

SOME ALGAE, INCLUDING NEW SPECIES, FROM NEW MEXICO¹

CLARENCE E. TAFT,
The Ohio State University

The writer recently had the opportunity to examine several collections of algae from Valle Grande, in the vicinity of Los Alamos, New Mexico. The samples were collected by Dr. R. A. Popham, Department of Botany, The Ohio State University, during the spring of 1944 and the early summer of 1945 from an elevation approximating 9,000 feet.

The algal flora of New Mexico is generally unknown. As indicated by these samples, it would be well worth the time of some algologist to carefully survey this area by extending the time and scope of the collections. Although no fruiting Oedogoniaceae and only one member of the Zygnemataceae in fruit was discovered, members of both groups were numerous in vegetative condition. The paucity of fruiting material in either of these groups in alpine or subalpine habitats is notorious. Yet extensive collecting might result in some remarkable records. The large proportion of desmids in the collections is merely characteristic of alpine or subalpine regions and is probably indicative of a rich flora. No attempt has been made to identify the diatoms, which although numerous, do not predominate in the collections examined.

The writer is indebted to Dr. Popham for the samples and expresses his appreciation for the time and effort expended in their acquisition. He also wishes to thank Dr. G. W. Prescott of Michigan State College, Lansing, Michigan, for the use of his Iconograph of the Desmidiaceae as well as for his helpful comments and criticisms in species determination.

SPECIES LIST

CHLOROPHYTA

Volvocaceae

Pandorina morum Bory.

Volvox aureus Ehr.

Tetrasporaceae

Apiocystis brauniana Nag.

Gloeocystis ampla Kütz.

Sphaerocystis schroeteri Chodat.

Tetraspora lubrica (Roth) Ag.

Ulotrichaceae

Ulothrix zonata (Weber & Mohr) Kütz.

Chaetophoraceae

Microthamion strictissimum Raben.

Zygnemataceae

Spirogyra tenuissima (Hass.) Kuetz.

Desmidiaceae

Closterium kuetzingii Bréb.

Closterium moniliferum (Bory) Ehr.

Closterium pritchardianum Archer.

Closterium striolatum var. *subtruncatum* (W. & W.) Krieger.

Closterium tumidum Johnson.

Micrasterias americana (Ehr.) Ralfs.

Euastrum bidentatum Näg.

¹Paper from the Department of Botany, The Ohio State University, No. 492.

Euastrum denticulatum (Kirchn.) Gay.

Euastrum notatum Taft sp. nov. Fig. 2.

Cells small, longer than broad, constriction shallow and open; semicells quadrate-pyramidate, lateral margins concave; polar lobe nearly quadrate, apex slightly retuse and surrounded by four inconspicuous marginal lobes; basal angles broadly rounded; vertical view depressed hexagonal, all angles obtuse to broadly rounded and smooth, apical marginal lobes circularly arranged within the hexagon. Wall smooth and colorless. Length 37–43 μ , width 27–29 μ , isth. 17–19 μ ; width of polar lobe 16–17 μ . Valle Grande, New Mexico.

This species should be compared with *Euastrum Berlini* Boldt (Boldt 1888) from which it differs in the broader isthmus, more broadly rounded basal angles, and the presence of the apical, marginal lobes.

Cosmarium botrytis var. *mediolaeve* W. West.

Cosmarium costatum Nordst.

Cosmarium cucurbitinum (Biss.) Lütkm.

Cosmarium ellipsoideum var. *minor* Racib.

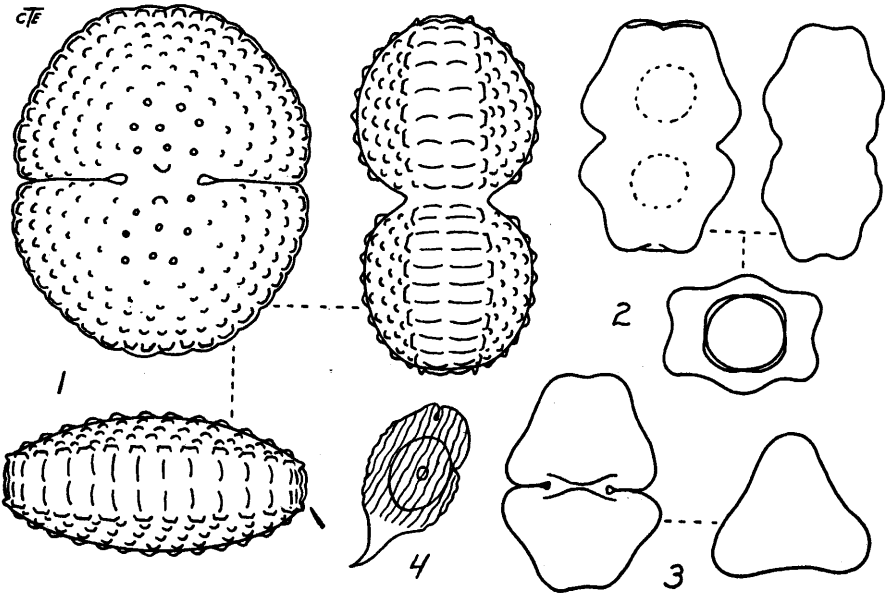


FIG. 1. *Cosmarium vallegrande* Taft, sp. nov.

FIG. 2. *Euastrum notatum* Taft, sp. nov.

FIG. 3. *Staurastrum trihedrale* var. *glabra* Taft.

FIG. 4. *Phacus crenulata* var. *annulata* Taft, var. nov.

Cosmarium holmiense Lund.

The dimensions of the only individual seen were greater than the usual size range. Length 64 μ , width 38 μ , isth. 19 μ .

Cosmarium margaritatum var. *minor* (Boldt.) W. & G. S. West.

Cosmarium meneghinii fa. *reinschii* Istv.

Cosmarium speciosum var. *rostafinskii* fa. *americana* W. & G. S. West.

Cosmarium speciosum var. *simplex* Nordst.

Cosmarium subarctoum (Lager.) Racib.

Cosmarium subcrenatum Hantzsch.

Numerous zygospores were present. The dimensions were: 30–42 μ diam. including processes, 27–32 μ minus processes.

Cosmarium vallegrande Taft sp. nov. Fig. 1.

Cells about one-fifth longer than broad, deeply constricted, sinus linear, closed; semi-cells ovate-pyramidate, angles rounded, margins crenate; cell wall granulate, granules arranged in concentric series, smaller at the center and becoming larger near the margin, marginal series of broad, flattened verrucae; vertical view broadly elliptical with slightly flattened ends and having a row of verrucae on either side of the long axis, the intervening space crenulate.

Valle Grande, New Mexico.

Staurastrum polytrichum Perty.

Staurastrum punctulatum Bréb.

Staurastrum punctulatum var. *subproductum* W. & G. S. West.

This variety is identical in shape but slightly larger than *St. punctulatum* Bréb. forma? Boldt (Boldt, 1888). Length 46–48 μ , width 40–42 μ , isth. 16–17 μ .

Staurastrum spongiosum Bréb.

Staurastrum trihedrale var. *glabra* Taft. Fig. 3.

Wolle described *St. trihedrale* as being punctate-granulate. The Oklahoma specimens (Taft, 1930) as well as those from New Mexico have a perfectly smooth wall. While Wolle's figure leaves much to be desired it is still the writer's opinion that these individuals should remain as a variety of his species.

Hydrodictyaceae

Pediastrum boryanum var. *longicorne* Racib.

Oocystaceae

Ankistrodesmus falcatus (Corda) Ralfs.

Nephrocytium limneticum G. M. Smith.

Oocystis lacustris Chodat.

Vaucheriaceae

Vaucheria pachyderma Walz.

Vaucheria sessilis (Vauch.) D. C.

Xanthophyceae

CHRYSOPHYTA

Tribonema bombycinum (Ag.) Derbes & Sol.

Ophiocytaceae

Ophiocytium arbusculum (A. Br.) Raben.

Ophiocytium parvulum (Perty) A. Br.

Euglenaceae

EUGLENOPHYTA

Phacus crenulata var. *annulata* Taft var. nov. Fig. 4.

Cell ovoid-pyriform, posteriorly tapering into a sharp-pointed, slightly bent caudus, anterior end broadly rounded and bilobed; flagellum about as long as the cell; margins of the cell crenulate, with one sharp notch; periplast longitudinally striate, lines slightly undulate; paramylon body a single annular disc. Length 31–32 μ , width 14–16 μ .

Valle Grande, New Mexico.

The variety is distinguished from *P. crenulata* Prescott (1944) by having an annular disc paramylon body, a marginal notch, and a bent caudus.

Trachelomonas granulosa Playf.

Trachelomonas intermedia Dang.

Trachelomonas varians Defl.

Trachelomonas volvocina Ehr.

Chroococcaceae

CYANOPHYTA

Chroococcus turgidus Nag.

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