# Recent Additions to the Flora of Indiana

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I wish to report the following additions to the flora of Indiana:

*Potamogeton epihydrus* Rafinesque

Collected in State Line Creek, Michiana Shores, La Porte Co., Aug. 8, 1936, No. 2,653. Identified by Chas. C. Deam, confirmed by M. L. Fernald. Abundant at the concrete bridge where the main entrance road crosses the creek and farther east by a wooden bridge where a cinder road crosses the creek. Floating leaves few, mostly opposite, oblong, tapering into the petiole; submersed leaves linear, less than 1 cm. broad, up to 14 cm. long, alternate, two-ranked, a coarsely cellular-reticulated space between the inner nerves and the midrib. The cellular-reticulated space is characteristic and especially clear in fresh material.

*Asplenium platyneuron* f. *serratum* (Miller) Hoffmann

Collected on the bluff of the Ohio River 3 miles east of Cannelton, Perry Co., Aug. 20, 1936, No. 1,937, and on a hillside in the Martin County State Forest, Martin Co., July 4, 1937, No. 3,208. Only one plant was found in each locality. The Perry County plant was a very large specimen having seventy fronds. This form is characterized by rather long, narrow pinnae that are coarsely and often irregularly toothed. The larger teeth may be slightly incised.

*Ophioglossum vulgatum* f. *pseudopodum* Blake

In swamps in the northern part of the state: 1½ miles north of Lydick, St. Joseph Co., July 21, 1936, No. 2,384½, July 1, 1937, No. 3,172; north bank of the Grand Calumet River near the western edge of Gary, Lake Co., July 8, 1936, No. 2,382½; and Indiana Dunes State Park, Porter Co., June 27, 1937, No. 3,309. This form is likely to be found wherever the species is abundant. The sterile blade is borne on a narrowed base that is from one-fourth to two-thirds as long as the blade proper, which is often elongated. Blake (Rhodora 15:87. 1913) gives a good figure of this form. The narrow base and often elongated blade suggest that this form is a result of a response to light conditions when the plant is growing among tall herbage. However, while all of the f. *pseudopodum* I have found has been growing in rather tall and dense vegetation, the typical species is always more common in such a habitat. Perhaps only the more genetically plastic plants react to the environment in this way.

*Botrychium dissectum* f. *oneidense* (Gilbert) Clute

Indiana Dunes State Park, Porter Co., 1932, No. 744. Woods on Beverly Shores adjacent to the southeast corner of the Indiana Dunes State Park, Porter Co., 1934, No. 792. Identified by C. A. Weatherby. Chas. C. Deam has specimens from DeKalb, Howard, and Steuben counties. This form grows on the higher parts of rich low woods. In general, the plant is coarser, that is, the segments are broader and cut

less than in f. *obliquum*. The tips of the segments are slightly pointed or obtuse. This form was reported for Indiana first by Tryon in Amer. Midl. Nat. 17:429. 1936.

*Dryopteris Goldiana* (Hooker) Gray *X Dryopteris marginalis* (Linnaeus) Gray

On the south bluff of White River just north of the Martin County State Forest, Martin Co., Aug. 20, 1935, No. 2,015, July 4, 1937, No. 3,219. Identified by E. T. Wherry. This hybrid was found growing on a rich, damp, shady, rocky bluff where *Dryopteris Goldiana* and *Dryopteris marginalis* were abundant. Although collected in 1935, this fern was not recognized until this year when E. T. Wherry identified it while looking through the ferns in the herbarium of Chas. C. Deam. The writer went to the locality in the hope of finding more of the hybrid and was fortunate enough to find six plants. Within the last year about one-half of the trees have been cut off the bluff, markedly changing the habitat so that this fern may not long survive. The *Dryopteris Goldiana* has already suffered considerably. The general aspect of the plant is different from either of the parents. The sori are borne midway between the midvein and margin, the sori of *Dryopteris marginalis* are borne on the margin, and those of *Dryopteris Goldiana* are near the midvein. The pinnules are crenulate, pinnatifid, or deeply pinnatifid, usually more deeply cut than in typical *Dryopteris Goldiana*, but never so deeply cut as in *Dryopteris marginalis*. The basal pinnae are usually wider at the middle than at the base as in *Dryopteris Goldiana*, but they may be wider or almost as wide at the base as in *Dryopteris marginalis*. The scales on the lower part of the stipe are dark brown with a light brown margin, typical of *Dryopteris Goldiana*.

*X Dryopteris Boottii* (Tuckerman) Underwood

Indiana Dunes State Park, Porter Co., Sept. 5, 1935, No. 2,340, and Michigan Shores, La Porte Co., July 22, 1936, No. 2,387. Identification confirmed by F. K. Butters. This hybrid grows in rich wet woods where *Dryopteris cristata* (Linnaeus) Gray and *Dryopteris spinulosa* var. *intermedia* (Muhlenberg) Underwood are common. The frond is widest at the middle and narrowed toward the base, longer and narrower than *Dryopteris spinulosa* var. *intermedia*, broader than *Dryopteris cristata*. The cutting of the frond is half way between *Dryopteris cristata and Dryopteris spinulosa* var. *intermedia*. The indusium is glandular as in *Dryopteris spinulosa* var. *intermedia*. The glandular indusium separates this hybrid from the closely related *Dryopteris cristata* X *Dryopteris spinulosa*.