

**TORREYA. A MONTHLY  
JOURNAL OF BOTANICAL  
NOTES AND NEWS. VOL. 4**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649164899

Torreya. A monthly Journal of Botanical Notes and News. Vol. 4 by Avery Howe

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**AVERY HOWE**

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial reporting and compliance with regulatory requirements.

2. The second part of the document outlines the various methods and tools used to collect, store, and analyze data. It highlights the need for robust data management systems that can handle large volumes of information and provide timely insights into organizational performance.

3. The third part of the document focuses on the role of technology in modern data management. It explores how cloud computing, artificial intelligence, and machine learning are transforming the way organizations collect and analyze data, enabling more efficient and accurate decision-making.

4. The fourth part of the document discusses the challenges associated with data management, such as data security, privacy concerns, and the integration of data from multiple sources. It provides strategies to address these challenges and ensure the integrity and confidentiality of the data.

5. The fifth part of the document concludes by emphasizing the importance of a data-driven culture within an organization. It encourages leadership to foster an environment where data is used to drive innovation, improve operational efficiency, and enhance the overall quality of the organization's services and products.

# TORREYA

A MONTHLY JOURNAL OF BOTANICAL NOTES AND NEWS



JOHN TORREY, 1796-1873

EDITED FOR  
THE TORREY BOTANICAL CLUB  
BY  
MARSHALL AVERY HOWE

Volume IV.

NEW YORK

1904

#### ERRATA, VOLUME 4

- Page 36, 22d line, for *Brefelda*, read *Brefeldia*.  
 Page 64, last line, for *angustifolia*, read *angustifolia*.  
 Page 67, 12th line, for *Virburnum*, read *Viburnum*.  
 Page 89, 3d line of footnote, for Lands., read Lunds.  
 Page 99, after line 5, insert SPERMATOPHYTA.  
 Page 111, 1st and 2d lines, for New New, read New York.  
 Page 143, 22d line, for Thistleton, read Thiselton.

#### DATES OF PUBLICATION

No.	Month	Pages	Issued
No. 1,	for January.	1-16.	January 27, 1904.
No. 2,	February.	17-32.	February 25, 1904.
No. 3,	March.	33-48.	March 12, 1904.
No. 4,	April.	49-64.	April 28, 1904.
No. 5,	May.	65-80.	May 13, 1904.
No. 6,	June.	81-96.	June 8, 1904.
No. 7,	July.	97-112.	July 27, 1904.
No. 8,	August.	113-128.	August 27, 1904.
No. 9,	September.	129-144.	September 30, 1904.
No. 10,	October.	145-160.	October 29, 1904.
No. 11,	November.	161-176.	November 21, 1904.
No. 12,	December.	177-201.	December 30, 1904.

Vol. 4

January, 1904

No. 1

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PUBLISHED FOR THE CLUB  
AT NORTH QUERN STREET, LANCASTER, PA.  
BY THE NEW ERA PRINTING COMPANY



# THE TORREY BOTANICAL CLUB

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## TORREYA

June, 1904

## RESISTANCE OF DROUGHT BY LIVERWORTS

BY DOUGLAS HOUGHTON CAMPBELL.

We are accustomed to consider the archegoniates in general as moisture-loving plants, and this is, to a certain extent, true. But it readily may be shown that there are many exceptions to the rule, even in regions of abundant moisture; while in more arid districts it is becoming clear that many species have developed special contrivances for surviving long periods of drought.

In moister regions, like the eastern United States, many species of rock-haunting or epiphytic mosses occur which can survive a certain amount of desiccation; and among the Hepaticae may be mentioned various foliose Jungermanniaceae which share this peculiarity with the mosses. How far this power of resisting drought is found among the eastern thallose Jungermanniaceae and Marchantiaceae, so far as the writer is aware, has not been investigated.

For a number of years the writer has been interested in the archegoniates of California, especially the hepatics, and his attention has been directed repeatedly to the power shown by nearly all the species of resisting the long dry season which regularly prevails each year. In the region around San Francisco Bay, the dry season generally lasts from about the middle of May until late September or early October. Sometimes for fully six months no rain at all falls. This was the case in 1903, when from mid-April until October there was no rain at all, and not until November was the rainfall enough to start vegetation. Nevertheless, the growth of Hepaticae during the present season has been very luxuriant, and there is no evidence of any harm having resulted from the unusually protracted drought. In the bay region, however, there is seldom the excessive summer heat

[Vol. 4, No. 5, of TORREYA, comprising pages 65-80, was issued May 13, 1904.]

long." Torrey \* makes them "large, compressed." Chapman, † while making no statement for the species, has his "var. ? Floridana" "orbicular." The more recent authors ‡ are all broad enough in their descriptions to cover both forms.

The few illustrations are quite as unsatisfactory, many of them being meaningless; Dillenius, § Barton, || and Bigelow, ¶ the best of them, however, represent the flat-seeded form.

Just what Linnaeus\*\* had in mind is not clearly defined by his description or by most of his citations; Dillenius' "foliis mimosae siliqua hirsuta" and plate, however, is clearly the flat-seeded form and may be considered as establishing this as the true *Cassia Marilandica* L. Martyn's †† plate, also cited by Linnaeus, is characterless.

As the several names ‡‡ that have been considered synonymous with *C. Marilandica* L. are all referable to the flat-seeded form, or at least have no reference to the obovoid-seeded one, I propose to name the latter for Professor O. P. Medsger, through whose material my attention was first called to it, and would characterize the two species as follows:

#### CASSIA MARILANDICA L.

Plant erect, perennial, herbaceous, 1–2 m. high, little-branched: stem pubescent, slightly if at all furrowed, yellowish green: leaves with a club-shaped gland near base of the petiole; stipules subulate-filiform, ciliate on their margins, caducous; leaflets 12–20, elliptical, unequally rounded at base, mucronate, with reflexed ciliate margins, yellowish green, glaucous beneath, 3–5 cm. long, one third as wide: inflorescence racemose, pubescent, axillary and terminal, flowers many: calyx-lobes ovate, somewhat petaloid: petals broadly spatulate to obovate, obtuse, bright yellow: sta-

\* Torrey, *Flora of the North and Middle Sections of the U. S.* 1: 439. 1824.

† Chapman, *Flora of the Southern United States*, 124. 1897. [Ed. 3.]

‡ Wood, Gray, Britton, Small.

§ Dillenius, *Hortus Elthamensis*, 351, *pl. 260. f. 339.* 1732.

|| Barton, *Vegetable Materia Medica of the U. S.* 1: 137, *pl. 12.* 1817.

¶ Bigelow, *American Medical Botany*, 2: 166, *pl. 39.* 1818.

\*\* Linnaeus, *Species Plantarum*, 378. 1753.

†† Martyn, *Historia Plantarum Rariorum*, 23, *pl. 23.* 1728.

‡‡ *C. acuminata* Moench, *Meth.* 273. 1794; *C. reflexa* Salisb. *Prod.* 326. 1796; *C. succedanea* "Bell, ex herb. Balb.," DC. *Prod.*, 2: 498. 1825.