CHECKLIST OF TENNESSEE DIATOMS TO 1951

HERMAN SILVA
The University of Tennessee, Knoxville

There have been comparatively few studies of diatoms (Chrysophyta; Class Bacillariophyceae) in Tennessee and neighboring southeastern states. Although Jacob Bailey established a beginning for further investigation in his "Observations" of 1851, and the Reverend Francis Wolfe's *Diatomaceae of North America* included southeastern records, there have been few subsequent reports until rather recent times. Whitford's *Fresh-Water Algae of North Carolina*, 1943, included some identifications, and there has been a scattering of others in local floras and plankton studies.

With the exception of a description of *Meridion intermedium* H. L. Smith, 1878, reports of Tennessee diatoms are relatively recent. Eddy reported a few from Reelfoot Lake, 1930, and Lackey, 1943, included identifications from the Cumberland and Duck Rivers. The first list of identifications from the writer's Smoky Mountain collections was published in Silva and Sharp, 1944, and the present, greatly expanded, list includes hitherto unpublished identifications from the entire state and a few near-by localities, as well as all previous reports.

Most of the specimens indicated by number are on file in the herbaria of the University of Tennessee and the Philadelphia Academy of Natural Sciences. Other southeastern states from which species have been reported are indicated by abbreviations.

BACILLARIOPHYCEAE

CENTRALES

Discineae

COSCINODISCACEAE

*Coscinodiscus* Ehrenberg, 1838

*Coscinodiscus subtilis* Ehr. Davidson Co.: Concrete pools at Kelly's Kennels at Nashville Aug. 20, 1949, #1824.

*CYCLOTELLA* Kuetzing, 1834

*Cyclorella Meneghiniana* Kuetz. Middle Tenn.: Cumberland and Duck Rivers 1938-9.1

*Melosira* Agardh, 1824


---

1. Contribution of the Botanical Laboratory, University of Tennessee, n. ser. No. 142. The writer is indebted to Dr. Ruth Patrick, not only for the identifications published in the 1944 paper, but also for a most enjoyable and informative program of instruction on diatoms in 1950 at the Philadelphia Academy of Natural Sciences.

2. Reported by Lackey, 1942.

*Stephanodiscus* Ehrenberg, 1845

*Stephanodiscus* niagarae Ehr. and *S. astraea* (Ehr.) Grun. are said to be widely distributed in lake plankton, but neither has been reported from the southeastern United States.

Solenineae

SOLENIACEAE

*Rhizosolenia* Ehrenberg, 1843

*Rhizosolenia* eriensis H. L. Smith. Middle Tenn.: Cumberland and Duck Rivers, 1938-9. N. C.

BIDULPHIACEAE (EUCAMPIODEAE)

ATTHEYA T. West, 1860


PENALES

Araphidinaceae

TABELLARIACEAE

Tabellaria Ehrenberg, 1840


ODONTIDIACEAE

Meridion Agardh, 1824


ODONTIDIUM Kuetzing, 1844

1. *Odontidium biennale* (Lyngb.) Kuetz. (*Diatoma biennale* (Lyngb.) Heib.). Middle Tenn.: Cumberland and/or Duck Rivers (reported in Lackey, 1942, but any source indication was omitted, probably through misprint).

*Reported by Silva and Sharp, 1944.*


FRAGILARIACEAE

ASTERIONELLA Hassall, 1850


CERATONEIS Ehrenberg, 1840


2. Ceratoneis arcus v. amphioxis (Rab.) Hust. Blount Co.: In seepage through concrete dam by Peery Bros. Mill at Walland, June 19, 1949, #867.

FRAGILARIA Lyngbye, 1819

1. Fragilaria capucina near v. mesolecta (Rab.) Grun. Blount Co.: In seepage through concrete dam at Peery Bros. Mill at Walland, June 19, 1949, #867.

2. Fragilaria construens (Ehr.) Grun. Overton Co.: Margins of artificial lake at Standing Stone State Park, June 15, 1949, #1422. Moore Co.: In mill pond at Cumberland Springs, June 29, 1949, #1026. Neither identification is as satisfactory as might be desired.

3. Fragilaria crotonensis Kitton. Middle Tenn.: Cumberland and Duck Rivers, 1938-9.


SYNEDRA Ehrenberg, 1830


2. Synedra nana Meister. Weakley Co.: Farm pond by Tenn. hwy. 54, a few miles east of Dresden, July 14, 1949, #1332.


4. Synedra rampens v. familiaris (Kuetz.) Grun. Sevier Co.: Moist siliceous bluff (1600 ft.) Little River Gorge below Elkmont, Sept. 9, 1941, #4111.

*Reported in Eddy, 1930.
Raphidiodineae

EUNOTIACEAE

Eunotia Ehrenberg, 1837

1. Eunotia alpina (Naeg.) Hust. Weakly Co.: Farm pond by Tenn. hwy. 54, east of Dresden, July 14, 1949, #1332.

2. Eunotia acrus Ehr. Knox Co.: With floating Rhizoclonium hieroglyphicum (Ag.) Kuetz. in Ft. Loudon Lake embayment at Blue Grass, July 20, 1949, #1563.


10. Eunotia praerupta Ehr. Knox Co.: On ground near bait pond at Mack's east of Knoxville on U. S. hwy. 70, June 18, 1949, #867.

11. Eunotia valida Hust. Weakley Co.: Farm pond beside Tenn. hwy. 54, east of Dresden, July 14, 1949, #1332.


Monoraphidinae

ACHNANTHACEAE

ACHNANTHOIDEAE

ACHNANTHES Bory, 1822


2. Achnanthes dispar Cleve. Knox Co.: Chilhowee Park Lake (pH 7.0, 26° C.), June 18, 1949, #830. Monroe Co.: Mud in marshy area of stream choked with water cress (pH 7.0, 70° F.), June 28, 1949, #950.


COCONEIDAE

Cocconeis Ehrenberg, 1838

1. Cocconeis pediculus Ehr. Knox Co.: On mud beside stream three miles east of Knoxville on U. S. hwy. 70, June 18, 1949, #852.


4. Cocconeis placentula v. lineatus (Ehr.) Cleve. Blount Co.: Rocks in pools (1325 ft.) Abrams Creek at Hannah Mt. crossing, Aug. 26, 1941, #849. Knox Co.: On mud beside stream three miles east of Knoxville on U. S. hwy. 70, June 18, 1949, #852; on ground near bait pond at Maucks east of Knoxville on U. S. hwy. 70, June 18, 1949, #867.

Biraphidineae

NAVICULACEAE

AMPHIPROROIDAE

Amphora Ehrenberg, 1840


Cymbella Agardh, 1830


2. Cymbella cuspidata Kuetz. Davidson Co.: Rocky stream in ravine on Little Marrowbone Creek Road, Aug. 20, 1949, #1828. The punctae are too coarse, however, so the identification is quite uncertain.


8. *Cymbella tumida* (Breb.) V. H. Blount Co.: #100 and #108.


**GOMPHONEMA Agardh, 1824**


7. *Gomphonema constrictum* v. capitata (Ehr.) V. H. Lumpkin Co. (Ga.): In artificial lake at Vogel State Park, Aug. 14, 1949, #1735. Sevier Co.: Moist siliceous bluff (1600 ft.) Little River Gorge below Elkmont, Sept. 9, 1941, (Sharp), #4111.


9. *Gomphonema gracile v. lanceolata* (Kuetz.) Cleve. Sevier Co.: Quiet


**NAVICULOIDEAE**

**Caloneis Cleve, 1894**

*Caloneis formosa* (Gregory) Cleve, Overton Co.: Margins of artificial lake in Standing Stone State Park, July 15, 1949, #1428.

**Gyrosigma Hassall, 1845**


**Mastogloia Thwaites, 1856**

Checklist of Tennessee Diatoms to 1951

NAVICULA BORY, 1822


8. Navicula helvetica Brunn. Shelby Co.: Feeder stream into pond at corner of Gerber Road and U. S. hwy. 64, June 30, 1949, #1093.


10. Navicula minuta. Middle Tenn.: 1938-9. The writer can only speculate as to what was intended here. Perhaps it was N. minima Grun. or N. minuscula Grun.


18. Navicula viridula Kuetz. Blount Co.: #84 and #100a.

NEIDIDIUM Pfitzer, 1871


3. Neidium dubium f. constricta Hust. Overton Co.: Floating with other
algae in shallow water of artificial lake at Standing Stone State Park, July 15, 1949, #1428.


Pinnularia Ehrenberg, 1840


5. Pinnularia mesolepta (Ehr.) W. Smith. Shelby Co.: Feeder spring into pond at corner of Gerber Road and U. S. hwy. 64, June 30, 1949, #1093.

6. Pinnularia polyonca (Breb.) O. Muell. Weakley Co.: Farm pond by Tenn. hwy. 54, a few miles east of Dresden, July 14, 1949, #1332.

7. Pinnularia undulata Gregory, Blount Co.: Coating on submerged rocks in pool at Abrams Falls, June 19, 1949, #881 (a variant).

Pleurosigma W. Smith, 1852

The genus has been reported from Middle Tennessee by Lackey, 1942, and from Kentucky.

Stauroneis Ehrenberg, 1843


2. Stauroneis anceps v. rhomboidalis f. linearis (Ehr.) Cleve. Overton Co.: Wet muck by spring in tent camping area at Standing Stone State Park, July 15, 1949, #1446.


Vanhueckia Schuett, 1896

1. Vanhueckia rhomboides (Ehr.) Breb. (Frustula rhomboides (Ehr.) De Toni). Weakley Co.: Farm pond by Tenn. hwy. 54, a few miles east of Dresden, July 14, 1949, #1332. Haywood Co.: Slough beside U. S. hwy. 70 near Brownsville, June 30, 1949, #1096. Shelby Co.: Feeder stream for pond at corner of Gerber Road and U. S. hwy 64, June 30, 1949, #1096.

2. Vanhueckia rhomboides v. amphipleuroides Gom. (Frustula rhomboides v. amphipleuroides Grun.). Blount Co.: #91, #100, and #108². Coating on submerged rocks in pool at Abrams Falls, June 19, 1949, #881.

EPITHEMIACEAE

DENTICULA Kuetzing, 1844


EPITHEMIA de Brebisson, 1838


RHOPALODIA O. Mueller, 1895


NITZSCHIACEAE

HANTZSCHIA Grunow, 1880


NITZSCHIA Hassall, 1845

1. Nitzschia acicularis (Kuetz.) W. Smith. Middle Tenn.: Cumberland and Duck Rivers 1938-9.3


11. *Nitzschia sigma* (Kuetz.) W. Smith. Shelby Co.: Feeder stream of pond at corner of Gerber Road and U. S. hwy. 64, June 30, 1949, #1093.


**SURIRELLACEAE**

**Cymatopleura** W. Smith, 1851


**Surirella** Turpin, 1828


8. *Suriarella robusta* Ehr. Knox Co.: In flow from very large spring on Blue Grass Road from Farragut, July 20, 1949, #1520. Weakley Co.: Farm pond by Tenn. hwy. 54 east of Dresden, July 14, 1949, #1332.


**BIBLIOGRAPHY**


(Concluded on page 85)