

NEW SPECIES OF ZYGNEMATACEAE¹

CLARENCE E. TAFT
The Ohio State University
Columbus, Ohio

Six undescribed species of the Zygnemataceae were discovered in collections recently examined from Texas, Louisiana, and Florida. These have been described and are now being reported.

***Spirogyra miamiana* sp. nov.**

Vegetative cells 20–25 μ x 150–340 μ , with plane end walls; three chromatophores (rarely 2) making 1.5 to 5 turns; conjugation scalariform, tubes formed by both gametangia; fertile cells enlarged to 41 μ , length 71 to 172 μ ; zygospores ellipsoid to cylindrical-ellipsoid, 30–39 μ x 62–92 μ ; median spore wall composed of two layers, the outer layer wrinkled, the inner layer finely scrobiculate, yellow-brown at maturity.

U. S.: Florida, Miami Beach and Winter Park.

This species is at first attached to various underwater objects in flowing water.

***Spirogyra notabilis* sp. nov.**

Vegetative cells 30–37 μ x 92–230 μ , with plane end walls; chromatophores 2, 3, or 4 making 1 to 3 turns in the cell; at conjugation the cell walls are notably thickened; conjugation scalariform between short gametangia, tubes formed by both cells, but more by the male; receptive gametangia enlarged near the spore; zygospores ovoid 48–57 μ x 78–105 μ , median spore wall of two yellow-brown layers, of which the outer is conspicuously punctate, the inner reticulate and finely verrucose.

U. S.: Texas, Austin, April 19, 1938.

The layers of the median wall are distinct, and among the most beautifully ornamented walls in the genus.

***Spirogyra texensis* sp. nov.**

Vegetative cells 50–55 μ x 90–530 μ with plane end walls; 3 to 5 chromatophores making 1.5–3.5 turns in the cell; conjugation scalariform, tubes formed by the male gametangia; fertile cells shortened and enlarged; zygospores ovoid, 66–76 μ x 99–124 μ , outer spore wall transparent irregularly corrugate, median wall yellow-brown, conspicuously reticulate.

U. S.: Texas, Karnac, April 27, 1938.

***Mougeotia opelousensis* sp. nov.**

Vegetative cells 25–28 μ x 150–340 μ , chromatophores with 6–12 pyrenoids in a single row; conjugation scalariform, zygospores short cylindrical, with concave ends and sides, formed in the tubes, 55–64 μ x 30–34 μ ; median spore wall yellow punctate, punctations about .8 μ in diameter and evenly spaced over the entire wall.

U. S.: Louisiana, Opelousas, 1938.

***Zygonium pectosum* sp. nov.**

Vegetative cells 9–12 μ x 12–108 μ with two pillow-shaped chromatophores, sometimes elongate with flat ends; conjugation scalariform and lateral, zygospores formed in the greatly enlarged tubes; zygospores globose or subglobose (15–) 20–25 μ x 18–25 μ with a smooth slate blue wall; aplanospores cylindrical ovoid, 9–10 μ x 12–16 μ , also slate blue; sporangium outer wall a 2–4 μ layer of pectic compound. During conjugation the cells elongate and the walls change to pectic compounds and become greatly thickened.

U. S.: Louisiana, near Hornbeck on wet seepage slopes, April, 1938.

***Zygonium punctatum* sp. nov.**

Vegetative cells 9–12 μ x 30–45 μ with two small irregularly globose chromatophores; conjugation scalariform between gametangia that have elongated up to 115 μ ; zygospores globose or subglobose 18–27 μ x 21–32 μ , enclosed by a distinct sporangium wall; median spore wall yellow to yellow-brown, punctate.

U. S.: Louisiana, De Ridder, on roadside seepage slopes, April, 1938.

¹Papers from the Department of Botany, Ohio State University, No. 473.