

**CONTRIBUTIONS FROM THE
UNITED STATES NATIONAL
HERBARIUM. VOLUME XII,
PART 10, PP. 413-437**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649332984

Contributions from the United States National Herbarium. Volume XII, Part 10, pp. 413-437 by Various

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

VARIOUS

**CONTRIBUTIONS FROM THE
UNITED STATES NATIONAL
HERBARIUM. VOLUME XII,
PART 10, PP. 413-437**

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

CONTRIBUTIONS

FROM THE

UNITED STATES NATIONAL HERBARIUM

VOLUME XII, PART 10

MISCELLANEOUS PAPERS

By J. N. ROSE, N. L. BRITTON
JOHN M. COULTER, and
G. N. COLLINS



WASHINGTON
GOVERNMENT PRINTING OFFICE

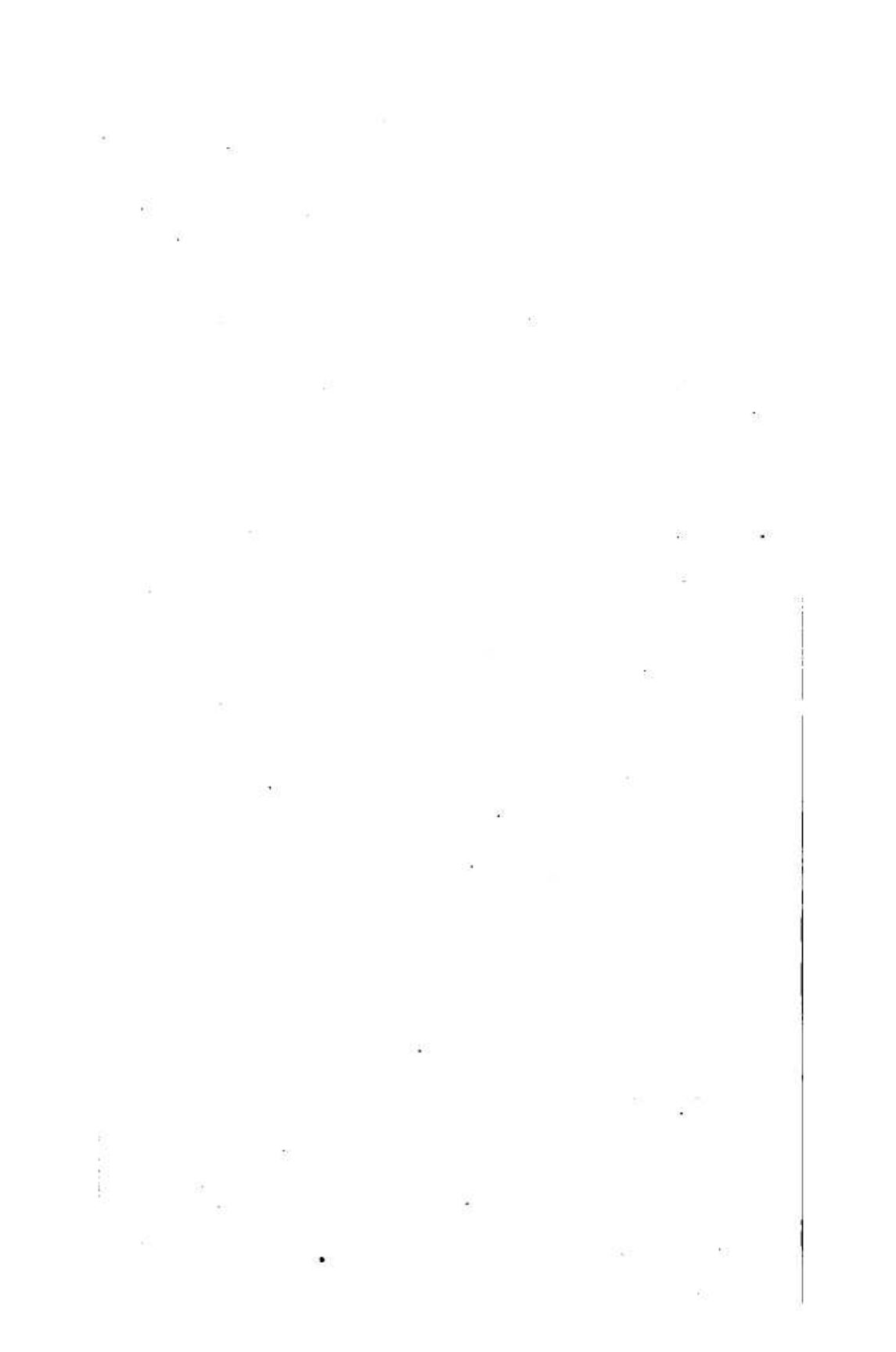
1909

P R E F A C E .

The present issue of the Contributions is made up of miscellaneous papers. The first three are continuations of studies published earlier in this series respectively on the Cactaceae, Crassulaceae, and Apiaceae, families which have presented unusual difficulties to botanists, and to which Dr. J. N. Rose, Associate Curator of the National Herbarium, has devoted special study in collaboration with Dr. N. L. Britton, of the New York Botanical Garden, and Prof. John M. Coulter, of the University of Chicago. The last paper, by G. N. Collins, Assistant Botanist in the Department of Agriculture, is an account of a remarkable development in a maize plant grown in a temperate climate from seed produced in the tropics. It is a suggestive illustration of the effect of environmental change.

These papers form the concluding part of Volume XII of the Contributions. The title-page and index of the volume will be issued later.

FREDERICK V. COVILLE,
Curator of the United States National Herbarium.



CONTENTS.

	Page.
The genus <i>Cereus</i> and its allies in North America. By N. L. Britton and J. N. Rose	413
Introduction	413
Descriptions of genera with lists of species	414
Species of unknown generic relationship	435
Five new species of <i>Crassulaceae</i> from Mexico. By J. N. Rose	439
Supplement to the monograph of the North American <i>Umbelliferae</i> . By John M. Coulter and J. N. Rose	441
Introduction	441
Bibliography	441
Genera and species	442
Apogamy in the maize plant. By G. N. Collins	453

ILLUSTRATIONS.

	Facing page.
PLATE LXI. <i>Cereus jamacaru</i> (L.) Mill	414
LXII. <i>Cephalocereus colombianus</i> Rose	416
LXIII. <i>Cephalocereus colombianus</i> Rose	416
LXIV. <i>Cephalocereus maxonii</i> Rose	417
LXV. <i>Escontria chiotilla</i> (Weber) Rose	420
LXVI. <i>Pachycereus chrysomallus</i> (Lem.) Britton & Rose	421
LXVII. <i>Lemaireocereus griseus</i> (Haw.) Britton & Rose	425
LXVIII. <i>Lemaireocereus mixtocensis</i> (Purpus) Britton & Rose	425
LXIX. <i>Lemaireocereus stellatus</i> (Pfeiff.) Britton & Rose	426
LXX. <i>Lemaireocereus treleasei</i> Rose	426
LXXI. <i>Lemaireocereus weberi</i> (Coulter) Britton & Rose	426
LXXII. <i>Myrtillocactus geometrizans</i> (Mart.) Console	427
LXXIII. <i>Myrtillocactus schenckii</i> (Purpus) Britton & Rose	427
LXXIV. <i>Peniocereus greggii</i> (Engelm.) Britton & Rose	428
LXXV. <i>Peniocereus greggii</i> (Engelm.) Britton & Rose	428
LXXVI. <i>Selenicereus macdonaldiae</i> (Hook.) Britton & Rose	430
LXXVII. <i>Echeveria bifurcata</i> Rose	439
LXXVIII. <i>Echeveria trianthina</i> Rose	439
LXXIX. <i>Sedum allantoides</i> Rose	440
LXXX. <i>Sedum compressum</i> Rose	440
LXXXI. <i>Villadia levis</i> Rose	440
LXXXII. <i>Ligusticella eastwoodae</i> C. & R.	445
LXXXIII. <i>Pseudocymopterus tidestromii</i> C. & R.	447
LXXXIV. Young plants and spikelets of apogamous maize	454
LXXXV. Branch of tassel of apogamous maize	454

23 0

1172

THE GENUS *CEREUS* AND ITS ALLIES IN NORTH AMERICA.

By N. L. BRITTON and J. N. ROSS.

INTRODUCTION.

Studies of North American Cactaceae, conducted now for several years in the museums and greenhouses at New York and Washington and supplemented by field work in the West Indies, Mexico, and the southwestern United States, have rendered us familiar with the habit and morphology of a large number of species. The information thus obtained makes it clear that a considerable number of generic types must be recognized, additional to those established by previous authors, in order to present a rational classification of this family. We have been greatly aided in our study by A. Berger's admirable paper entitled, "A systematic revision of the genus *Cereus* Mill."^a This is by far the most satisfactory treatment of the group which has ever appeared. We think, however, that he has erred in referring to *Cereus* the genera *Cephalocereus* and *Echinocereus*, which are now almost universally considered distinct.

But it is also true that these units have no more claim to generic rank than most of the other subgenera established by him. While, therefore, we differ from Mr. Berger as to the importance of these groups, we realize that he has been consistent and logical in his work. The genera have very distinct flower and fruit characters as well as clearly defined habit and stem structure. We have experienced some difficulty in forming a lineal arrangement of the genera which seemed to be logical. Mr. Berger's arrangement as given in his synopsis of the subgenera of *Cereus* is in the main satisfactory but has certain defects. We have formed a new arrangement which will be followed here, although further study will doubtless lead to various changes in it. Although the present paper deals only with North American species, we may express the conviction incidentally that *Eulychnia* of Philippi and *Cleistocactus* of Lemaire, South American groups, should be restored to generic rank.

In the present communication we submit a list, with bibliographic references and indication of geographic distribution and of type localities, of the genera and species with descriptions of the genera.

Plates LXV and LXVI and LXVIII to LXXIII are from photographs furnished by Dr. D. T. MacDougal, which are here used by courteous permission of the Carnegie Institute of Washington.

38806

January 29, 1930

DESCRIPTIONS OF GENERA WITH LISTS OF SPECIES.

1. **CEREUS** Mill. Gard. Dict. ed. 8. 1768.

CEREUS subgenus **PIPTANTHOCEREUS** Berger.

Night-flowering cacti with columnar upright, branching, ribbed, fluted or angled stems and branches, the areoles bearing several spines; flowers funnellform, elongated, the corolla falling away from a ring a little above the ovary after expanding; ovary bearing a few small scales but no spines nor wool; corolla tube nearly cylindrical, somewhat expanded above, bearing a few similar scales, or naked; outer perianth segments obtuse, the inner acute, the petaloid ones bright white; stamens numerous, differing much in length; style included, the linear stigmas numerous; fruit fleshy, naked, sunken at the top, the persistent style recurved; seeds numerous, black, the testa punctate.

Type species *Cereus peruvianus* Mill.

Cereus hexagonus (L.) Mill. Gard. Dict. ed. 8. no. 1. 1768.

Cactus hexagonus L. Sp. Pl. 486. 1753.

Cactus peruvianus L. Sp. Pl. 467. 1753.

Cereus peruvianus Mill. Gard. Dict. ed. 8. no. 4. 1768.

Cereus atacriportanus Mart.; Pfeiff. Enum. Cact. 87. 1837.

TYPE LOCALITY: Jamaica; there, however, not indigenous but introduced from Peru.

DISTRIBUTION: South America; widely planted and naturalized in the West Indies and Central America.

ILLUSTRATIONS: Vell. Fl. Flum. pl. 18. 19; Pfeiff. Abb. u. Besch. pl. 5; DC. Mem. Mus. Paris 17: pl. 11.

Clearly of South American origin.

Cereus jamacaru DC. Prod. 8: 467. 1828.

PLATE LXI.

TYPE LOCALITY: In Brazil.

DISTRIBUTION: South America. Planted in the West Indies; perhaps naturalized on some islands.

ILLUSTRATION: Pison, Hist. Nat. Bras. 100. f. 1; Bot. Mag. 95: pl. 5775, as *C. lividus*.

EXPLANATION OF PLATE LXI.—From a photograph taken by M. A. Howe, at Santurce, Porto Rico.

Cereus nudiflorus Engelm. Anal. Acad. Cienc. Habana 6: 98. 1869.

TYPE LOCALITY: Beaches near Havana and Guantanamo, Cuba.

DISTRIBUTION: Cuba.

ILLUSTRATIONS: Contr. Nat. Herb. 12: pls. 49-51; Journ. N. Y. Bot. Gard. 10: pl. 18.

Erroneously referred by Schumann to *Cereus lepidotus* Salm-Dyck, a native of northern South America, planted in the West Indies.

2. **RATHBUNIA** gen. nov.

Plants not large, the stem and branches often weak; spines stout, those of the flowering areoles not differing from the others; flowers diurnal, single from the areoles, very narrow and elongated, trumpet-shaped, somewhat curved, oblique at mouth, scarlet; petals very short, spreading, reflexed, or rolled back; stamens inserted near the middle of the tube, exerted; fruit globular; seeds black, compressed, minutely pitted, with a large basal oblique hilum.

Named for Dr. Richard Rathbun, Assistant Secretary of the Smithsonian Institution in charge of the U. S. National Museum, a well-known authority on marine invertebrates.

Type species *Cereus sonorensis* Runge.