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NEW SPECIES OF ZYGNEMATACEAE

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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\(\mu\) x 150–340\(\mu\), 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\(\mu\), length 71 to 172\(\mu\); zygospores ellipsoid to cylindric-ellipsoid, 30–39\(\mu\) x 62–92\(\mu\); median spore wall composed of two layers, the outer layer wrinkled, the inner layer finely scrobiculate, yellow-brown at maturity.

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

**Spirogyra notabilis** sp. nov.
Vegetative cells 30–37\(\mu\) x 92–230\(\mu\), 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\(\mu\) x 78–105\(\mu\), median spore wall transparent irregularly corrugate, median wall yellow-brown, conspicuously 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\(\mu\) x 90–530\(\mu\), 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\(\mu\) x 99–124\(\mu\), outer spore wall transparent irregularly corrugate, median wall yellow-brown, conspicuously reticulate.

**Mougeotia opelouensis** sp. nov.
Vegetative cells 25–28\(\mu\) x 150–340\(\mu\), chromatophores with 6–12 pyrenoids in a single row; conjugation scalariform, zygospores short cylindric, with concave ends and sides, formed in the tubes, 55–64\(\mu\) x 30–34\(\mu\); median spore wall yellow punctate, punctations about .8\(\mu\) in diameter and evenly spaced over the entire wall.
U. S.: Louisiana, Opelousas, 1938.

**Zygogonium pectosum** sp. nov.
Vegetative cells 9–12\(\mu\) x 12–108\(\mu\) 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\(\mu\) x 18–25\(\mu\) with a smooth slate blue wall; aplanospores cylindric ovoid, 9–10\(\mu\) x 12–16\(\mu\), also slate blue; sporangium outer wall a 2–4\(\mu\) 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.

**Zygogonium punctatum** sp. nov.
Vegetative cells 9–12\(\mu\) x 30–45\(\mu\) with two small irregularly globose chromatophores; conjugation scalariform between gametangia that have elongated up to 115\(\mu\); zygospores globose or subglobose 18–27\(\mu\) x 21–32\(\mu\), 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.