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JEAN BROADHURST

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TORREYA

A Monthly Journal of Botanical Notes and News

JOHN TORREY, 1796–1873

EDITED FOR

THE TORREY BOTANICAL CLUB

BY

JEAN BROADHURST

Volume VIII.

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1908

ERRATA, VOLUME 8

Page 25, 2d line from bottom (footnote), *for* No. 2, *read* No. 1.

Page 54, 10th line, *for* yellew *read* yellow.

Page 60, 1st line, *insert* a hyphen at the end of the line.

Page 102, 3d line, for *matricariaefolium* read *neglectum.*

Page 125, last line (footnote), *complete the brackets.*

Page 155, last line, *for* successively *read* successfully.

Page 163, 12th line from bottom, *for* The problems *read* The progress.

Page 195, 10th line, *for* others *read* other.

Page 207, 12th line from bottom, *for* Lause *read* Lancelot.

Page 217, last line, *for* ew *read* New.

Page 218, 7th line, *for* OEningen *read* Oeningen.

Page 232, 6th line, *for* Karston *read* Karsten.

Page 233, 2d line from bottom (footnote), *for* Radioactivity and Life *read* " Radioactivity and Life ".

Page 237, 2d line, *for* Linnaeus " *read* Linnaeus.

Page 237, 3d line, *for* Specific *read* " Specific.

Page 246, 5th line, *omit* comma *before* are.

Page 250, end of the 12th line from bottom, substitute comma for the period.

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CONTENTS

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TORREYA

January, 1908

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THE PINE-BARRENS OF BABYLON AND ISLIP, LONG ISLAND

By Roland M. Harper

To the botanist who regards a habitat merely as a place where certain species of plants may be found, the pine-barrens to be described below possess few attractions, for their flora is not very rich, and nearly all the species are pretty widely distributed and well known. But to the phytogeographer every habitat that has not been too much disfigured by civilization is of interest, whether its plants are few or many, common or rare; so no apology is necessary for publishing the following notes.

The pine-barrens of Long Island are very easy of access, but they seem never to have been adequately described, chiefly for the reason given above. Brief references to them occur in some old historical works, such as B. F. Thompson's History of Long Island (1839), on page 16 of which is the following statement: "There is another extensive tract lying eastward from the Hempstead plains, and reaching to the head of Peconic Bay, composed so entirely of sand as to seem in a great measure incapable of profitable cultivation by any process at present known."

The first distinct published list of Long Island pine-barren plants seems to be that of Dr. N. L. Britton (Bull. Torrey Club 7: 82. 1880), who selected from Miller & Young's flora of Suffolk County, N. Y. (published in 1874) 46 species which he had found in New Jersey and on Staten Island to be confined to the coastal plain, or nearly so. Essentially the same list was copied by Dr. Arthur Hollick in 1893 (Trans. N. Y. Acad. Sci.

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called N rays by plants of the garden cress was reported by Meyer.[4] Their emission, he said, varies with the activity of the protoplasm, and is diminished when the plants are exposed to the vapor of chloroform, and is modified by mere compression of the tissues.

In 1904 Russel[5] described before the Royal Society the rather startling discovery of the action of wood on a photographic plate in the dark. This property, he said, belongs probably to all woods. Conifers are especially active, and the spring wood most of all, but the dark autumn wood produced no such effect. Oak, beech, acacia (*Robinia*), Spanish chestnut, and sycamore possess this property, but ash, elm, the horse-chestnut, and the plane tree only to a slight degree. Most resins manifest it, but not so the true gums, such as gum senegal and gum tragacanth. Exposure to sunlight, especially to the blue rays of the spectrum, increases the activity. Cork, printer's ink, leather, pure India rubber, fur, feathers, and turpentine are reported to have their activity increased in the same way. Since bodies such as slate, porcelain, flour, and sugar, in which there is no resinous or allied body, do not react in this way, nor affect the plate at all, the activity of the various kinds of wood is attributed to the resinous substances in them.

Tommasina's[6, 7] papers were also published in 1904. He reported that all freshly gathered plants, fruits, flowers, and leaves possess a radioactivity which is stronger in the young and in individuals in action than in those at rest, being apparently proportional to the vital energy. For this phenomenon he proposed the term *bio-radioactivity*. Buds of lilac, and leaves of *Thuja* and of laurel were found by him to be bio-radioactive.

In the following year Tarchanoff and Moldenhauer[7] published their preliminary note on the induced and natural radioactivity of plants, and on its probable rôle in their growth. When seeds of various grains and of the pea were exposed to the radium emanation, the seedlings growing from such seeds showed induced radioactivity in their roots, but the stem and small leaves remained inactive. Also when a mature plant was exposed to the emanation the roots became strongly radioactive, the stem somewhat less so, the leaves only slightly, and the flowers not at all.