RHODORA; JOURNAL OF THE NEW ENGLAND BOTANICAL CLUB; VOLUME I, 1899

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649693337

Rhodora; Journal of the New England Botanical Club; Volume I, 1899 by New England Botanical Club

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

NEW ENGLAND BOTANICAL CLUB

RHODORA; JOURNAL OF THE NEW ENGLAND BOTANICAL CLUB; VOLUME I, 1899

Trieste

Rhodora

JOURNAL OF THE

NEW ENGLAND BOTANICAL CLUB.

Conducted and published for the Club, by

BENJAMIN LINCOLN ROBINSON, Editor-in-chief.

FRANK SHIPLEY COLLINS
MERRITT LYNDON FERNALD
HOLLIS WEBSTER } Associate Editors.

WILLIAM PENN RICH
EDWARD LOTHROP RAND } Publication Committee.

VOLUME I,

1899.

Boston, Mass.
740 Exchange Building.

Providence, R. I.
Preston & Rounds Co.

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 1 January, 1899 No. 1

EDITORIAL ANNOUNCEMENT.

THIS JOURNAL is founded by the NEW ENGLAND BOTANICAL CLUB, with confidence that it will give new stimulus and render material aid to the study of our local flora. Its publication has not been undertaken without mature consideration, nor until, through the keen and helpful interest of New England botanists, a sufficient subscription list has been secured to assure its monetary support. In the selection of subject-matter, special attention will be given to such plants as are newly recognized or imperfectly known within our limits, to the more precise determination of plant ranges, to brief revisions of groups in which specific and varietal limits require further definition, to corrections upon current manuals and local floras, to altitudinal distribution, plant associations, and ecological problems. For the present, at least, little of our limited space can be devoted to histology or technical physiology. Not only the flowering plants, but the ferns, mosses, and thallophytes will receive their proportionate share of attention, and it is hoped that frequenf articles upon the fleshy fungi may respond to an increasing popular interest in this group.

Contributions will be welcomed from anyone interested in the scientific study of the New England flora. A decided preference will be given to articles which embody some newly observed fact, tersely stated. We feel, however, that the power of making such contributions lies within the reach of almost every careful amateur as well as professional botanist. It is unusual to spend a vacation in collecting and identifying plants without finding some which extend known ranges, grow in unusual habitats or at unrecorded altitudes, exhibit exceptional morphological features, or in some other way transgress those laws which scientists have considerately imposed upon them. Such observations, while seldom startling, are usually of scientific value, and surely worthy more permanent record than the customary pencil note upon the margin of some well-thumbed manual.

In such matters as nomenclature, punctuation, capitalization of scientific names, modes of bibliographical citation, etc., contributors will have full power to follow personal preferences, provided their usage is consistent with itself. The editors reserve, however, the right of adding parenthetical synonyms, if such are deemed necessary for ready intelligibility.

The name RHODORA, although the designation of one of our most attractive New England plants, has been chosen, not from sentiment but primarily from a desire to have a distinctive and euphonious one-word title, experience having amply shown that similar titles (e. g. Linnæa, Grevillea, Helios, Erythea, Auk, Ibis, etc.) soon become familiar, and possess great merit in their brevity and ease of citation.

THE RATTLESNAKE-PLANTAINS OF NEW ENGLAND.

M. L. FERNALD.

(Plate 1.)

FOR several years a Rattlesnake-Plantain, common in the White Mountains and other sections of New England, has passed as *Goodyera Mensiesii*, a species previously considered typical of the Rocky Mountains and the northwestern Pacific slope, also by exception found on Lake Superior and in Lower Canada. This White Mountain plant was collected at Crawford's by Miss Minns, whose specimens were referred by Dr. Watson, in the sixth edition of Gray's Manual, to that northwestern species. Recently the plant of the White Mountains has been collected in various other parts of New England, even as far south as Connecticut, where it has passed for *Goodyera repens*. The Messrs. Faxon, and others active in the botanical exploration of the White Mountains, have pointed out, however, that this New England plant is really very different from the *Goodyera Menziesii* received from northwestern collectors. Much material has been accumulated, and a critical study has been made, with the hope of determining, if possible, the identity of this doubtful plant.

True *Goodyera Menziesii* is a well-understood species, northwestern specimens having been kindly examined by Mr. Edmund G. Baker, of the British Museum, and pronounced identical with the original plant of Menzies. This species is the largest of our American Goodyeras,

and it differs from the other northern species, *G. pubescens* and *G. repens*, in its scarcely saccate involute lip, in the elongated beak of the stigma, and in the long-pointed anther. The rather densely flowered spikes are usually secund, placing the plant, habitally, near the smaller *G. repens* with its deeply saccate lip revolute on the margin, its short stigmatic beak, and blunt anther. The northeastern plant which has often passed as *G. Menziesii* and sometimes as *G. repens* is intermediate in size between them, but it has the flowers in a loose spiral. The lip, though less saccate than that of *G. repens*, has a flaring margin, as in that species; while the long stigmatic beak and acuminate anther suggest an equally close relationship to *G. Menziesii*.

As stated, *Goodyera Menziesii* is a comparatively large plant, averaging 3.5 dm. high, sometimes becoming as tall as 4.5 dm.; and frequently producing stout stolons at the base. The firm leaves, either plain dark green or indistinctly white-reticulated, and often having broad irregular white midribs, vary from .5 to 1 dm. in length. During anthesis the spike is generally about 1 dm. long, though some luxuriant specimens have spikes 1.5 dm. in length; and the perianth is 8 or 9 mm. long. The common New England plant, which has passed as *G. Menziesii*, is much smaller in all its parts than that species. The scapes are usually about 2 dm. high, though they are sometimes found more than 3 dm. in height; and the plants are not conspicuously stoloniferous. The dull green less firm leaves, irregularly mottled with paler green or rarely with white, average 4 cm. in length. The loosely spiral spike, during anthesis, is about 6 cm. in length, but exceptional specimens have spikes fully 1 dm. long. The perianth is about 5 mm. long. No reference to this smaller plant has been found in recent literature, except as *G. Menziesii* or *G. repens*; but in 1824, in his "Botanical Cabinet," Loddiges published, from "the colder parts of North America," *G. tesselata*,[1] which, from his colored figure, appears the same as this. It has been impossible to learn of authentic specimens bearing Loddiges' name, and Mr. Baker writes that there is little chance that such material now exists. Notwithstanding this unfortunate lack of type specimens, little hesitation is felt in referring this New England plant to Loddiges' species, since both the leaves and spike, as drawn, well represent our plant. A year later, in 1825, the same plant was described and figured by Sims[2] as *G. pubescens*, var. *minor*, distinguished from the species by its smaller size and obscurely marked leaves.

[1] Lodd. Bot. Cab. x. No. 952. [2] Bot. Mag. lii. t. 2540.

In examination of the literature and figures bearing upon this question it has become apparent that the little plant of northern New England, familiar to American botanists as *Goodyera repens*, is, in a striking superficial character, unlike the true *G. repens* as represented by authentic European figures and specimens. The plant of northeastern America known as *G. repens* is much smaller than the other northern species, and its dark green leaves have darker sub-horizontal veins usually bordered by conspicuous white markings. On the other hand, the common *G. repens* of Europe and Asia, as represented not only in descriptions and specimens, but also by colored plates, has slightly larger leaves, often with dark veins, but rarely, if ever, with the conspicuous white markings shown in the American plant. In inflorescence and in flower-structure, however, the European and American plants are not distinguishable. The form of *G. repens* which grows in northeastern America is not entirely unknown, however, in Europe: a number of authors, from Mentzel to Reichenbach, have mentioned it, although it is apparently rare. Nor is the European form of *G. repens* altogether wanting in America. Specimens from the northern Rocky Mountains, collected by Bourgeau on the Palliser expedition, have the same green leaves without white markings, as do also later specimens found on Pike's Peak by Aubrey H. Smith; and, in his Flora Boreali-Americana, Hooker cites specimens from the Rocky Mountains (*Drummond*) and from the Saskatchewan to Fort Franklin (*Dr. Richardson*) having leaves "rarely reticulated with white veins." Though the northeastern plant appears superficially different from the typical *G. repens*, it seems wisest, in view of the identical flower-structure, and the occasional presence in America of the typical form and in Europe of the other, to regard this plant with white-reticulated leaves as no more than a variety of *G. repens*.

In the following synopsis an attempt is made to state the more readily recognizable characters of these different forms; and to show, in some detail, the range, as accurately as is yet known, of each species in New England, and in a general way its broader range in America. In determining the ranges of these plants in New England, not only the material in the Gray Herbarium and the Herbarium of the New England Botanical Club has been consulted; but much help has been gained by the use of specimens kindly placed at my disposal by Judge J. R. Churchill, Professor L. R. Jones, Dr. C. W. Swan, and Messrs. H. S. Clark, Walter Deane, Chas. E. Faxon, C. W. Jenks, E. L. Rand, and

E. F. Williams. To all these gentlemen grateful thanks are extended for the assistance rendered; and to Mr. Faxon I am especially indebted for the careful drawings he has so kindly made to illustrate the floral details of the species here discussed.

Synopsis of New England Species.

* Flowers in a dense spike: lip strongly saccate, with a short, blunt tip, the margin not recurved or flaring.

G. PUBESCENS, R. Br. Stem rather stout, 1.5 to 4 (generally about 3) dm. high, occasionally stoloniferous: leaves dark green, ovate to oblong, about 5 cm. long (3 to 6.5 cm.), with 5 or 7 white nerves (the middle one broad), and many fine white reticulating veins: spike, during anthesis, about 7 cm. long (3 to 11 cm.): perianth[1] about 4.75 mm. long (4 to 5.5 mm.); lip globose-ventricose: anther blunt: stigma with two very short teeth. — R. Br. in Ait. Hort. Kew. ed. 2, v. 198; Lodd. Bot. Cab. i. no. 1: Lindl. Collect. t. 25 and Gen. et Sp. Orch. 492; Sweet, Fl. Gard. ser. 2, t. 47; Fl. de serres, xv. t. 1555. *Satyrium repens*, Michx. Fl. Bor. Am. ii. 157, in part, not L. *Neottia pubescens*, Willd. Sp. iv. 76; Pursh, Fl. ii. 590. *Tussaca reticulata*, Rafin. Préc. Déc. 43. *Orchiodes pubescens*, O. K. Rev. Gen. ii. 675. *Peramium pubescens*, MacMillan, Met. Minn. 171. — Common, generally in dry woods, throughout southern New England, extending north to Milton, Vermont (*L. R. Jones*), Jaffrey, New Hampshire (*Walter Deane*), Orono, Maine (*M. L. Fernald*), and Mount Desert Island (*E. L. Rand*); westward to Minnesota and southward to Florida. Said to grow also in Newfoundland and Canada. Flowering in late August and early September.

** Spike loosely flowered: saccate lip with an elongated tip and flaring or recurved margin.

+ Flowers in a 1-sided spike: anther short, blunt, or with a short blunt tip[2]: beak shorter than the body of the stigma.

G. REPENS, R. Br. Stem slender, 1 to 2.5 (generally about 1.5) dm. high, often producing slender stolons: leaves ovate to oblong-lanceolate, 1 to 3 cm. long, 5-nerved, with sub-horizontal dark veins: spike, during anthesis, about 4.5 cm. long (2.5 to 6 cm.): perianth 4 mm. long; lip strongly saccate-inflated, with a recurved tip. — R. Br. in Ait. Hort. Kew. ed. 2, v. 198; Hook. Fl. Bor.-Am. ii. 203; Lodd. Bot. Cab. xx. no. 1987; Lindl. Gen. et Sp. Orch. 492; Reich. Fl. Germ. xiii. 155, t. 482, f. i, ii; Thomé, Fl. Deutsch. i. t. 157 B. *Satyrium repens*, L. Sp. 945; Jacq. Aust. iv. t. 369; Fl. Dan. v. t. 812; Engl. Bot. v. t. 289. *Epipactis repens*, Crantz, Stirp. Aust. ed. 2, 473. *Serapias*

[1] All measurements are from herbarium specimens.

[2] The form of the filament, hitherto somewhat relied upon for distinctions, seems an unsatisfactory specific character.

repens, Vill. Dauph. ii. 53. *Neottia repens*, Swartz in Vet. Akad. Handl. Stockh. xxi. (1800) 226; Willd. Sp. iv. 75. *Orchis repens*, Eyst. Hort. ex Poir. Encyc. vi. 581. *Peramium repens*, Salisb. Trans. Hort. Soc. i. 301; MacMillan, Met. Minn. 172. *Tussaca secunda*, Rafin. Préc. Déc. (1814) 43, and in Desv. Jour. Bot. iv (1814) 272. *Orchiodes repens*, O. K. Rev. Gen. ii. 674. — In boreal and arctic Europe and Asia. In America, definitely known only from the extreme north and from the Rocky Mountain region: Cumberland House, 1825 (*Drummond*); "Mountain woods of the Rocky Mountains (*Drummond*) and from the Saskatchewan to Fort Franklin, *Dr. Richardson*" — according to Hooker; Rocky Mountains, 1858 (*Bourgeau*); in woods, lower slopes of Pike's Peak, Colorado, 1878 (*Aubrey H. Smith*). Probably more generally distributed in America than at present known; but certainly not so common in the east as the following: —

Var. **ophioides.** Generally a little lower than the species: leaves rather smaller, the veins bordered by conspicuous broad white pencilings, strongly suggesting the markings of a serpent. — *G. repens* mostly of American authors; Reich. Fl. Germ. xiii. 155, in part, t. 482, f. iii. *Pseudoorchis rad. repente fol. maculatis duplex*, Mentz. Pug. t. 3, f. 4, 5. *Satyrium repens* β, L. Sp. 945. *S. repens*, Schkuhr, Handb. t. 272; Michx. Fl. Bor. Am. ii. 157, in part. *Neottia repens* β, Willd. Sp. iv. 76. — Less common in Europe than the species. In America mostly confined to the northeastern States and Canada; growing in cold, mossy woods, and, in northern New England, flowering in the latter half of July. The following specimens have been examined: Newfoundland: Bay of Islands, Aug. 25, 1896 (*A. C. Waghorne*). Quebec: Falls of the Chaudiere, Aug., 1825 (*Mrs. Shepard*). Manitoba: Blood Vein, Lake Winnipeg (*J. M. Macoun*). Maine: Allaguash, Fort Kent, Orono, Mt. Bigelow, alt. 925 m. (*M. L. Fernald*); Somerset Co. (*C. F. Batchelder*); Mount Desert Island (*E. L. Rand, Miss E. L. Shaw*). New Hampshire: Frequent in the White Mountains (*J. Bigelow* et al.). Vermont: Willoughby Mt. (*E. F. Williams*); Monkton (*C. G. Pringle*). Massachusetts: Southwick (*E. Gillett*). New York: in the lake region of western N. Y. (*Asa Gray*). Michigan: Keweenaw Co. (*O. A. Farwell*). North Carolina: Great Smoky Mts., alt. 1230 m. (*Beardslee & Kofoid*).

← ← Flowers mostly in a loose spiral: anther acuminate: beak as long as, or longer than, the body of the stigma.

G. TESSELATA, Lodd. Stem stouter than in *G. repens*, averaging 2 dm. high (rarely 3.5 dm.), sometimes stoloniferous: leaves about 4 cm. long (2 to 7 cm.), ovate to oblong-lanceolate, 5 to 9-nerved, with subhorizontal or oblique slightly interlacing veins; the veins bordered by irregular generally pale-green pencilings, the whole blade often irregularly mottled with dark and light green, or rarely without markings: spike, during anthesis, about 6 cm. long (rarely 1 dm.): perianth 5 mm. long; the lip less saccate, and with the tip less recurved than in *G. repens*. —