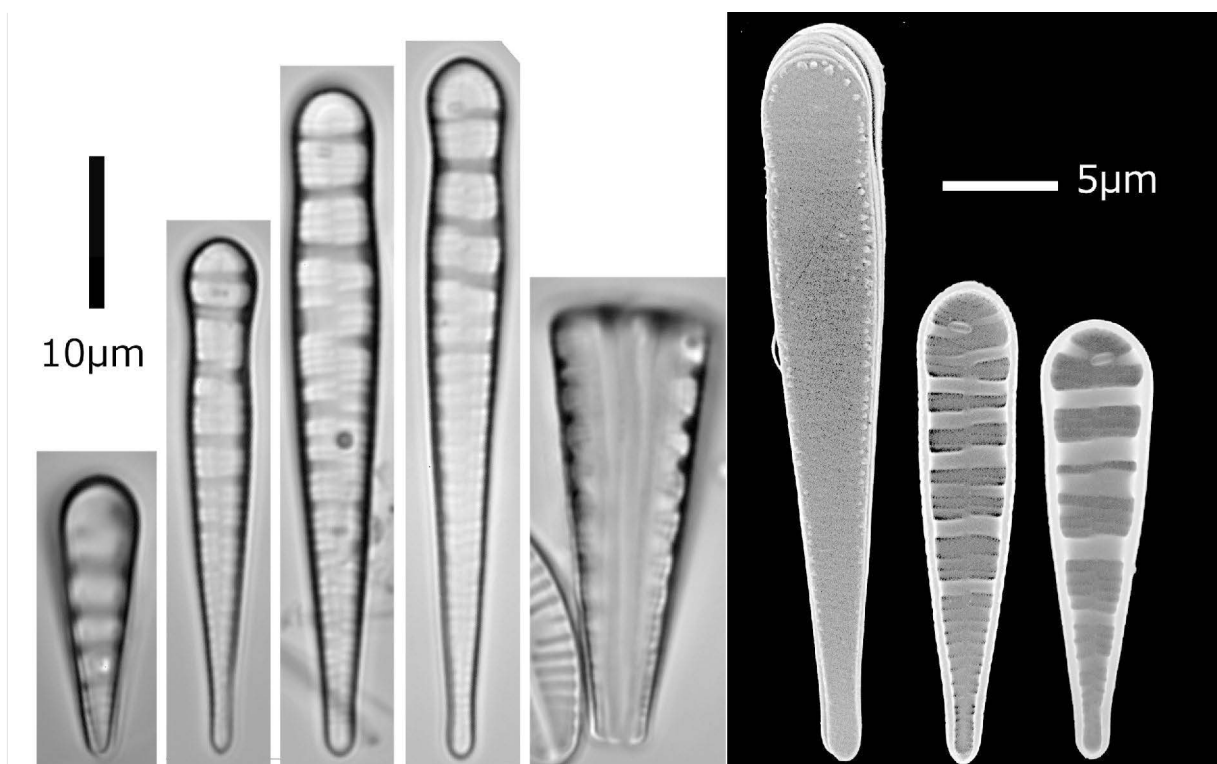
Date: 6/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57616m in TNS).

Meridion circulare (Grev.) C.Agardh, Consp. Crit. Diat. **3**: 40. 1831.

≡ *Echinella circularis* Grev., Trans. Wernerian Soc. 4: 213. *pl.* 8. *f.* 2. 1822

Holotype: BM 81187 Rivulet near Dumbryden Quarries, 1820 examined by Williams, Bibli. Diat.
8: 158-172. 1985.



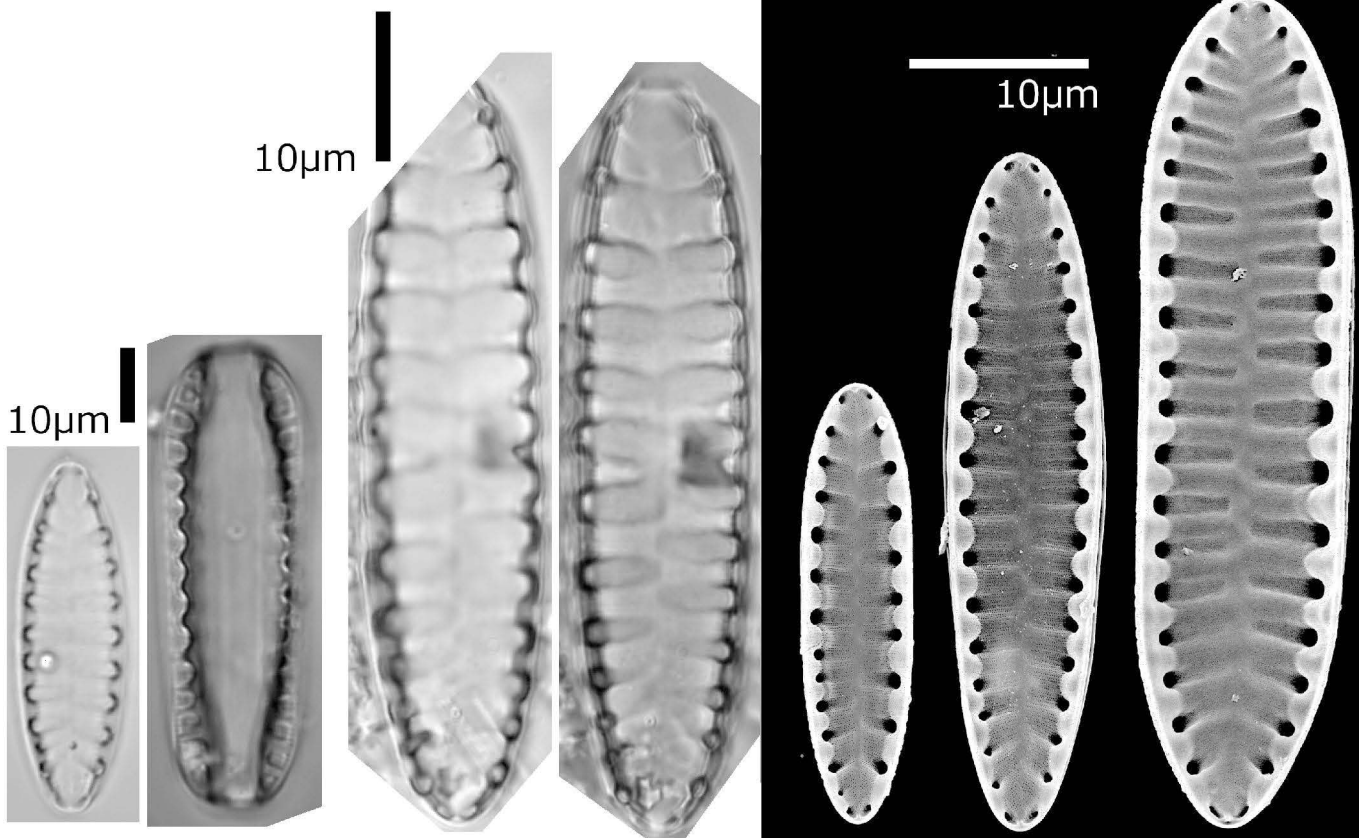
Nos. 083

Lake Tazawa, Akita Prefecture, Japan.

Date: 6/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57618m in TNS).

Surirella linearis W.Sm., Synops. Brit. Diat. 31. pl. 8. f. 58a. 1853.



Nos. 084

River Hinokinai, Akita Prefecture, Japan.

Date: 6/xi/2011

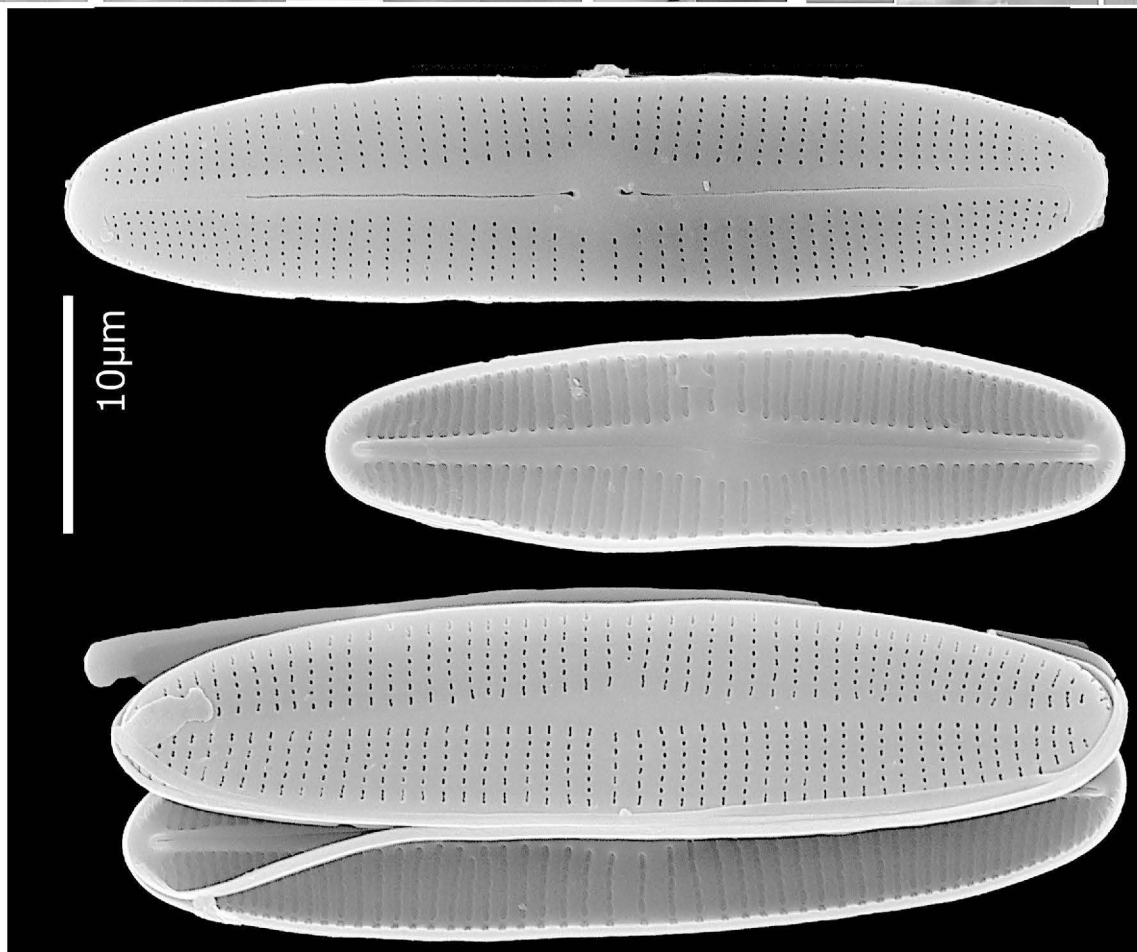
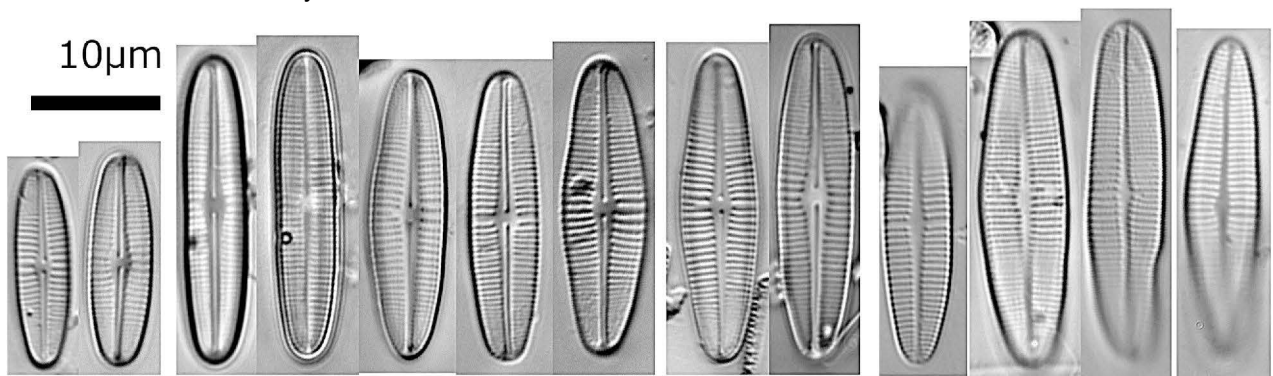
Coll. A.Tuji (duplicate of TNS-AL-57620m in TNS).

Achnanthidium convergens (H.Kobayasi) H.Kobayasi, Nova Hedw. **65**: 159. 1997.

≡ *Achnanthes convergens* H.Kobayasi in H.Kobayasi et al. Diat. **2**: 84. f. 1-17, 37-43, 51-54. 1986.

Holotype: H.K.T.-81 in Tokyo Diatom Institute (= TNS 52970 in TNS but this slide has not transferred to TNS).

References: Kobayasi, Nova Hedw. 65: 147-163. 1997.



Nos. 085

Jonofuchi Park, Ehime Prefecture, Japan.

Date: 1/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57621m in TNS).

Fragilaria rumpens (Kutz.) G.W.F.Carlson, Süsw-Alg. Antarkt. 29. 1913.

≡ *Synedra rumpens* Kutz., Bacill. 69. pl. 16. f. VI. 4, 5. 1844.

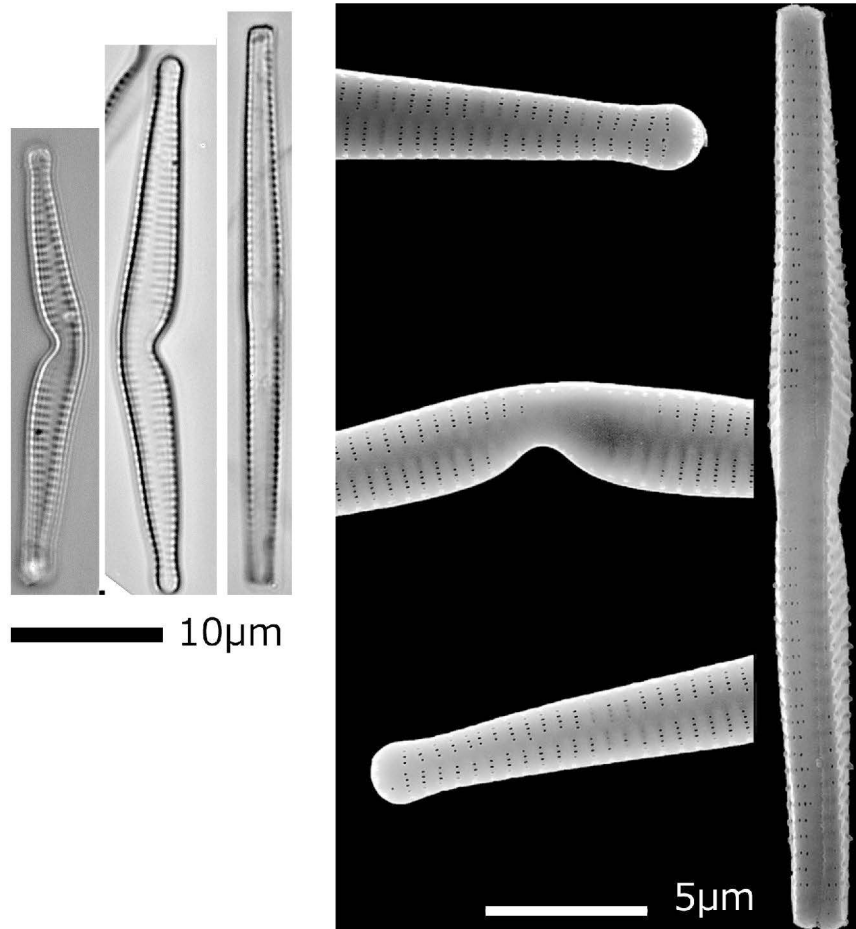
Holotype: Kutzing packet 194 in AWH.

Isotype slide: Slide BM18357 in BM from Kutzing packet 194 in BM.

TNS-AL-55563sa in TNS from Kutzing packet 194 in AWH (isotype material).

Type locality: Im Brackwasser der Oldenburgschen Kuste (Germany).

Type examination: Tuji & Williams, *Phycol. Res.* **54**: 99-103. 2006.



Nos. 086

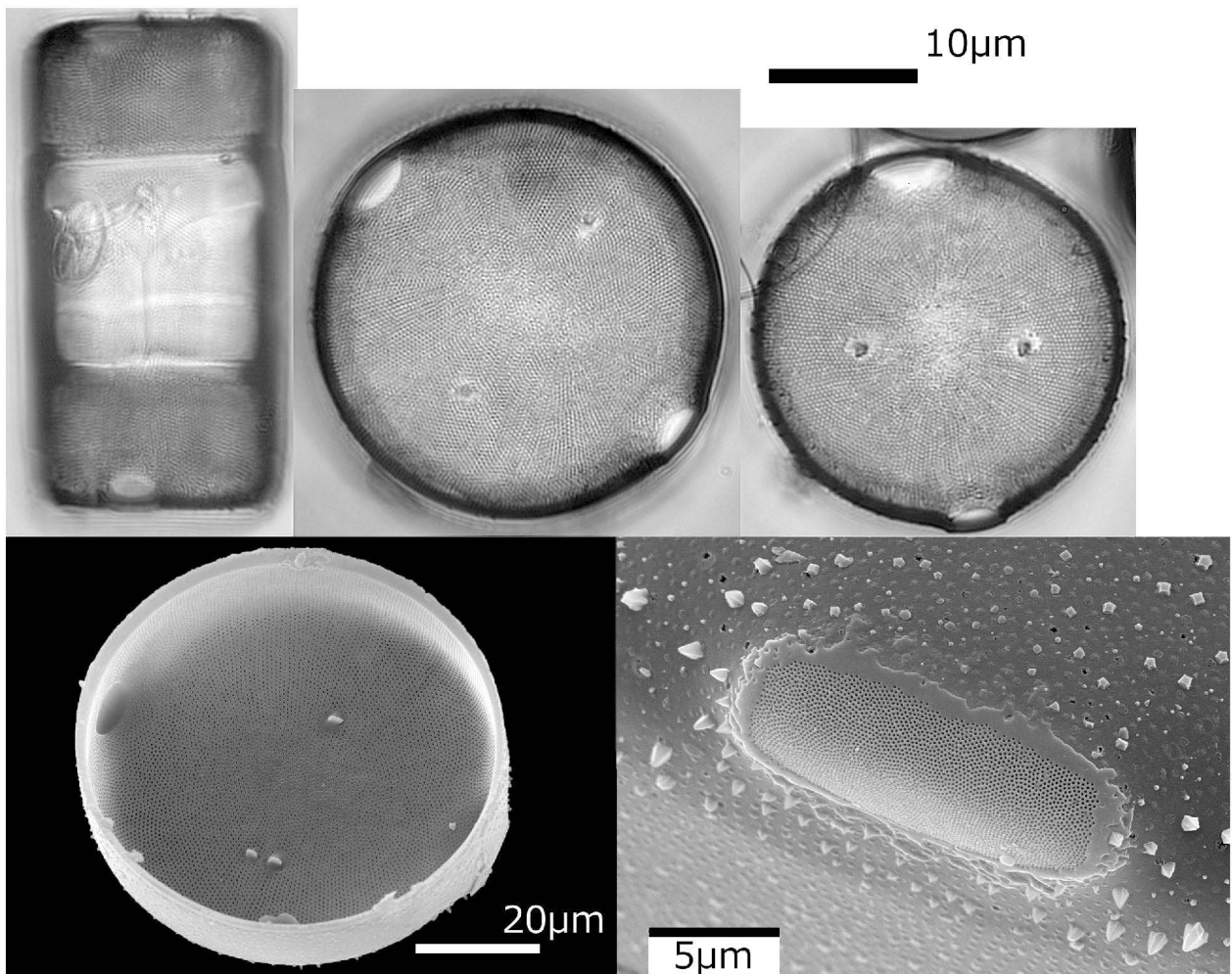
Jonofuchi Park, Ehime Prefecture, Japan.

Date: 1/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57622m in TNS).

Pleurosira laevis (Ehrenb.) Compère, Bacill. **5**: 177-178. f. 1-17, 20, 39. 1982,

≡ *Biddulphia laevis* Ehrenb. Abh. Königl. Akad. Wiss. Berlin **1841**: 339, 368, 410. 1843.



Nos. 087

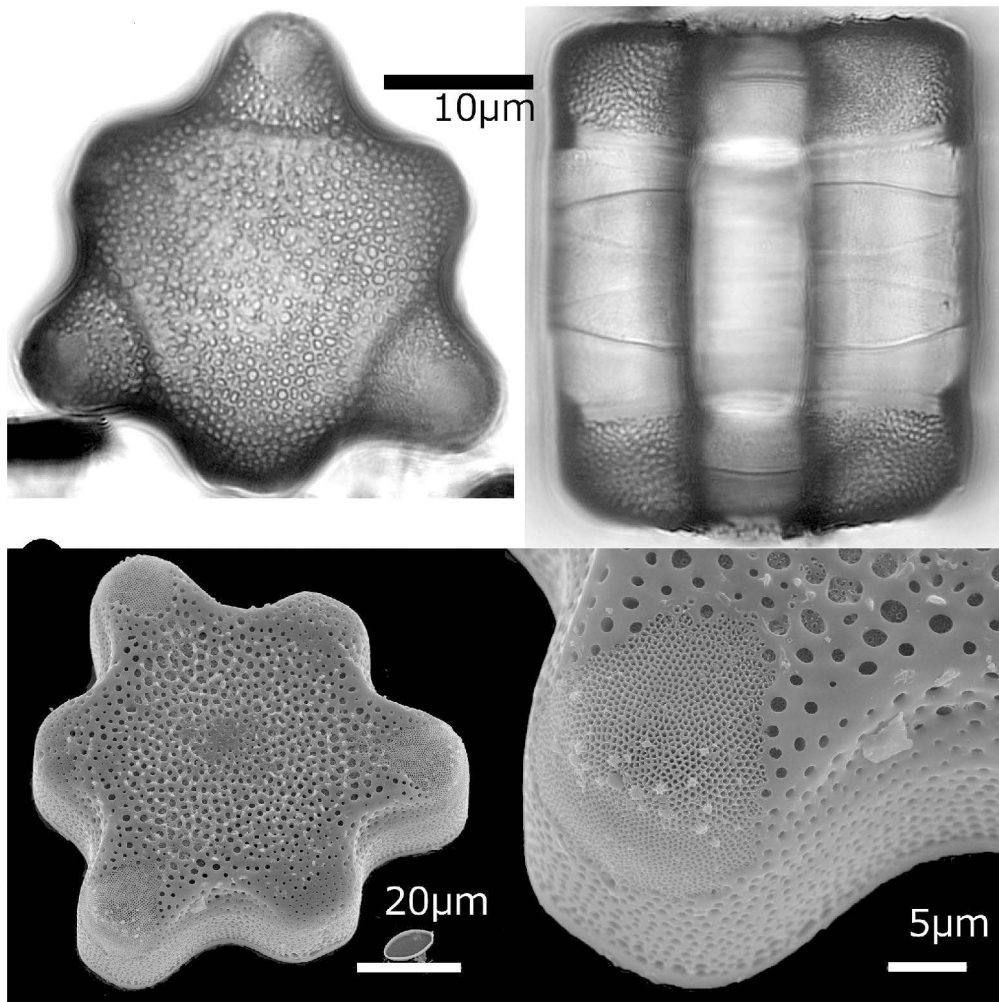
Jonofuchi Park, Ehime Prefecture, Japan.

Date: 1/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57625m in TNS).

Hydrosera whampoensis (A.F.Schwartz) Deby, J. Micrographie **15**: 209. 1891.

≡ *Triceratium whampoense* A.F.Schwarz, Hedw. **13**: 163. 1874.



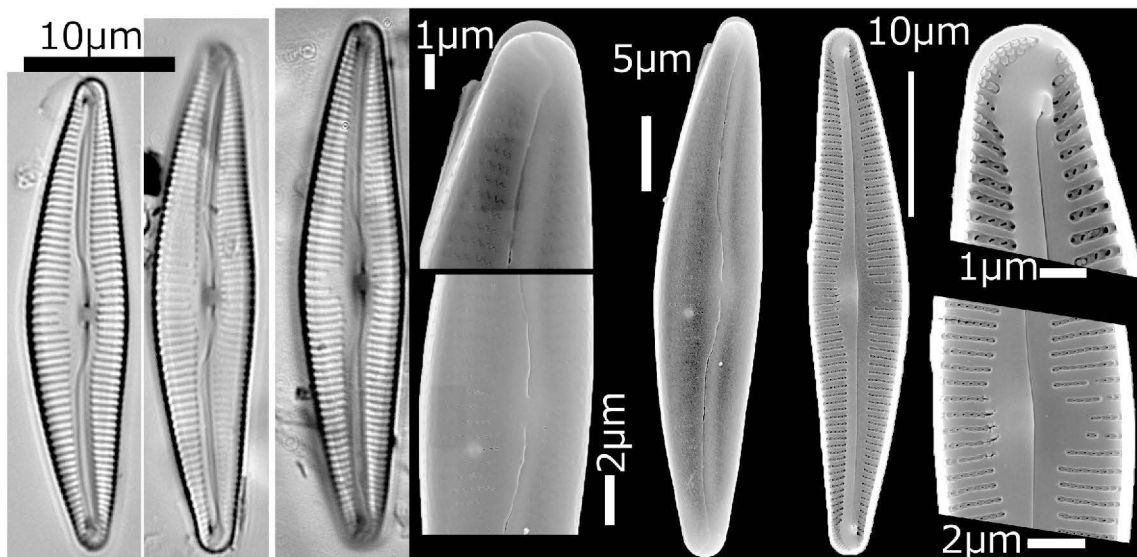
Nos. 088

Jonofuchi Park, Ehime Prefecture, Japan.

Date: 1/xi/2011

Coll. A.Tuji (duplicate of TNS-AL-57626m in TNS).

Cymbopleura cf. *rupicola*



Nos. 089

Haneji reservoir, Okinawa Prefecture, Japan.

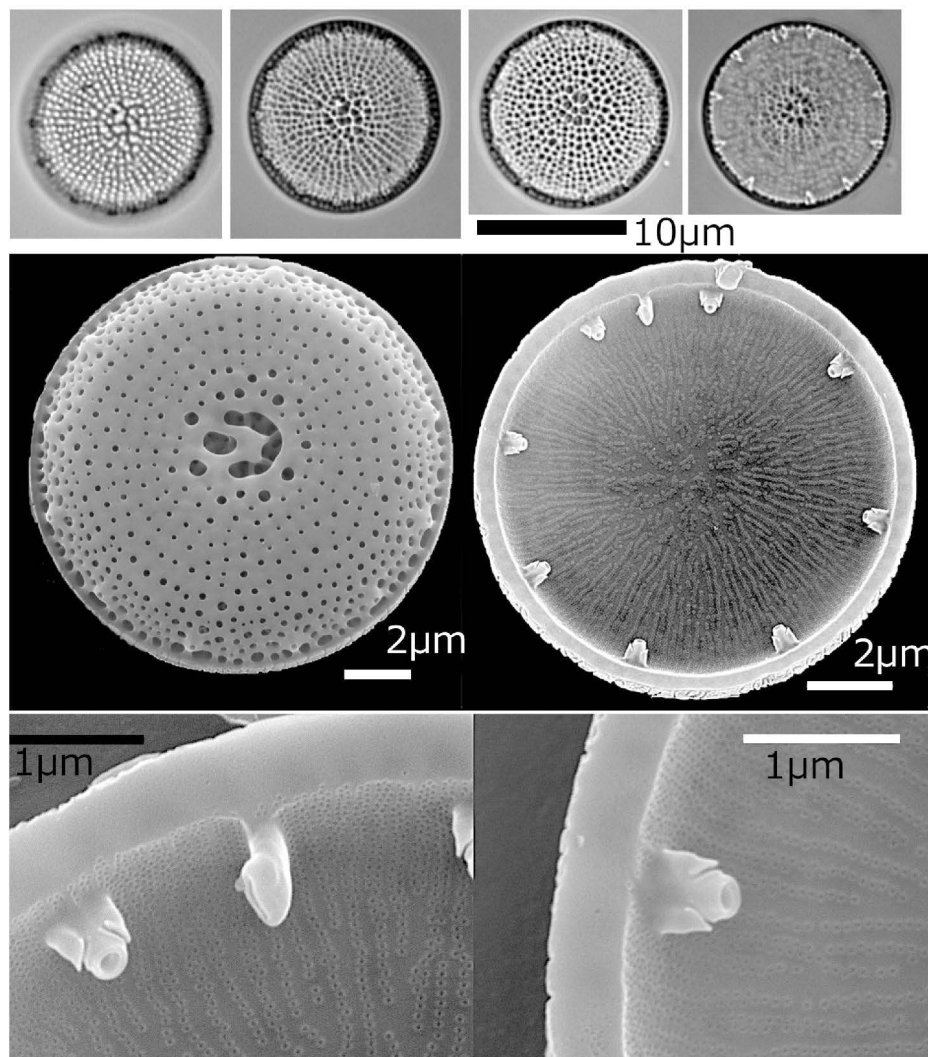
Date: 08/vii/2011

Coll. A.Tuji using a tow net (duplicate of TNS-AL-57385m in TNS).

Spicaticribra kingstonii J.Johansen et al., Diat. Res. **23**: 369. f. 1-24. 2008

This material was used following paper:

Tuji, Leelahakriengkrai and Peerapornpisal (2012) Distribution and phylogeny of *Spicaticribra kingstonii* – *rudis* species complex. Mem. Natl. Mus. Nat. Sci., Tokyo **48**: 139-148.



Nos. 090

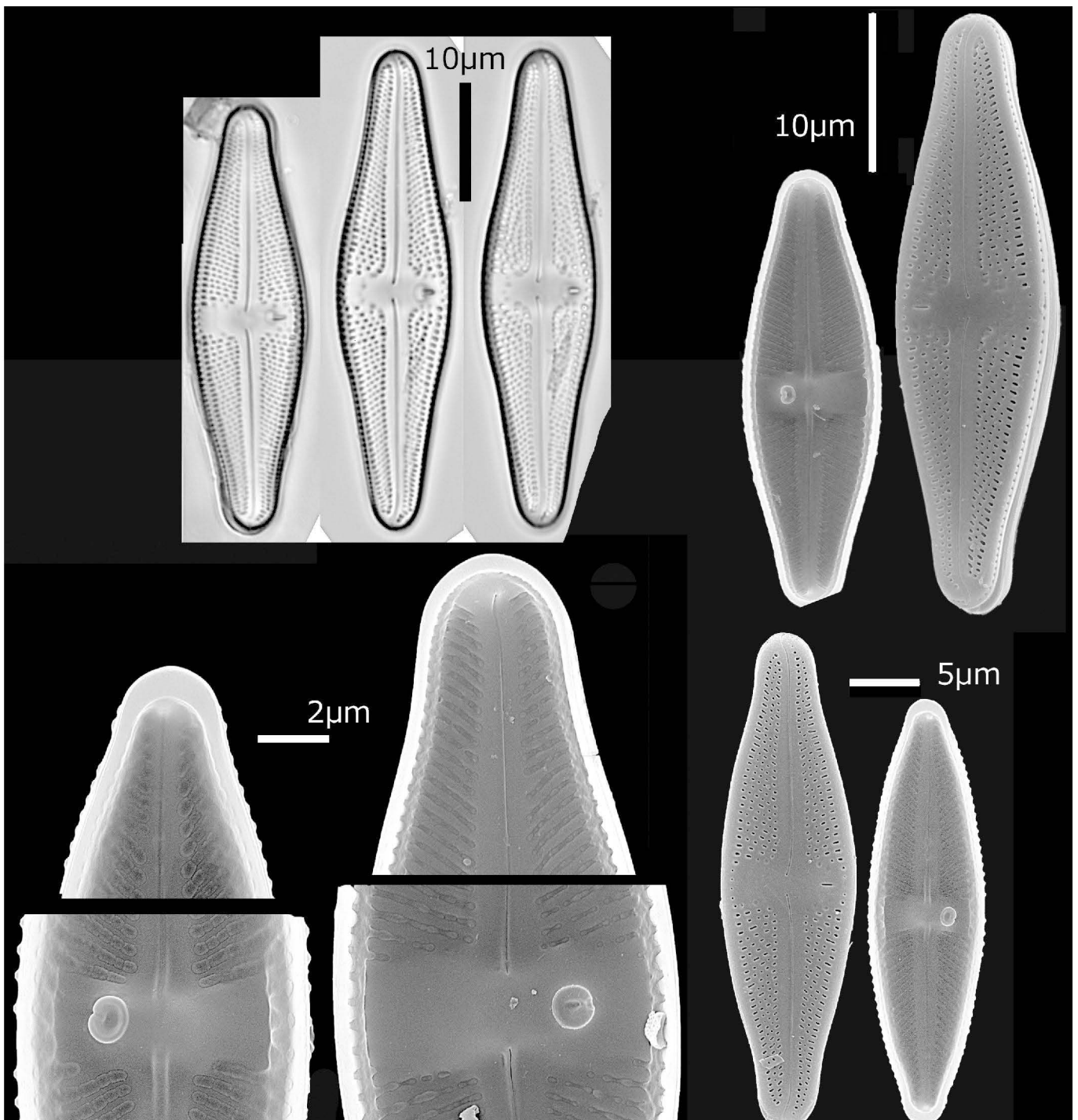
Shinobazunoike-pond, Tokyo Prefecture, Japan.

Date: 21/viii/2011

Coll. A.Tuji (duplicate of TNS-AL-57293m in TNS).

Luticola stigma (R.M.Patrick) J.R.Johansen in J.R.Johansen et al., Arch. Hydrob. Suppl. **150**:
23. 2004.

≡ *Navicula mutica* var. *stigma* R.M.Patrick, Proc. Acad. Natur. Sci. Philadelphia **111**: 96. pl. 8. f.
3. 1959.



Nos. 091

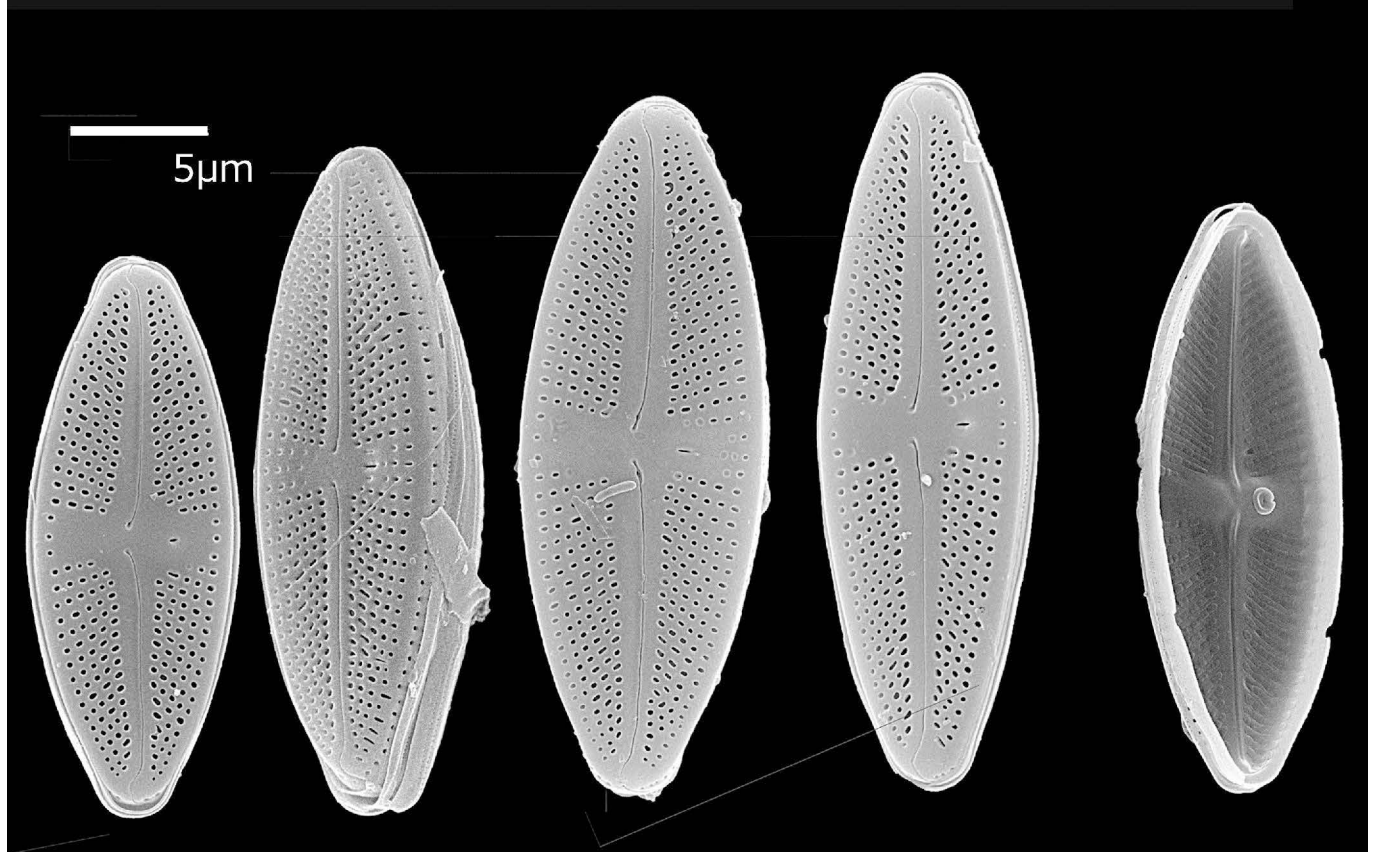
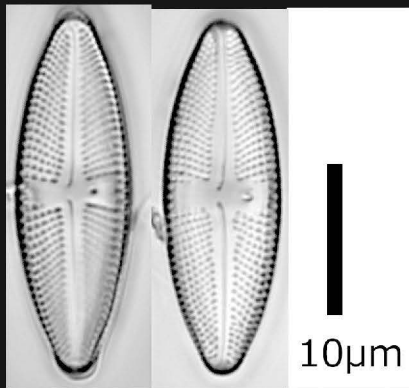
Shinobazunoike-pond, Tokyo Prefecture, Japan.

Date: 21/viii/2011

Coll. A.Tuji after raw (mix) culture using TNS-AL-57293m
(duplicate of TNS-AL-57295m in TNS).

Luticola goeppertiana (Bleisch in Rabenh.) D.G.Mann in Round et al, Diatoms 670. 1990.

≡ *Stauroneis goeppertiana* Bleisch in Rabenh., Alg. Europ. 1183. 1861.



Nos. 092

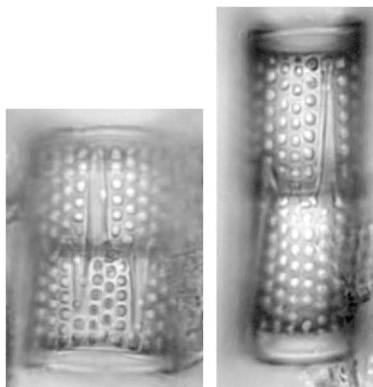
Lake Kitaura, Ibaraki Prefecture, Japan.

Date: 25/viii/2011

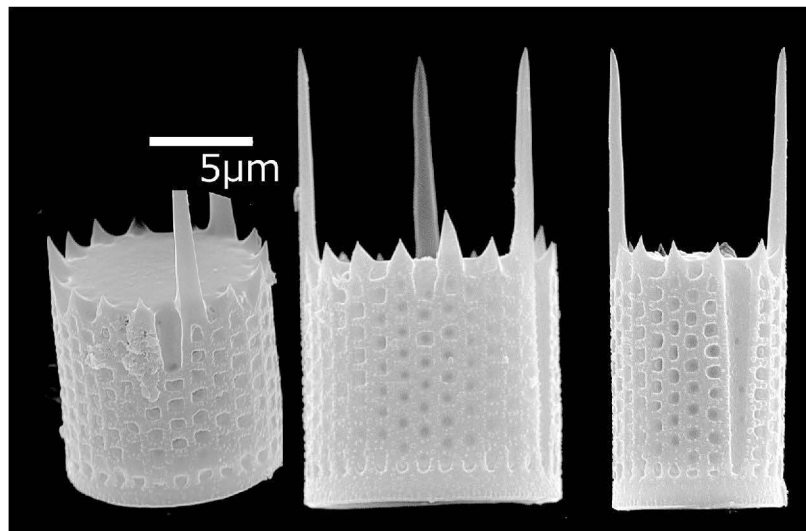
Coll. A.Tuji (duplicate of TNS-AL-57155m in TNS).

Aulacoseira granulata (Ehrenb.) Simonsen, Bacill. **2**: 58. 1979.

≡ *Gaillonella granulata* Ehrenb. Abh. Königl. Akad. Wiss. Berlin **1841**: 415. 1843.



10µm



Nos. 093

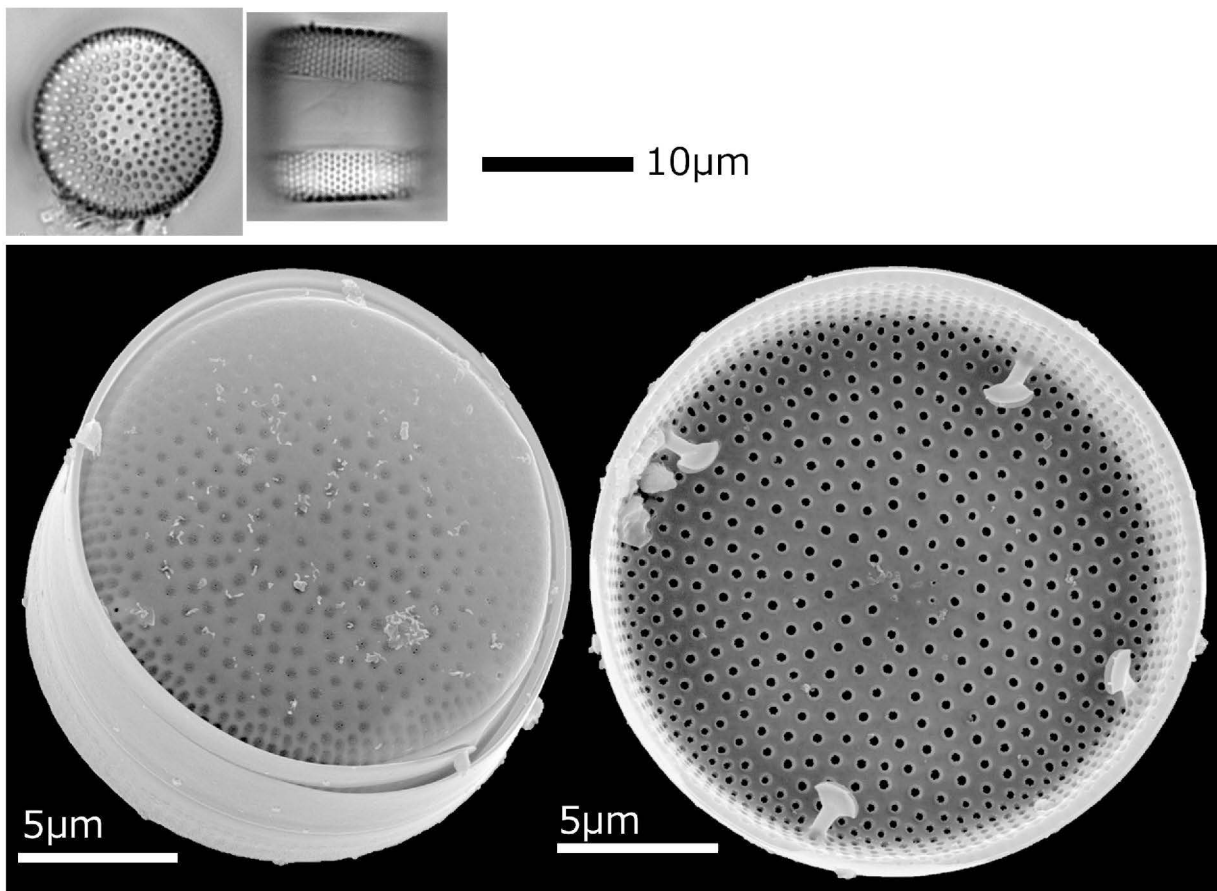
Lake Kasumigaura, Ibaraki Prefecture, Japan.

Date: 25/viii/2011

Coll. A.Tuji (duplicate of TNS-AL-57157m in TNS).

Actinocyclus normanii (W.Greg. ex Grev.) Hust., Abh. Natures. Ver. Bremen **34**: 218. *pl.* 1. *f.* 5-6. 1957.

≡ *Coscinodiscus normanii* W.Greg. ex Grev., Quart. J. Microsc. Sci., London **7**: 80. *pl.* 6 *f.* 3. 1859.



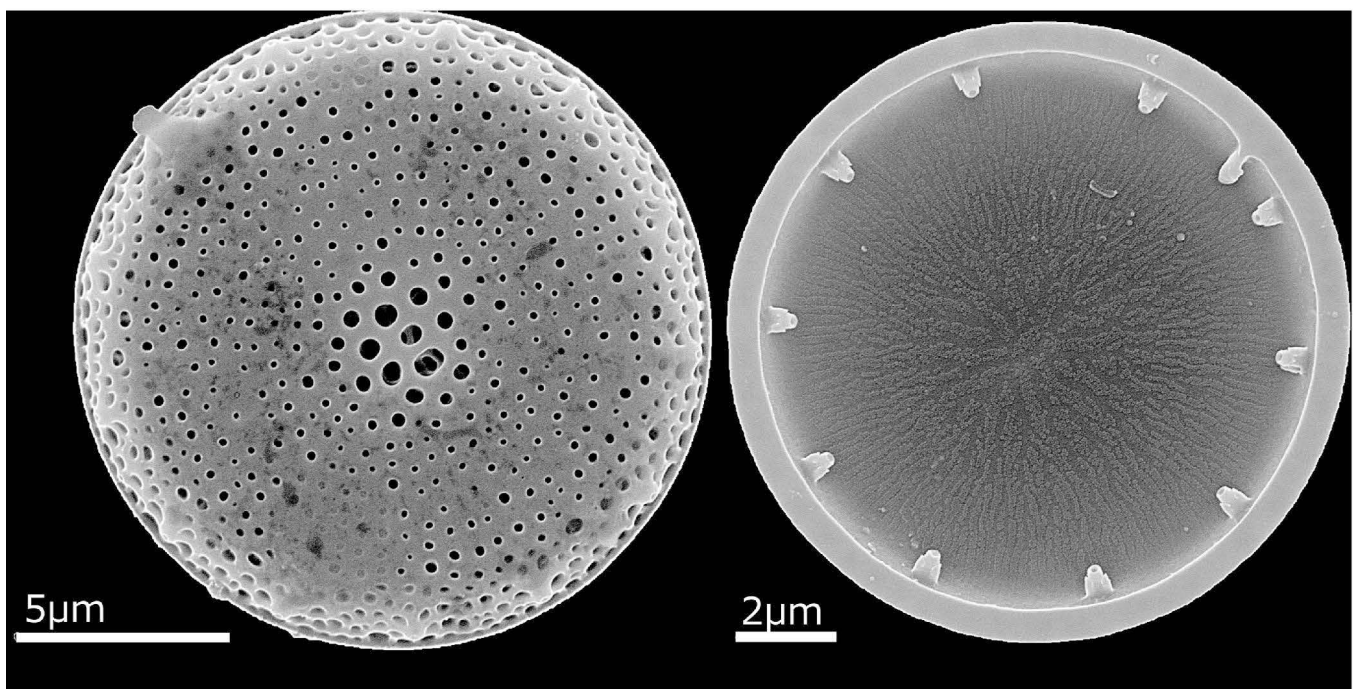
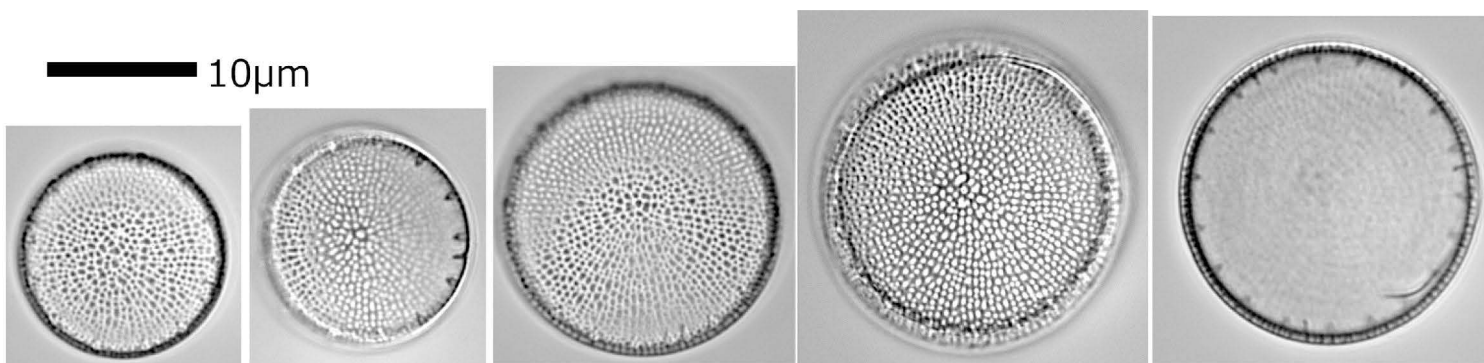
Nos. 094

Prepared from TNS-AL-57324 in TNS. This culture strain was prepared from TNS-AL-57385 in TNS. Haneji reservoir, Okinawa Prefecture, Japan. Coll. A. Tuji, 08/vii/2011.

***Spicaticribra kingstonii* J.Johansen** et al. Diat. Res. **23**: 369. f. 1-24. 2008

This material was used following paper:

Tuji, Leelahakriengkrai and Peerapornpisal (2012) Distribution and phylogeny of *Spicaticribra kingstonii* – *rudis* species complex



Nos. 095

Prepared from TNS-AL-57328 in TNS. This culture strain was prepared from TNS-AL-57385 in TNS. Haneji reservoir, Okinawa Prefecture, Japan. Coll. A. Tuji, 08/vii/2011.

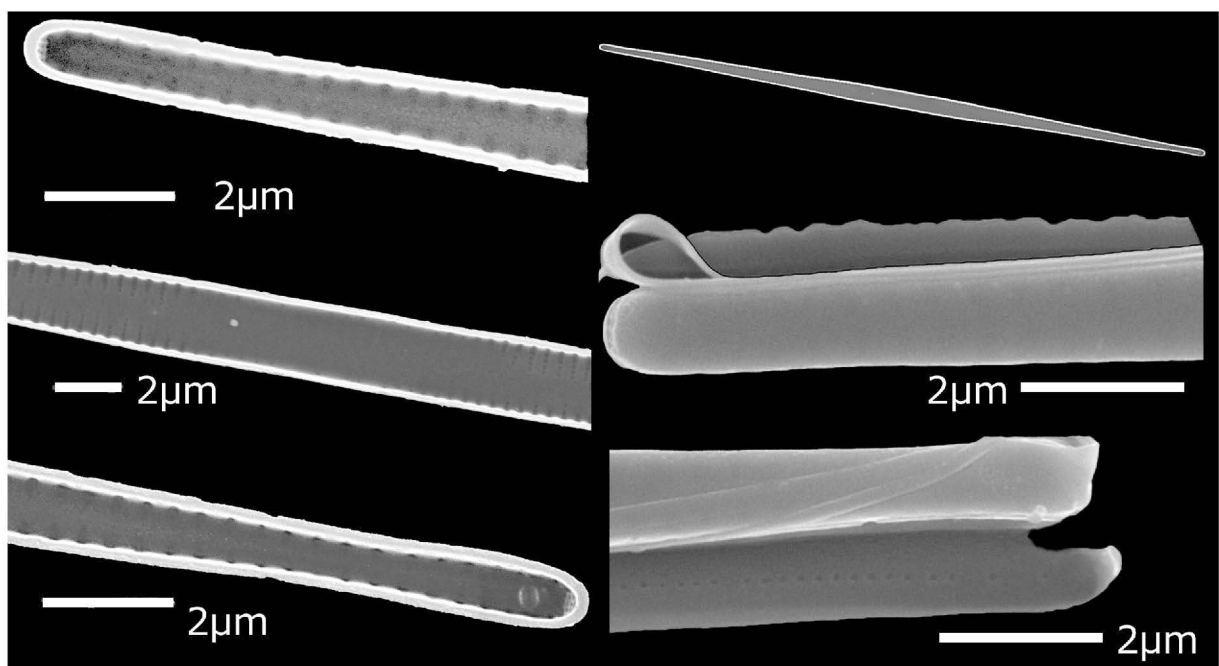
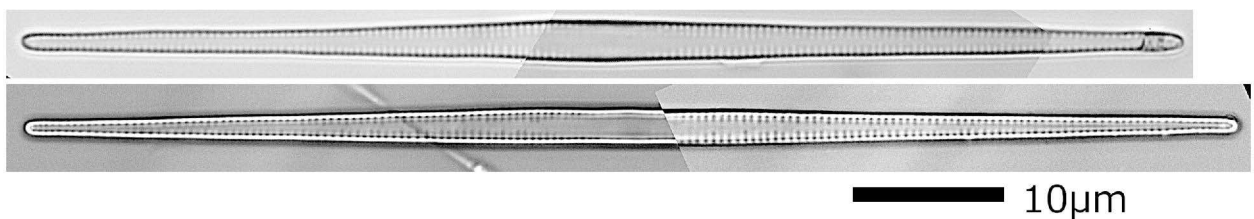
Fragilaria gracilis Østrup, Danske Diat. 190. *pl.* V. *f.* 117. 1910.

Lectotype: slide 1342 in C, designated by Lange-Bertalot in Krammer and Lange-Bertalot, Süßw.-flora Mitteleur. **2/2**: *taf.* 110. *f.* 9-11. 1991.

Isotype (raw material): 352.1 in the Østrup collection housed in C.

Type locality: A basin in the Botanical garden, Kopenhagen.

Type examination using LM & SEM: Tuji, Bull. Natl. Mus. Nat. Sci. Tokyo ser. B. **33**: 9-12. *f.* 1-8. 2007.



Nos. 096

Prepared from TNS-AL-57331 in TNS. This culture strain was prepared from TNS-AL-57385 in TNS. Haneji reservoir, Okinawa Prefecture, Japan. Coll. A. Tuji, 08/vii/2011.

Discostella woltereckii (Hust.) V.Houk et R.Klee, *Diat. Res.* **19**: 223. 2004.

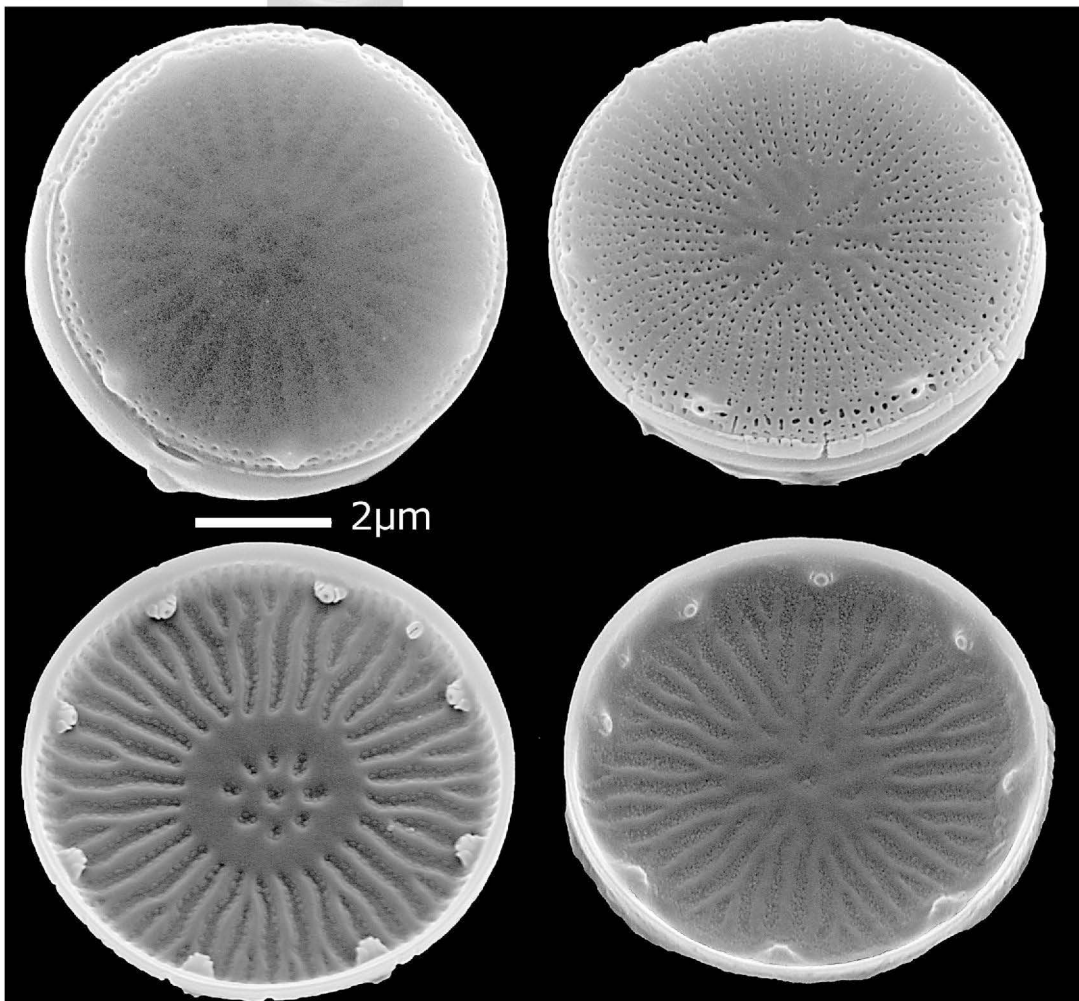
≡ *Cyclotella woltereckii* Hust. *Arch. Hydrobiol.* **42**: 16. f. 11-13. 1942.

Holotype: A slide Ac/68 in BRM, examined by Simonsen, *Atlas Cat. Diat. Typ. Fr. Hust. pl.* 400. f. 7-14. 1987.

Lectotype: An individual at position 467.1 on the holotype slide BRM Ac/68, designated in Tuji & Williams, *Bull. Natn. Sci. Mus. Tokyo ser. B.* **32**: f. 1 a-d. 2006; micrograph presented by Simonsen, *Atlas Cat. Diat. Typ. Fr. Hust. pl.* 400. f. 9. 1987.



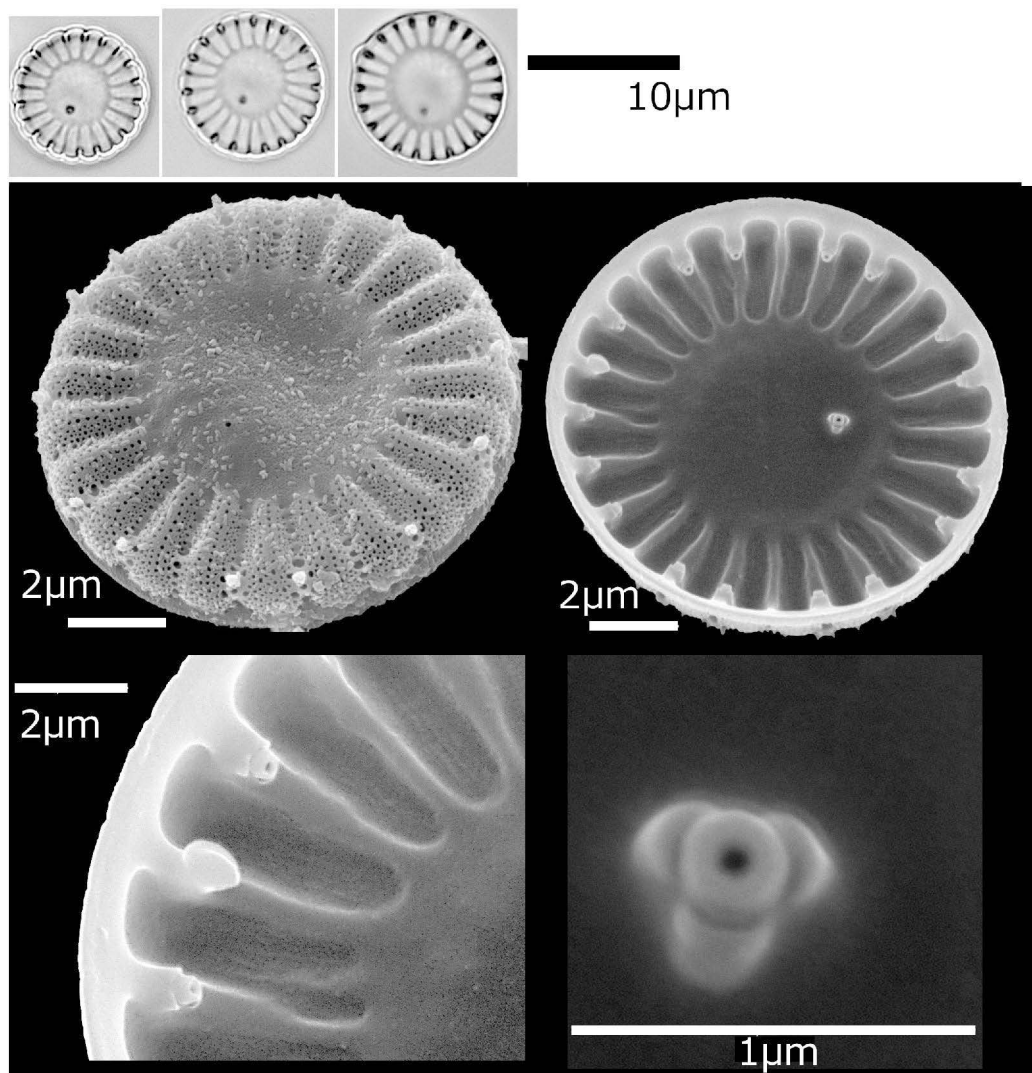
— 10µm



Nos.097

Prepared from TNS-AL-57345 in TNS. This culture strain was prepared from TNS-AL-57157 in TNS. Lake Kasumigaura, Ibaraki Prefecture, Japan. Coll. A. Tuji, 25/viii/2011.

Cyclotella meneghiniana Kütz., Baill. 50. *pl.* 30, *f.* 68. 1844.



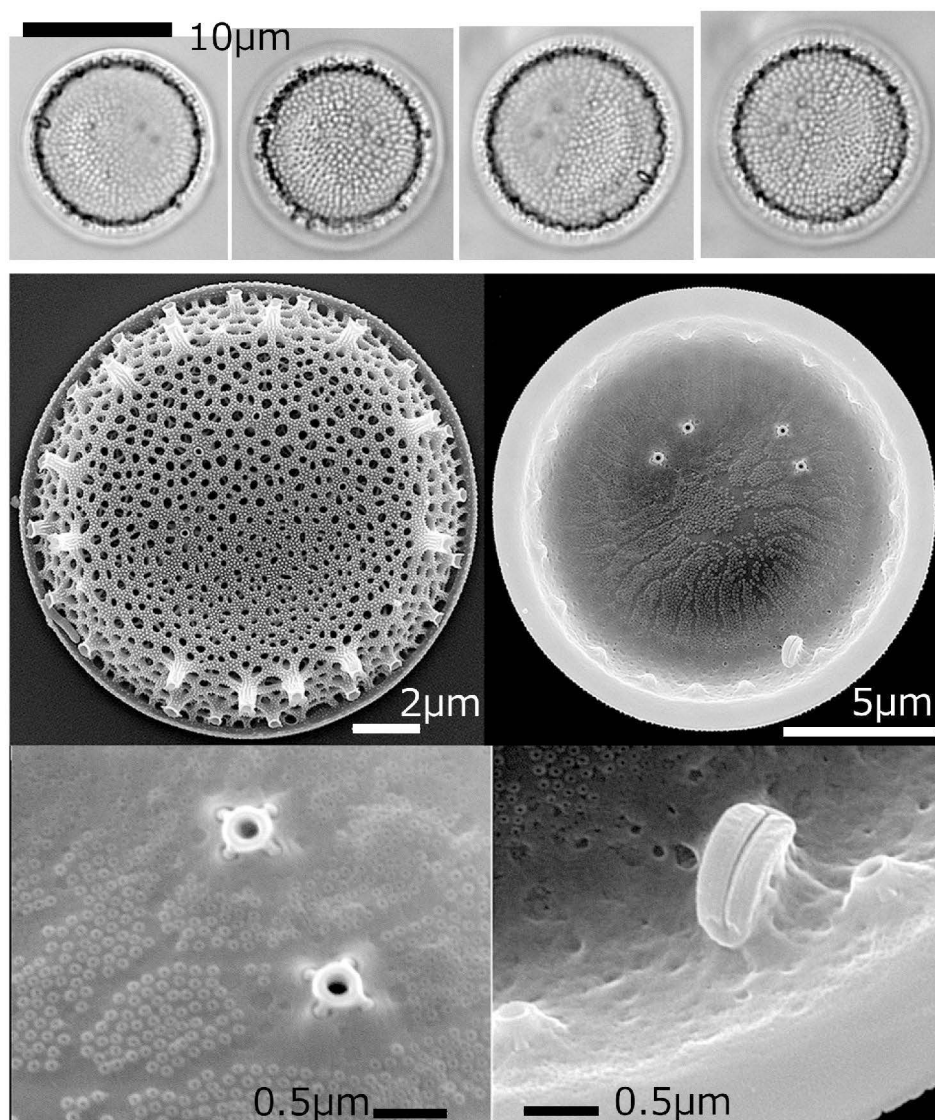
Nos.098

Prepared from TNS-AL-57725 in TNS. This culture strain was prepared from TNS-AL-57155 in TNS. Lake Kitaura, Ibaraki Prefecture, Japan. Coll. A. Tuji, 25/viii/2011.

Thalassiosira lacustris (Grunow) Hasle in Hasle & Fryxell, Beih. Nov. Hedw. 54: 40. 1977.

≡ *Coscinodiscus lacustris* Grunow, in Cleve & Grunow, Kongl. Svenska-Vet. Akad. Handl. 17: 114. 1880

≡ *Cyclotella punctata* W.Sm., Synop. Brit. Diat. 87. 1856.



Nos.099

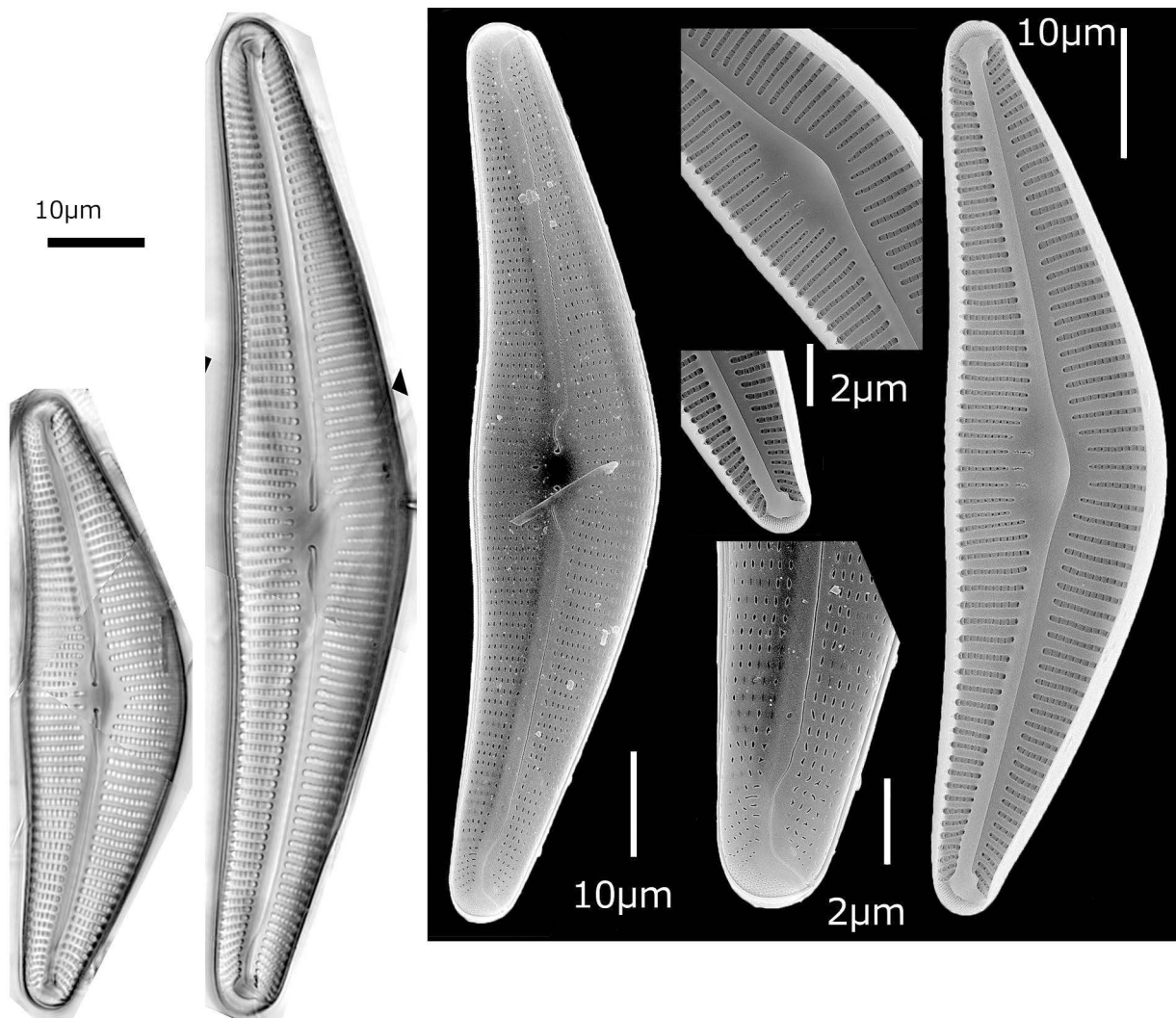
Lake Cyuzenji, Tochigi prefecture, Japan.

Date: 16/iii/2008

Coll. A.Tuji, (duplicate of TNS-AL-56367m in TNS).

Cymbella cistula (Hemprich in Hemprich & Ehrenb.) Kirchn., Krypt-Flora Schles 2(1): 189.
1878.

≡ *Bacillaria cistula* Ehrenberg in Hemprich & Ehrenberg, Symb. Phys. pl. 2/4. f. 10. 1828.



Nos.100

Lake Yuno, Tochigi prefecture, Japan.

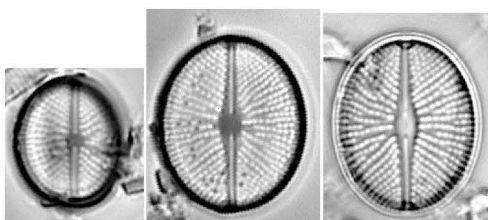
Date: 22/ii/2009

Coll. A.Tuji, floating scum (duplicate of TNS-AL-56590m in TNS).

Cavinula pseudoscutiformis (Hust.) Mann & Stickle in Round et al., Diatoms 665. 1990.

≡ *Navicula pseudoscutiformis* Hust. in Schmidt et al., Atlas Diat. pl. 370. f. 46. pl. 404. f. 17-21.
1930.

Holotype: Ma1/97. Gr. Madebrökensee. Plön. 5 1/2 m. Finder: 345.9 (examined by Simonsen
1987)



10µm

