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Edited by

Ray C. Friesner
The Butler University Botanical Studies journal was published by the Botany Department of Butler University, Indianapolis, Indiana, from 1929 to 1964. The scientific journal featured original papers primarily on plant ecology, taxonomy, and microbiology. The papers contain valuable historical studies, especially floristic surveys that document Indiana’s vegetation in past decades. Authors were Butler faculty, current and former master’s degree students and undergraduates, and other Indiana botanists. The journal was started by Stanley Cain, noted conservation biologist, and edited through most of its years of production by Ray C. Friesner, Butler’s first botanist and founder of the department in 1919. The journal was distributed to learned societies and libraries through exchange.

During the years of the journal’s publication, the Butler University Botany Department had an active program of research and student training. 201 bachelor’s degrees and 75 master’s degrees in Botany were conferred during this period. Thirty-five of these graduates went on to earn doctorates at other institutions.

The Botany Department attracted many notable faculty members and students. Distinguished faculty, in addition to Cain and Friesner, included John E. Potzger, a forest ecologist and palynologist, Willard Nelson Clute, co-founder of the American Fern Society, Marion T. Hall, former director of the Morton Arboretum, C. Mervin Palmer, Rex Webster, and John Pelton. Some of the former undergraduate and master’s students who made active contributions to the fields of botany and ecology include Dwight. W. Billings, Fay Kenoyer Daily, William A. Daily, Rexford Daudenmire, Francis Hueber, Frank McCormick, Scott McCoy, Robert Petty, Potzger, Helene Starcs, and Theodore Sperry. Cain, Daubenmire, Potzger, and Billings served as Presidents of the Ecological Society of America.

Requests for use of materials, especially figures and tables for use in ecology text books, from the Butler University Botanical Studies continue to be granted. For more information, visit www.butler.edu/herbarium.
TWO NEW ENTITIES IN THE GENUS SOLIDAGO

By Ray C. Friesner

Study during the past year of material belonging to this genus from numerous localities has revealed material from two collections which should be described as new entities.

**SOLIDAGO LEPIDA var. FALLAX** forma **glandulosa** f. nov., caulibus erectis, cylindris, glaberibus vel sparse pubescentibus infra, dense pubescentibus supra, viridis vel stramineis, 1.5 m. altis; foliis basilaribus abo-nis; foliis cauliniis inferioribus oblongo-lanceolatis, elliptico-lanceolatis vel oblongo-oblongo-lanceolatis, acutis vel acuminatis, marginis serratis; contractis in petiolum brevem, scabro-pubescentibus utrique, 10-20 cm. longis, 2.5-3.5 cm. latis; medianis et superioribus foliis cauliniis similis praeter sensim decrecentia; inflorescentia paniculata, dense pubescentia, bracteis ramosis et ultimis ramis stipitato-glandulosis; capitulis nonsecundis vel obscure secundis; involucris 4.5-5 mm. altis; phyllis lanceolatis oblongatis vel oblongo-lanceolatis acutis, marginis et externis superficiibus pubescentibus et stipitato-glandulosis, valde costatis, 3 seriatis; ligulis 10-15; floribus disci 6-9; corollae lobis 1.3-1.7 mm. longis; antheribus 1.2-1.5 mm. longis; pappo 3.2-4 mm. longo; achenes 1.2-1.5 longis, pubescentibus.

**SOLIDAGO COLEPIDA form. FALLAX** f. nov., caulibus erectis, cylindris, glaberibus vel sparse pubescentibus infra, dense pubescentibus supra, viridis vel stramineis, 1.5 m. altis; foliis basilaribus abo-nis; foliis cauliniis inferioribus oblongo-lanceolatis, elliptico-lanceolatis vel oblongo-oblongo-lanceolatis, acutis vel acuminatis, marginis serratis; contractis in petiolum brevem, scabro-pubescentibus utrique, 10-20 cm. longis, 2.5-3.5 cm. latis; medianis et superioribus foliis cauliniis similis praeter sensim decrecentia; inflorescentia paniculata, dense pubescentia, bracteis ramosis et ultimis ramis stipitato-glandulosis; capitulis nonsecundis vel obscure secundis; involucris 4.5-5 mm. altis; phyllis lanceolatis oblongatis vel oblongo-lanceolatis acutis, marginis et externis superficiibus pubescentibus et stipitato-glandulosis, valde costatis, 3 seriatis; ligulis 10-15; floribus disci 6-9; corollae lobis 1.3-1.7 mm. longis; antheribus 1.2-1.5 mm. longis; pappo 3.2-4 mm. longo; achenes 1.2-1.5 longis, pubescentibus.

**STEM:** erect; terete; glabrous or sparsely pubescent below, densely pubescent with upwardly curved hairs in upper half; green to straw-color; up to 1.5 m. high. **BASAL LEAVES:** absent at flowering time. **LOWER CAULINE LEAVES:** elongate-lanceolate, elliptic-lanceolate to elongate-oblong-lanceolate; acute to acuminate; serrate; narrowed to very short petiole; scabro-pubescent on both surfaces; 10-20 cm. long, 2.5-3.5 cm. wide. **MEDIUM AND UPPER CAULINE LEAVES:** similar except gradually becoming smaller. **INFLORESCENCE:** paniculate; densely pubescent; rameal bracts and ultimate subdivisions of axis stipitato-glandular. **HEADS:** non-secund to obscurely secund. **INFLORESCENCE:** 4.5-5.0 mm. high. **PHYLLARIES:** lanceolate, oblong, or oblong-lanceolate; acute; margins and outer surfaces pubescent and stipitato-glandular; strongly costate; ca. 3 rows. **RAYS:** 10-15. **DISC FLOWERS:** 6-9. **COROLLA LOBES:** 1.3-1.7 mm. long. **ANTHERS:** 1.2-1.5 mm. long. **PAPPUS:** 3.2-4 mm. long. **ACHENES:** 1.2-1.5
This form differs from the variety chiefly in the presence of stipitate glands on the rameal bracts, on the ultimate subdivisions of the axes of the inflorescence, and on the margins and outer surfaces of the phyllaries.

X Solidago patuliginosa, sp. nov., caulihills erectis, cylindris, glaberibus praeter in inflorescentia, viridis vel rubris, 0.5-1.5 m. altis; foliis basilaris lanceolatis, acutis vel acuminatis, marginis serratis, scabris, contractis in petiolum longum marginatum, scaberrimis supra, glabris subtus, 2-3 dm. longis, 2-4 cm. latis; medias et superioribus foliis caulina simililis praeter sensim decrescentia; inflorescentia virgata ad paniculata, scabro-pubescentia; capitulis nonsecundis ad valde secundis; involucris 3.8-4.5 mm. altis; phyllis ovatis, lanceolatis vel oblongatis, acutis vel obtusis, marginis ciliatis, ecostatis vel obscure costatis, 4-seriatis; ligulis 4-6; floribus discis 4-8; corollae lobis 1.1-1.5 mm. longis; antheris 1.1-1.4 mm. longis; pappus 2.8-3.5 mm. longo; achenes 1.4-1.9 mm. longis, aliquantis nigris, glaberribus.

STEM: erect, terete; glabrous below inflorescence; green to reddish; 0.5-1.5 m. high. BASAL LEAVES: lanceolate; acute to acuminate; margins serrate, scabrous; narrowed to long margined petioles; very scabrous above, glabrous below; 12-25 cm. long, 1.5-3 cm. wide. LOWER CAULINE LEAVES: lanceolate, elliptical to ovate-lanceolate; acute to acuminate; finely to coarsely serrate; narrowed to margined petioles; very scabrous above, glabrous below; 2-3 dm. long, 2.4 cm. wide. MEDIAN AND UPPER CAULINE LEAVES: similar except gradually becoming smaller. INFLORESCENCE: virgate to spreading panicle; scabro-pubescent. HEADS: nonsecund to strongly secund. INVLUCRE: 3.8-4.5 mm. high. PHYLLARIES: ovate, lanceolate to oblong; acute to obtuse; margins ciliate in upper half; ecostate to obscurely costate; 4 rows. RAYS: 4-6. DISC FLOWERS: 4-8. COROLLA lobes; 1.1-1.5 mm. long. ANTHERS: 1.1-1.4 mm. long. PAPPUS: 2.8-3.5 mm. long. ACHENES: 1.4-1.9 mm. long; blackish, glabrous 10-ribbed. Springy, peaty slope on Krieg farm, on north side of Salamonie River valley; 1 mile north and 1 mile east of Monument City, Huntington Co., Indiana. September 18, 1948. Type: Fries-
ner No. 22501 in Butler University Herbarium. Also collected from similar habitat on south bank of Sugar Creek, 1 mile west of Darling- 
ton, Montgomery Co., Indiana.

In general aspect this hybrid resembles *S. uliginosa* var. *linoides* from which it differs in the taller stature, the very scabrous upper surface of the leaves, the larger number of rows of phyllaries, the ciliate margins of the phyllaries, and in the 10-ribbed achenes.