

XVII. A NEW SPECIES OF IBIDIUM (GYROSTACHYS).

BY OTTO E. JENNINGS.

Ibidium incurvum sp. nov.

Radicibus pluribus fere 2-8, carnosis fasciculatis: caule 1.5-6 dm. alto, superne dense et minutissime glanduloso-pubescente: foliis caulinis mediis et superioribus 2-6, bracteiformibus, basi vaginantibus, apice anguste acutis vel elongato-acuminatis; foliis radicalibus et foliis caulinis inferioribus 2-7, acutis vel raro obtusiusculis, 3-20 cm. longis, .4-1.8 cm. latis; foliis radicalibus lineari-oblongis vel ovatis, parte basali abrupte angustata in petiolum marginatum; foliis caulinis inferioribus linearis vel lineari-oblongeolatis, inferne sensim angustatis in basin vaginantem, foliis caulinis superioribus vaginantibus bracteiformibus: spicis 8-15 cm. longis, 1.6-2.5 cm. latis, obtusis, densis, multifloris; bracteis ovatis, cum $\frac{2}{3}$ parte florum æquilongis, apice elongato-acuminato: floribus sessilibus, albis vel raro subluteis, 1.4-1.9 cm. longis, recurvato-patentibus; ovario et sepalis ad basin minutissime glanduloso-pubescentibus; sepalis triangulari-lanceolatis, acutis vel obtusiusculis, 1.1-1.6 cm. longis, 2-3 mm. latis; petalis lateralibus cum sepalis æquilongis, oblongo-lanceolatis, apice late obtusis vel suborbiculatis, plus minusve crenulatis, ad basin nervis lateralibus bifurcatis; labello 1.2-1.7 cm. longo, 4-7 mm. lato, plus minusve unguiculato, medio plus minusve contracto, apice obtuso aut etiam orbiculato plus minusve laciniato, basi truncato-vel cordato-orbiculato, nervis bifurcatis; callis gracilibus incurvis, basi dense pubescentibus et plus minusve glanduloso-pubescentibus: capsulis obovato-oblongis, sæpe curvis, 1-1.4 cm. longis.

Roots several, mostly 2-8, fleshy, fascicled: stem 1.5-6 dm. high, above densely and minutely glandular-pubescent: middle and upper cauline leaves 2-6, bract-like, sheathing at the base, at the apex narrowly acute to long acuminate; basal leaves and lower cauline leaves 2-7, acute, or rarely somewhat obtuse, 3-20 cm. long, .4-1.8 cm. wide; basal leaves linear-oblong to ovate, the lower part abruptly narrowed to a margined petiole; the lower cauline leaves linear to linear-oblongeolate, gradually narrowed below to a sheathing base, the

upper cauline leaves sheathing, bract-like : spikes 8-15 cm. long, 1.6-2.5 cm. thick, obtuse, dense, many flowered ; bracts ovate, two thirds as long as the flowers, apex elongate-acuminate : flowers sessile, white or rarely somewhat yellowish, 1.4-1.9 cm. long, recurved-spreading ; ovary and sepals minutely glandular-pubescent toward the base ; sepals triangular-lanceolate, acute or somewhat obtuse, 1.1-1.6 cm. long, 2-3 mm. wide ; lateral petals same length as sepals, oblong-lanceolate, at the apex widely obtuse or sub-orbicular, more or less crenulate, the lateral nerves forked toward the base ; lip 1.2-1.7 cm. long, 4-7 mm. wide, somewhat clawed, more or less contracted at the middle, at the apex obtuse or even orbicular, more or less lacinate, at the base truncate- or cordate-orbicular, nerves forked ; callosities slender, incurved, at the base densely pubescent and more or less glandular pubescent : capsules obovate-oblong, often curved, 1-1.4 cm. long.

The type specimens, now in the Pennsylvania Herbarium of the Carnegie Museum, were collected by the writer on Presque Isle, Erie, Pa., Aug. 24-26, 1905. The plants were quite abundant in the damp sand surrounding the ponds in the more recently formed land at the eastern end of the peninsula. In the herbarium of the Carnegie Museum are other specimens of this species, collected also on Presque Isle, August 16, 1880, by Gustave Guttentberg, and a large bundle of typical material collected September 9-11, 1900, by J. A. Shafer.

The specific name *incurvum* is given this species from the quite strongly and sharply incurved callosities, a constant character, which will at once serve to distinguish this species from *Ibidium cernuum* (Linnæus) House. Perhaps the most closely related species is the more southern *Ibidium odoratum* (Nuttall), which ranges from Virginia and Kentucky southward through the Gulf States, but the differences are, nevertheless, quite marked between the two species.

In order to more clearly contrast the diagnostic characters of *Ibidium incurvum* with the other species of the genus occurring in the northeastern part of the United States, the following key has been worked out, mainly in accordance with the plan followed in Britton's "Manual."¹ Recent studies in this genus by Ames, "Contributions Toward a Monograph of the American Species of *Spiranthes*",² and

¹ Britton, N. L., "Manual of the Flora of the Northern States and Canada," 2d edit., 1905.

² Ames Oakes, "Orchidaceæ: Illustrations and Studies of the Family Orchidaceæ," Fascicle I., 1905.

by House, "Further Notes on the Orchids of Central New York",³ have quite materially changed our conception of several of the species and their synonymy. The writer would adopt, for reasons of prior definite publication as stated by House,³ the genus *Ibidium* of Salisbury (1812) rather than the questionable *Gyrostachis* (1807) of Persoon or the *Spiranthes* (1818) of L. C. Richard, and the species here referred to are accordingly placed under that heading.

KEY TO THE SPECIES OF IBIDIUM OCCURRING IN THE NORTHEASTERN UNITED STATES.

Flowers 3-ranked; stems not twisted, or but slightly so.

Sepals and petals more or less connivent into a hood.

I. strictum (Rydberg) House.⁴

Lateral sepals separate, free.

Spike 2-8 cm. long; callosities minute or none.

Lip less than 5.5 mm. long, constricted at or above the middle.

I. parviflorum (Chapman).

Lip more than 5.5 mm. long, not conspicuously constricted.

I. plantagineum (Rafinesque) House.

Spike 8-15 cm. long; callosities conspicuous.

Spike 12-14 mm. thick; callosities straight.

Flowers yellowish; spike acute; lower bracts longer than flowers.

I. ochroleucum (Rydberg) House.⁵

Flowers white; spike obtuse; lower bracts shorter than flowers.

I. cernuum (Linnæus) House.

Spike 16-25 mm. thick; callosities incurved.

Flowers white; callosities pubescent; lateral petals obtuse.

I. incurvum.

Flowers yellowish; callosities glabrous; lateral petals acute.

I. odoratum (Nuttall).

Flowers alternate; spike secund by twisting of the stem.

Stem leafy, lower bracts elongated, persistent.

Outer sepals lanceolate; lip oblong, outer end broadest, smooth beneath.

I. præcox (Walter).

Outer sepals linear; lip ovate to ovate-oblong, broadest below, pubescent beneath.

I. vernalis (Engelmann & Gray) House.⁶

Stem a scaly scape; leaves basal, fugacious.

Root usually a single tuber; spike about 2.5 cm. long.

I. Beckii (Lindley).⁷

³ House, H. D., "Further Notes on the Orchids of Central New York," *Bull. Torr. Bot. Club*, 32: 373-382, 1905.

⁴ Ames, l. c., includes this with *Spiranthes Romanzoffiana* Chamisso.

⁵ Ames, l. c., regards this as "An upland form" of *Spiranthes cernua* Richard.

⁶ (*Gyrostachys linearis* Rydberg) as in Britton's Manual, 300, 1905.

⁷ (*Gyrostachys Grayi* (Ames) Britton) as in Britton's Manual, 300, 1905.

Roots fasciculate; spike 2-7 cm. long.

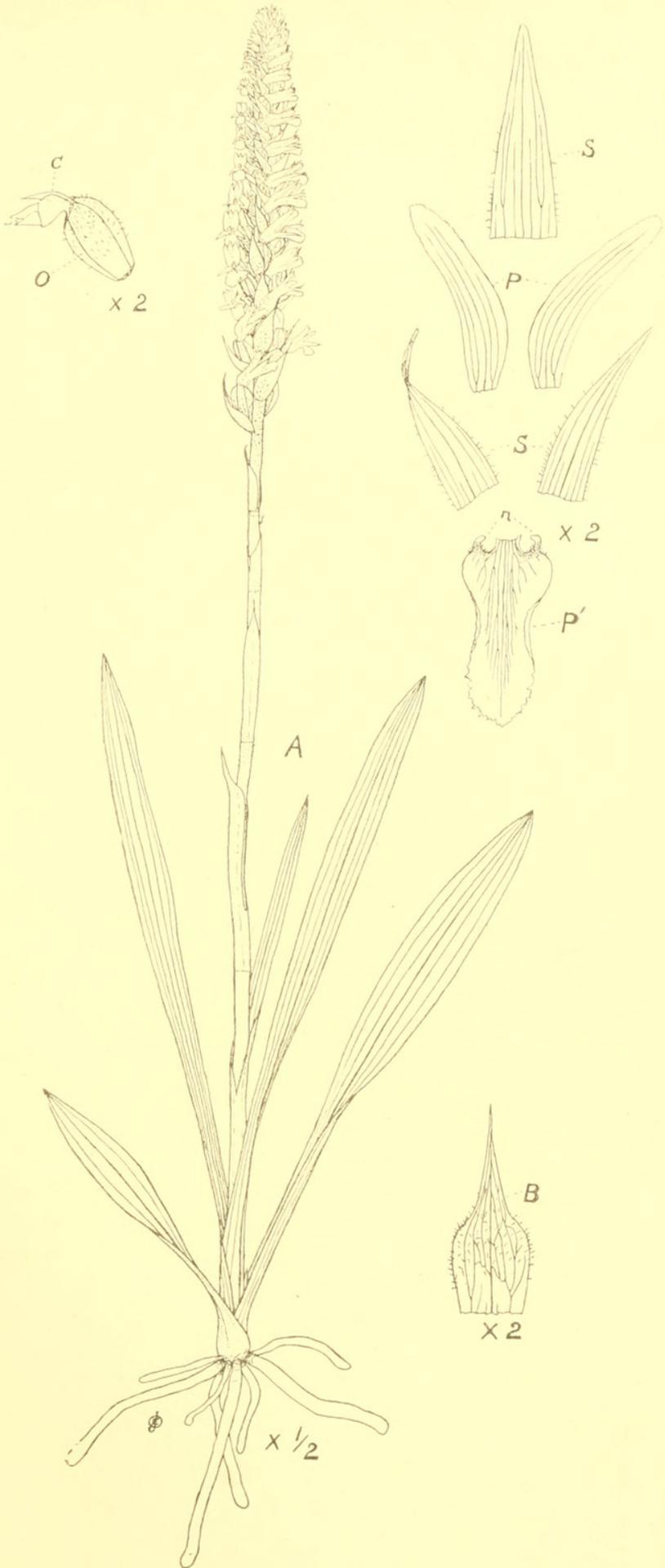
I. gracilis (Bigelow) House.

CARNEGIE MUSEUM,

January 15, 1906.

EXPLANATION OF PLATE XX.

- A. Ibidium incurvum.* Whole plant. One half natural size.
- B.* Floral bract. Twice natural size.
- O.* Ovary. Twice natural size.
- C.* Column. Twice natural size.
- S.* Sepals. Twice natural size.
- P.* Lateral petals. Twice natural size.
- P'. n.* Callosities. Twice natural size.



Ibidium incurvum Jennings.



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