

Desmidiaceae in North Carolina, U. S. A. (II)

Chang, Yoon Kyung

(Dept. of Biology, Sook Myung Womans University, Seoul)

美國 North Carolina 州의 綠藻類 Desmidiaceae에 대하여(II)

張 允 卿

(淑明女大 生物學科)

ABSTRACT

Following the first report on the Desmidiaceae in North Carolina, U.S.A., this paper adds newly 5 genera, 19 species, 16 varieties and 1 subspecies of Desmids to the North Carolina State list.

Since publication of the first complete list of fresh-water algae known for North Carolina(Whitford, 1943), several papers have appeared concerning the Desmids flora of the state, the most important are those of Whitford(1956), Schumacher and Whitford (1959, 1961), Schumacher, Bellis and Whitford(1963) and Schumacher, Kim et al. (1966).

This paper includes 21 taxa of *Cosmarium*, 10 *Staurastrum*, 3 *Groenbladia*, 1 each of *Spondylosium* and *Hyalotheca*.

As was mentioned in the first report (Chang, 1977), materials were collected from all parts of the state during the year 1962 to 1969. Squeezings of submerged higher plants and plankton tows were the most suitable method.

Description of species

Division Chlorophyta

Class Chlorophyceae

Order Zygnematales

Family Desmidiaceae

Cosmarium caelatum Ralfs.

L. 35-38, W. 30-31, I. 13-14, T. 17, Macon Co. (M), Duplin Co. (C).

C. contractum var. *incrassatum* Scott and Prescott

L. 40-59, W. 27-39, I. 6-9, T. 20-30; wall

with yellowish thickened area; the coarse punctations on the thickened area were not observed in my specimen; Richmond Co. (C).

C. cosmetum W. and G. S. West

L. 49, W. 40, I. 13, Carteret Co. (C).

C. cucurbitinum (Biss.) Lütkem.

L. 72, W. 30, I. 28, Craven Co. (C).

C. dentatum Wolle

L. 124-128, W. 80-87, I. 25, T. 59; wall coarsely granulate, finely punctate between granules, 5-7 spines visible at both sides of the semicell; Duplin Co. (C). Whitford collected the same species from Carteret Co. (C) in 1930; his drawing shows more spines at the side.

C. difficile var. *sublaeve* Lütkem.

L. 31-35, W. 20-22, I. 5-6, Olive Pond, Wake Co. (P).

C. exiguum Arch.

L. 19, W. 11, I. 5, T. 8, Brunswick Co. (C).

C. globosum f. *minor* Boldt.

L. 12, W. 8, I. 6; wall distinctly punctate and reddish-brown, end view circular; in a ditch east of Dover, Craven Co. (C).

C. holmiense Lund.

L. 43-52, W. 25-32, Ap. 18-20, I. 15-16; side almost straight to very slightly undulate; several ponds in the Coastal Plain.

- C. microsphinctum* var. *groenlandicum* (Boerg.) Krieger and Gerloff
C. nasatum Nordst.
 L. 37, W. 27, I. 9, Macon Co. (M);
C. parvulum Breb.
 L. 35, W. 14, Ap. 10, I. 12, T. 12, end view almost circular; ditch near Southport, Brunswick Co. (C).
C. pyramidatum var. *convexum* Krieger and Gerloff
 L. 55-73, W. 34-50, I. 13-14, T. 25-37, Wake Co. (P), Cumberland and Duplin Co. (C).
C. raciborskii Lag.
 L. 30-32, W. 31-30, I. 9-11, T. 16, Cumberland Co. (C).
C. sexangulare var. *minus* Roy et Biss.
 L. 18-28, W. 15-20, I. 3-4, T. 8; common in Scotland Co. (C).
C. sphagnicolum W. and G.S. West
 L. 7-9, W. 8-10, I. 3, Jackson Co. (M).
C. subglobosm Nordst.
 L. 34, W. 24-25, I. 23, Cumberland Co. (C).
C. tinctum Ralfs
 L. 15, W. 13, I. 8, wall brown, Duplin Co. (C).
C. tinctum var. *subretusum* Messik.
 L. 12, W. 12, I. 5, Cooley's Pond, Scotland Co. (C).
C. tinctum var. *tumidum* Borge.
 L. 10-12, W. 10-13, I. 5-7, wall yellow to brown, Granville Co. (P), Duplin Co. (C).
C. trilobulatum var. *depressum* Printz
 L. 11-12, W. 10-11, Ap. 5-6, I. 2.5-3; common in Scotland Co. ponds (C).
Staurastrum bieneanum Rabenh.
 L. 36-37, W. 34-39, I. 6-8, Duplin Co. (C).
S. comptum var. *majus* Wolle
 L. 37, Wcp. 36, B. 9, I. 7, Camp Mackall Pond, Scotland Co. (C).
S. cuspidatum Breb.
 L. 37, Wssp. 27, Wcsp. 80, I. 6, Phelp's Lake, Washington Co. (C).
S. dejectum Breb.
 L. 18, W. 16-17, Sp. 3-4, I. 3, Harnett Co. (C). Haywood Co. (M).
S. dickiei var. *circularis* Turner
 L. 43, Wssp. 40, Wcsp. 46, I. 18; Wake Co. (P).
S. dickiei var. *maximum* W. and G.S. West
 L. 73-75, W. 50-64, Sp. 6-10, I. 18-20, New Hanover Co. (C).
S. limneticum var. *cornutum* G.M. Smith
 from an unknown locality
S. minnesotense Wolle
 L. 145, Wssp. 121, Wcsp. 137, I. 22, South Wake Co. (C).
S. protectum var. *planctonicum* G.M. Smith
 L. 27, W. 38, I. 8, Scotland Co. (C).
S. ravenellii var. *spinulosum* Irceee-Marie
 L. 36, Wssp. 36, Wcsp. 46, I. 11, Scotland Co. (C).
Spondylosium moniliforme var. *reniforme* Grönblad
 L. 37, W. 21, I. 7, Bartons Pond, Wake Co. (P).
Hyalotheca undulata Nordst.
 L. 13, W. 7, I. 5, Olive Pond, Wake Co. (P).
Groenbladia neglecta (Racib.) Teiling
 L. 28-42, W. 11-14, I. 23-24, Bladen Co. (C).
G. neglecta var. *elongata* Scott and Grönblad
 L. 44, W. 9, Ap. 7, Brunswick Co. (C).
G. taylorii Scott and Grönblad.
 L. 21-25, W. 11-14, Horse pond, Carteret Co. borrow pit in Craven Co. (C).

摘 要

美國 North Carolina 州의 綠藻類 Desmidiaceae I 報에 이어 새로 5屬, 19種, 16變種, 1亞種을 未記錄種으로 記載하였다.

REFERENCES

- Brown, H.J. 1930. The Desmids of the southeastern coastal plain region of the United States. *Trans. Am. Microsp. Soc.* 49: 97-139.
 Chang, Y.K. 1977. Desmidiaceae in North Carolina, U.S.A. (I). *Kor. J. Bot.* 20(4): 157-162.
 Croasdale, H. 1965. Desmids of Devon Island, N.W.T., Canada. *Trans. Am. Microsp. Soc.* 84: 142-212.
 Croasdale, H. and R. Grönblad. 1964. Desmids of Labrador. 1. Desmids of the southeastern coastal area. *Trans. Am. Microsp. Soc.* 84: 142-212.
 Iréné-Marie, F.I.C. 1939. Flore Desmidiale de la région de Montreal. *Laprairie, Montreal, Canada.*
 Iréné-Marie, F.I.C. 1951. Desmidiées de la région de Québec. *Le Nat. Canadien.* 78: 117-221.
 Prescott, G.W. 1941. A concluding list of Desmids from

- Isle Royal. *Michigan Acad. Sci., Arts and Letters*. 26: 230—300.
- Schumacher, G.J. and L.A. Whitford. 1961. Additions to the fresh-water algae in North Carolina. V. *J. Elisha Mitchell Sci. Soc.* 77: 274—280.
- Schumacher, G.J. and L.A. Whitford. 1963. Additions to the fresh-water algae in North Carolina. VI. *J. Elisha Mitchell Sci. Soc.* 79: 22—26.
- Smith, G.M. 1924a. Phytoplankton of the inland lakes of Wisconsin. Part 2. Desmidiaceae. *Wisconsin Biol.*
- West, W., G.S. West, and N. Carter. 1904. A Monograph of the British Desmidiaceae. 5 vols. Roy Society, London.
- Whitford, L.A. 1943. The fresh-water algae of North Carolina. *J. Elisha Mitchell Sci. Soc.* 59: 131—178.
- Whitford, L.A. 1956. Additions to the fresh-water algae in North Carolina. I. *Trans. Am. Microscop. Soc.* 75: 196—203.
- Wolle, F. 1884. Desmids of the United States. Moravian Publication Office, Bethlehem, Pennsylvania.

(Received August 30, 1979)

Explanation of Plates

Plate I

- Fig. 1. *Cosmarium difficile* var. *sublaeve* Lütkem.
- Fig. 2. *C. tinctum* var. *tumidum* Borge.
- Fig. 3. *C. tinctum* Ralfs.
- Fig. 4. *C. nasatum* Nordst.
- Fig. 5. *C. parvulum* Breb.
- Fig. 6. *C. tinctum* var. *subretusum* Messik.
- Fig. 7. *C. trilobulatum* var. *depressum* Printz
- Fig. 8. *C. sphagnicolum* W. and G.S. West
- Fig. 9. *C. subglobosum* Nordst.
- Fig. 10. *C. sexangulare* var. *minus* Roy et Biss.
- Fig. 11. *C. microsphinctum* var. *groenlandicum* (Borg.) Krieger and Gerloff
- Fig. 12. *C. globosum* f. *minor* Boldt.
- Fig. 13. *C. holmiense* Lund.
- Fig. 14. *C. raciborskii* Lag.
- Fig. 15. *C. caelatum* Ralfs.
- Fig. 16. *C. exiguum* Arch.
- Fig. 17. *C. pyramidatum* var. *convexum* Krieger and Gerloff
- Fig. 18. *C. cosmetum* W. and G.S. West
- Fig. 19. *C. dentatum* Wolle
- Fig. 20. *C. contractum* var. *incrassatum* Scott and Prescott
- Fig. 21. *C. cucurbitinum* (Biss.) Lütkem.

Plate II

- Fig. 1. *Staurastrum minnesotense* Wolle
- Fig. 2. *S. protectum* var. *planctonicum* G.M. Smith
- Fig. 3. *S. ravenellii* var. *spinulosum* Irene-Marie
- Fig. 4. *S. comptum* var. *majus* Wolle
- Fig. 5. *S. dickiei* var. *circulare* Turner
- Fig. 6. *S. limneticum* var. *cornutum* G.M. Smith
- Fig. 7. *S. dickiei* var. *maximum* W. and G.S. West
- Fig. 8. *S. bieneanum* Rabenh.
- Fig. 9. *S. dejectum* Breb.
- Fig. 10. *S. cuspidatum* Breb.
- Fig. 11. *Hyalothea undulata* Nordst.
- Fig. 12. *Groenbladia neglecta* var. *elongata* Scott and Grönblad
- Fig. 13. *G. taylorii* Scott and Grönblad
- Fig. 14. *Spondylosium moniliforme* var. *reniforme* Grönblad
- Fig. 15. *Groenbladia neglecta* (Racib.) Teiling

Plate I

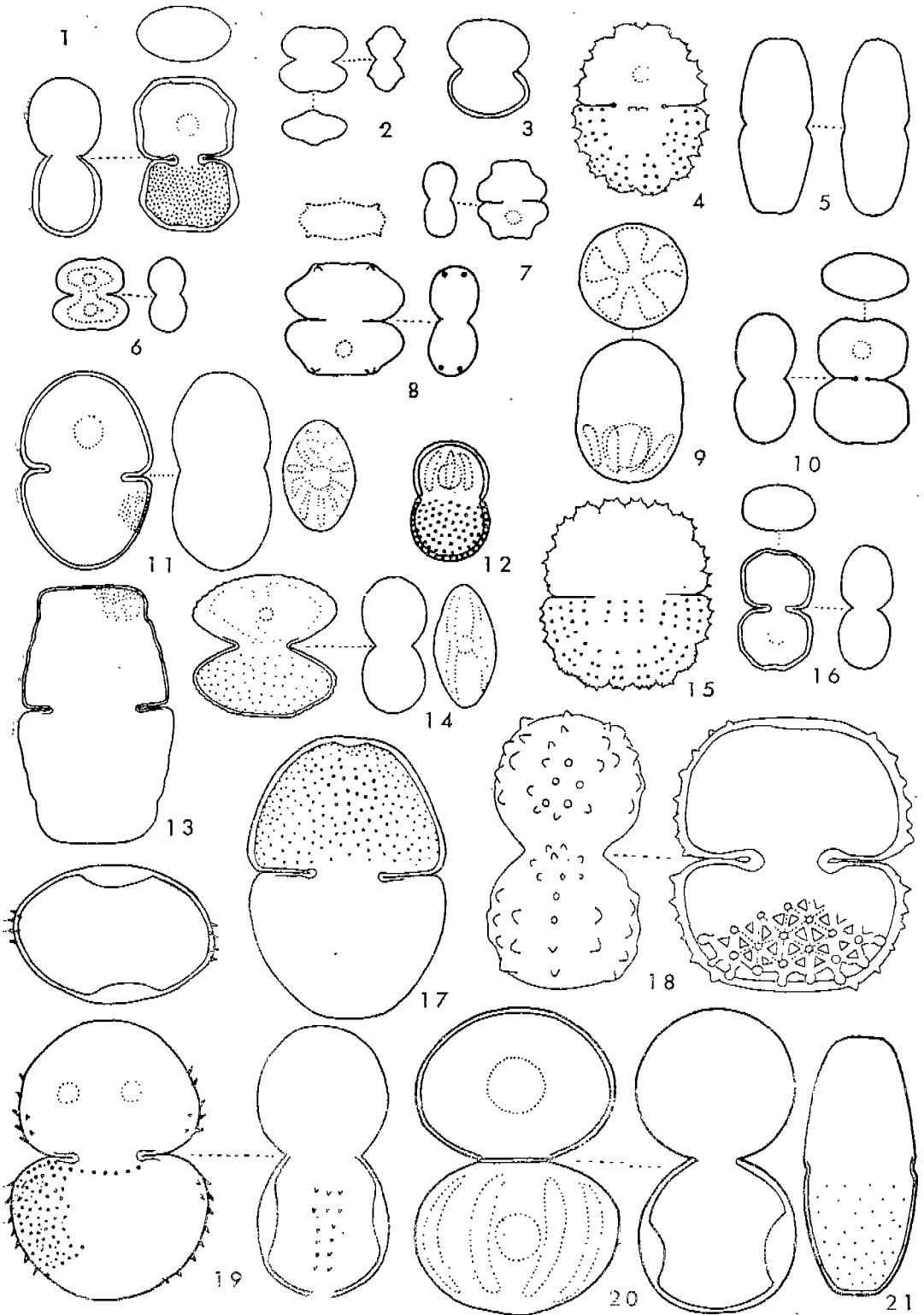


Plate II

