

BOTANY

D588.2

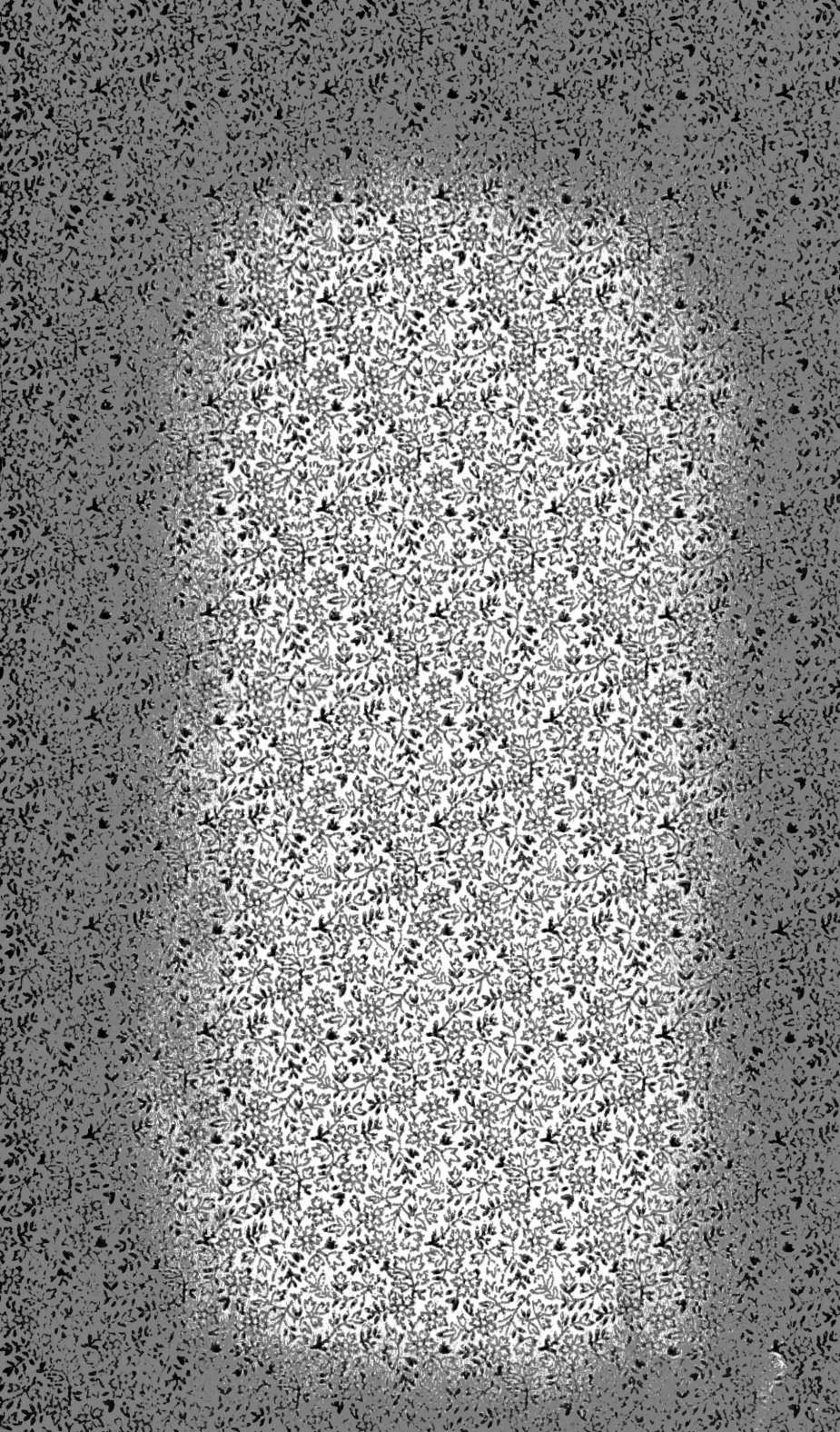
P334

Columbia University
in the City of New York

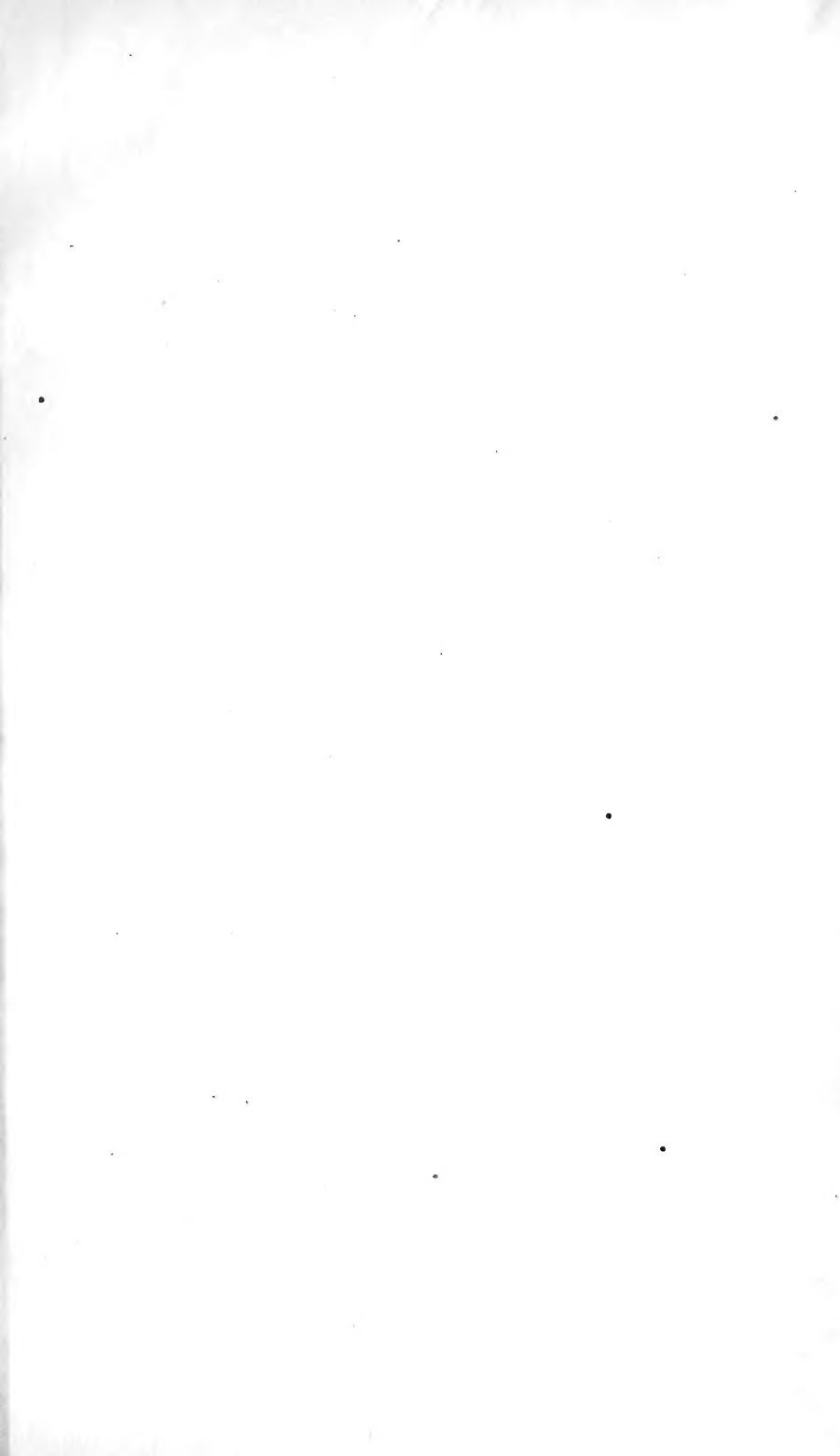
LIBRARY

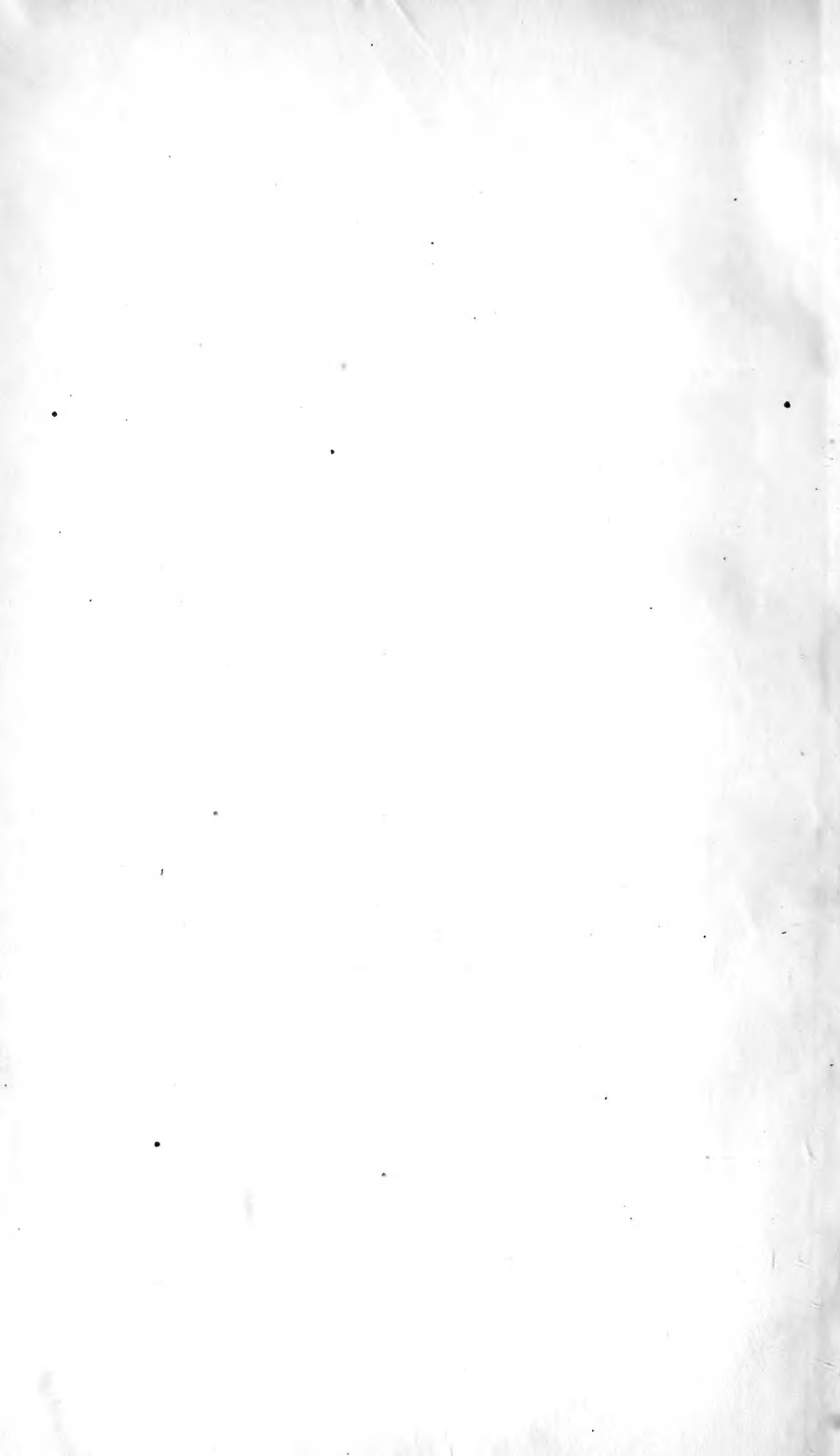


FR M
COLUMBIA UNIVERSITY LIBRARY
DATE



LIBRARY
THE NEW YORK BOTANICAL GARDEN
BRONX, NEW YORK 10458





COLUMBIA
UNIVERSITY
LIBRARY

Columbia Univ.
Botany R.

APPENDIX.

25/09
Tide

2111000
Y1983A111
Y174111

Botany RR

2111000
Y1983A111
Y174111

MINERALS.	LOCALITIES.	PROVINCES.
LIGNITE,	Barcellos,	Bahia.
MICACEOUS OLIGISTE,	Itabira,	Minas.
MALACHITE, &c.,	Melancias,	do
AMIANTHUS,	Different places in	do
	Minas,	do
GALENA AND SULPHURET OF IRON,	Infeccionado,	do
CINNABAR IN SCHIST,	Villarica,	do
CINNABAR, GRANULAR,	Corrego Trepuy,	do
KAOLIN,	Thesoureiro,	do
STALACTITIC IRON,	Itabira,	do
LAMELLOSE OLIGISTE,	Mine of Tente Casi-	do
	meiro,	do
CRICHTONITE (TITANIFEROUS OXIDE OF IRON),	Serra de Nassouras,	do
NEOCTESE,	Antonio Pereira,	do
AURIFEROUS PYRITES IN QUARTZ,	Torquirn,	do
MICACEOUS OLIGISTE,	Itabira,	do
ARDOSIA,	Ouro Preto,	do
CRYSTALS OF MAGNETIC IRON,	Cocaeas,	do
TOPAZES,		do
ACERDESE,	Macaulas,	do
do	Antonio Pereira,	do
OXIDE OF BISMUTH,	Catla Branca,	do
CARBONATE OF LEAD AND OF COPPER, GALENA,	Sette Lagoas,	do
AMETHISTS,	From different places,	do
AMPHIBOLITE AND AURIFEROUS ITABIRITE,	Itabira do Campo,	do
CASSITERITE IN GRANITE,	Rio Paraupeba,	do
FLUOR SPAR, WITH GALENA, &c.,	Itacolumy,	do
GROUP OF HYALINE QUARTZ,	Itambé,	do
do do	Brumado,	do
ERYTHRINE (ARSENICAL COBALT),	Antonio Pereira,	do
NATIVE ARSENIC,	Ouro Preto,	do
BLENDE, WITH AR. SUL., IN QUARTZ,	Alaethé,	do
ACICULAR STIBNITE, IN TALCO-SCHIST,	Cattas-Altas,	do
PYRITES (MARCASSITE) &c. IN QUARTZ,	Timbopéba,	do
GRAPHITE,	Barreiras,	do
LIMESTONE (MARBLE),	Itabira do Campo,	do
CHRYSOBERYL,	Serra das Esmeraldas,	do
ITACOLUMITE (GRES FLESCIVEL),	Serra d' Itacolumy,	do
GALENA,	Taubaté,	St. Paulo.
MAGNETIC IRON ORE,	S. Jo. d' Ypanema,	do
LIMESTONE,	do do	do
BITUMINOUS SCHIST,	Soroceba,	do
LIMONITE (SLATY),	Ceritiba,	Parana.
ARGENTIFEROUS GALENA,	Iporanga,	do

Nodules, calcareous, ferruginous and slaty ferruginous, which are found in extreme abundance, and from the size of a grown pea to that of a bomb shell of a gigantic mortar, in the interior of the Provinces of Pernambuco, Parahyla, Rio Grande do Norte, Ceara, Pianhy, Maranhao, Goyas, and Matto-Grosso.

Agates, Sexios rollados (Rolles stones), common in the Rio de S. Francisco do Norte.

II. ADDITIONS BY PURCHASE.

(None).

9K 541.5
.N7
74
1866
(B.)

LIST OF MOSSES

OF THE

STATE OF NEW-YORK.

BY CHARLES H. PECK.

The following list is intended to contain the names of all the Mosses hitherto detected in the State of New-York. The habitat, and time of maturing the fruit are given, and, of the rarer species, the station also. It has been thought advisable to reproduce brief descriptions of those species not described in SULLIVANT'S Mosses of the United States, and to add occasional remarks concerning the peculiarities of certain species and the distinguishing characters of such as are closely related.

Grateful acknowledgments are rendered to that distinguished and experienced bryologist, LEO LESQUEREUX, Esq., of Columbus, Ohio, for much kind assistance in the preparation of this List. He has freely communicated the names, habitat, etc., of numerous species collected by him on the Adirondack Mountains, and in other parts of the State; and has authenticated a large number of the other species herein recorded.

Much aid has also been received from our own indefatigable botanist, the Hon. GEORGE W. CLINTON, of Buffalo, at whose suggestion this work was undertaken, and from whom contributions of many species from Western New-York and the vicinity of Niagara Falls have been received.

COE F. AUSTIN, Esq., of Closter, New-Jersey, has kindly contributed species both of Mosses and of Liverworts, from Orange county and the Shawangunk Mountains. To them and to others due credit is herein given; their names signifying the authority for the statements made in the particular sentences to which they are respectively annexed.

ORDER MUSCI.—*Mosses.*

SPHAGNUM, *Dill.*

S. CYMBIFOLIUM, *Ehrh.*

Peat bogs and marshes. Frequent and variable. July.

S. PYLAESII, *Brid.*

Humected surface of granite rocks, top of Mt. Marcy, Adirondack mountains; sterile, L. LESQUEREUX.

S. CYCLOPHYLLUM, Sulliv. and Lesqx.

Springs in granite rocks, Mt. Marcy, sterile, LESQX.

S. SQUARROSUM, Pers.

Peat bogs, especially on mountains. Common. July, August.

S. CUSPIDATUM, Ehrh.

Deep bogs and cranberry marshes. Frequent and very variable. July.

S. ACUTIFOLIUM, Ehrh.

Same habitat as the preceding. Also common and variable. July.

S. RIGIDUM, Schp. S. COMPACTUM, Brid.

Bogs and wet places. Catskill mountains, Adirondack mountains, LESQX.

S. SUBSECUNDUM, Nees. S. CONTORTUM, Schultz.

Deep bogs, Adirondack mountains, July, LESQX.

ANDRAEA, *Ehrh.**A. PETROPHILA, Ehrh.*

Damp faces of rocks on mountains. Not rare. July.

A. RUPESTRIS, Turn.

Same habitat as the preceding. Catskill mountains. Abundant about fifty rods north of the Mountain House. Not frequent. July.

A. CRASSINERVIA, Brch.

Humected rocks, top of Whiteface mountain, August, LESQX.

EPHEMERUM, *Hampe.**E. CRASSINERVIUM, Schwaegr.*

Moist grounds in fields, sides of ditches, etc. Not rare. Dec.—April.

ACAULON, *Mull.**A. MUTICUM, Schreb.*

On the ground. Brooklyn, C. F. AUSTIN. Buffalo, G. W. CLINTON.
December—April.

PHASCUM, *L.**P. CUSPIDATUM, Schreb.*

Waste fields near Saratoga; March, LESQX.

PLEURIDIUM, *Brid.**P. ALTERNIFOLIUM, Brid.*

Old fields. Very common.

May, June.

GYMNOSTIMUM, *Hedw.**G. RUPESTRE, Schwaegr.*

Crevices of steep rocks and overhanging cliffs. Not rare. Sept., Oct.

G. CURVIROSTRUM, Hedw.

Wet rocks. Not uncommon.

September, October.

Small forms of this species closely resemble the preceding. Both are variable.

WEISIA, *Hedw.*

W. VIRIDULA, *Brid.*

Old fields, waste grounds, thin soil covering rocks. Frequent.
March - June.

RHABDOWEISIA, *Schp.*

R. DENTICULATA, *Bryol. Europ.*

Crevice of rocks on mountains. Sand Lake.

SELIGERIA, *Brch. & Schp.*

S. RECURVATA, *Bryol. Europ.*

Rocks in ravines. Devil's hole, Niagara county; Caledonia, G. W.
CLINTON.

S. CALCAREA, *Bryol. Europ.*

With the preceding, from which it differs chiefly in its shorter stem,
broader leaves, and somewhat turbinate capsule.

The discovery of this rare and minute species in our State (as well as
of the preceding) is due to the earnest and faithful researches of G. W.
CLINTON.

DICRANUM, *Hedw.*

D. GRACILESCENS, *Web. & Mohr.*

On rocks; high peaks of the Adirondack mountains; Aug., LESQX.

D. SCHREBERI, *Hedw.*

Clay banks in mountains; Adirondack mountains, above Keene; very
rare; September, LESQX.

D. VIRENS, *Hedw.*

Old logs and rotten wood in shady damp places, especially in woods
on mountains. Variable. Not abundant. May, June.

D. VARIUM, *Hedw.*

Moist ground and banks, most common on clay soil. Frequent.
November - April.

D. HETEROMALLUM, *Hedw.*

On the ground in open woods, banks, about the roots of trees, moun-
tain and plain. Very common and variable. September, October.

D. SUBULATUM, *Hedw.*

Shaded rocks, Adirondack mountains; August, LESQX.

D. BLYTTII, *Bryol. Europ.*

Fissures of humected rocks, top of Mt. Marey; August, LESQX.

D. STARKII, *Web. & Mohr.*

Same place as the preceding, LESQX.

D. MONTANUM, *Hedw.*

Decayed logs and stumps in pine and hemlock woods, especially on
mountains. Catskill mountains. Goat Island, Niagara Falls, LESQX.
July, August.

D. FLAGELLARE, *Hedw.*

Old logs and rotten wood. Very common. August.

- D. INTERRUPTUM, *Bryol. Europ.*
Rocks, rarely on decaying wood, in hill and mountain woods. Com.
August.
- D. LONGIFOLIUM, *Hedw.*
Trees in mountain woods. Sand Lake. Rocks; Adirondack mountains, LESQX.
August, September.
- D. SCOPARIUM, *L.*
Ground, rotten logs, rocks; base of Adirondack mountains, LESQX.
var. *pallidum*, *Mull.*
On the ground, rotten logs, rocks. Very common and variable.
July—September.
- D. ELONGATUM, *Schwaegr.*
Fissures of humected rock, top of Mt. Marcy; August, LESQX.
- D. CONGESTUM, *Brid.*
Decayed wood, sometimes on rocks, in mountain woods. Abundant on the Catskill and the Adirondack mountains.
- D. SCHRADERI, *Schwaegr.*
Bogs and boggy places in mountains; Catskill and Adirondack mountains; August, LESQX.
Shawangunk mountains, C. F. AUSTIN.
- D. SPURIUM, *Hedw.*
Sandy ground; Saratoga; July, LESQX.
Catskill mountains, T. P. JAMES, in *Proceed. Am. Phil. Soc.*, 1864.
- D. UNDULATUM, *Turn.*
On ground wet or dry in woods, sometimes on rocks; mountain and plain.
Frequent. July.
- D. DRUMMONDI, *C. Mull.*
On the ground on mountains. Abundant under small pine trees on the Catskill mountains, between the Mountain House and the lake.
Rare. July.
- ARCTOA, *Brch. & Schp.*
- A. FULVELLA, *Bryol. Europ.*
Fissures of humected rock, Mt. Marcy; July, LESQX.
- CAMPYLOPUS, *Brid.*
- C. VIRIDIS, *Sulliv. & Lesq.*
Roots of trees, decayed logs, etc., in woods. Not rare. Sterile.
- TREMATODON, *Rich.*
- T. AMBIGUUS, *Hedw.*
On the ground by roadsides. Sand Lake. Rare. July.
This is now regarded as a northern species, and T. LONGICOLLIS as a southern one. The latter probably does not occur within our limits.
- LEUCOBRYUM, *Hampe.*
- L. GLAUCUM, *L.*
On the ground in woods, most often on knolls near swamps or water holes. Common. December.

FISSIDENS, *Hedw.*F. EXIGUUS, *Sulliv.*

Wet rocks along streams; Schoharie, Miss R. WATERBURY. July.

F. MINUTULUS, *Sulliv.*

Rocks and ground in ravines. Albany. Helderberg mountains,
C. F. AUSTIN. Buffalo, G. W. CLINTON. Scarce. Nov. - April.

F. BRYOIDES, *Hedw.*

Shaded ground in woods. Shaded ravines near Albany. Frequent
in conservatories, in and around flower pots. Nov. - April.

F. TAXIFOLIUS, *Hedw.*

Humected rocks and clay banks. Niagara Falls; December, LESQX.
Rockland county, C. F. AUSTIN.

F. SUBBASILARIS, *Hedw.*

Roots of trees. Poestenkill, woods west of the village. Fort-Edward,
E. C. HOWE. Not common. October - December.

F. ADIANTOIDES, *L.*

Moist ground and rocks, generally in woods. Frequent. Nov. - April.

F. OSMUNDIOIDES, *Hedw.*

Base of trees in swamps and mountains; Catskill mountains, LESQX.

F. GRANDIFRONS, *Brid.*

Humected perpendicular rocks; Niagara Falls; Caledonia creek,
where it grows submerged, G. W. CLINTON. Not uncommon in
Western New-York. Our plant bears pistillidia, but neither anthe-
ridia nor fruit.

CONOMITRIUM, *Mont.*C. JULIANUM, *Savi.*

On stones in mountain streams. Smoke's creek, G. W. CLINTON.
Shawangunk mountains, C. F. AUSTIN. Sterile.

BLINDIA, *Brch. & Schp.*B. ACUTA, *Dicks.*

Humected perpendicular rocks; Catskill mountains, near the Cauters-
kill; July, LESQX. Very rare.

This interesting and rare moss has been found in no other locality
in the State.

Dioecious: pale green, loosely caespitose, varying in length from
half an inch to-half a foot; stems filiform, naked near the base; leaves
erect-open, shining, lanceolate-subulate, pointed by the excurrent costa;
capsule pyriform, firm, with a rather long straight pedicel; peristome
of 16 equidistant teeth; lid large, with a straight or slightly inclined
beak; calyptra split to the point, covering the lid only; annulus,
none.

POTTIA, *Ehrh.*P. TRUNCATA, *L.*

On the ground in moist fields, and by roadsides. Common.
November - April.

DESMATODON, *Brid.*D. ARENACEUS, *Sulliv. & Lesqx.*

Stones; Devil's Hole and Caledonia, G. W. CLINTON. Rare. July.

BARBULA, *Hedw.*B. UNGUICULATA, *Hedw.*

Ground, claybanks. Variable and common. Nov. – April.

B. CAESPITOSA, *Schwaegr.*

On the ground in woods and about the roots of trees. Common,
June.

B. TORTUOSA, *L.*

Rocks. Goat Island, LESQX. Common about Niagara Falls, G. W. CLINTON. Helderberg mountains. Not frequent. June.

B. CONVOLUTA, *Hedw.*

Ground on mountains. Helderberg mountains, growing with *Bryum pyriforme*, on ground on which charcoal had been burned. Rare.

B. MUCRONIFOLIA, *Schwaegr.*

Roots of an elm subject to inundation, Schoharie, Miss R. WATERBURY. Stones; Devil's Hole and Portage, G. W. CLINTON. June.

B. FRAGILIS, *Wils.* TRICHOSTOMUM FRAGILE, *Hook.*

Humected rocks by waterfalls. Ausable river, near Lake Champlain; sterile, LESQX.

Closely caespitose; stems erect, simple or forked, tomentose at the base; leaves closely imbricated, erect; plane on the margin, rigid, very fragile, twisted when dry, lanceolate-subulate with an excurrent costa; areolation hyaline near the base, minute, chlorophyllose and papillose above; capsule erect, ovate-oblong, scarcely curved; lid obliquely long-beaked; teeth of the peristome convolute, very thin, fugacious; inflorescence dioecious.

TRICHOSTOMUM, *Hedw.*T. TORTILE, *Schrad.*

Sandy ground, banks by roadsides, etc. Common. Nov. – March.

T. VAGINANS, *Sulliv.*

On the ground; Shawangunk mountains, C. F. AUSTIN.
November – March.

T. PALLIDUM, *Hedw.*

Clayey ground, fields and open woods. Common. June.

T. GLAUDESCENS, *Hedw.*

Cliffs and crevices of precipitous rocks. Adirondack mountains.
Ravine south of Albany. Rare. June.

DIDYMODON, *Hedw.*D. RUBELLUS, *Roth.*

Rocks, especially in ravines. Catskill mountains. Greenbush, near Harlem R. R. bridge. Rare. June, July.

D. LURIDUS, *Hornsch.*

Niagara Falls, on a dry rock near the shore, one-eighth to one-quarter of a mile below the American staircase, G. W. CLINTON. October.

This fine species was found by DRUMMOND at Niagara Falls in 1818, but had not been detected since that time until 1865, when it was rediscovered as shown above.

D. CYLINDRICUS, *Brch.*

Catskill mountains. JAMES in Pr. Am. Phil. Soc.

CERATODON, *Brid.*

C. PURPUREUS, *L.*

Ground, rocks, rotten wood, old roofs. Common everywhere. May.

DISTICHIMUM, *Brch. & Schp.*

D. CAPILLACEUM, *Bryol. Europ.*

Crevices of rocks, high summits of the Adirondack and the Catskill mountains, LESQX.

TETRAPHIS, *Hedw.*

T. PELLUCIDA, *Hedw.*

Decayed wood in woods. Frequent. June.

ENCALYPTA, *Schreb.*

E. CILIATA, *Hedw.*

Rocks and crevices of rocks on mountains. Sand Lake. Adirondack mountains. July.

E. STREPTOCARPA, *Hedw.*

Rocks. The Ledge; Akron, G. W. CLINTON. Niagara Falls. JAMES in Pr. Am. Phil. Soc. Helderberg mountains. Sterile.

ZYGODON, *Hook. & Tayl.*

Z. MOUGEOTI, *Bryol. Europ.*

Catskill mountains. JAMES in Pr. Am. Phil. Soc.

Z. LAPPONICUS, *Hedw.*

Crevices of rocks. Catskill mountains, below Cauterskill Falls. Adirondack mountains, LESQX.

ORTHOTRICHUM, *Hedw.*

O. ROGERI, *Brid.*

Bark of *Populus tremuloides*, near Lake Placid, Adirondack mountains; very rare; August, LESQX.

O. CUPULATUM, *Hoffm.*

Rocks and trees. Beech trees, Rosis Point, G. W. CLINTON. Rare. May, June.

O. ANOMALUM, *Hedw.*

Rocks, sometimes on trees. Limestone rocks, Niagara Falls, LESQX. On trees in the same locality, G. W. CLINTON. Not common. June.

O. STRANGULATUM, *Beauv.*

Trees, rocks and stone walls. Frequent. April, May.

- O. CANADENSE, *Schp.*
Trees, with the preceding. Less common. April, May.
- O. LEIOCARPUM, *Bryol. Europ.*
Trees. Adirondack mountains, LESQX. Sand Lake. Rare. June.
- O. HUTCHINSIÆ, *Hook. & Tayl.*
Granite rocks, mostly on mountains. Frequent. June.
- O. LUDWIGII, *Brid.*
Trees on hills and mountains. Common. June.
- O. CRISPUM, *Hedw.*
Trees, dead branches on the ground and shaded granite rocks, LESQX. Catskill mountains. JAMES in Pr. Am. Phil. Soc. Sand Lake. Hall's station, G. W. CLINTON. June.
- O. CRISPULUM, *Brch.*
Trees. Common. June.
- PTYCHOMITRIUM, *Brch. & Schp.*
- P. INCURVUM, *Schwaegr.*
Rocks. Rockland county, C. F. AUSTIN.
- DRUMMONDIA, *Hook.*
- D. CLAVELLATA, *Hook.*
Trees, on hills and mountains. Common. May, June.
- SCHISTIDIUM, *Schp.*
- S. APOCARPUM, *Hedw.*
Rocks, especially in ravines and along streams. Frequent and variable. November - April.
- S. CONFERTUM, *Funk.*
Same habitat as the preceding. Common. April.
- GRIMMIA, *Ehrh.*
- G. PENNSYLVANICA, *Schwaegr.*
Wet rocks on hills and mountains. Common. December - April.
- G. LEUCOPHŒA, *Grev.*
Sandstone rocks. Catskill mountains. JAMES in Pr. Am. Phil. Soc. June.
- G. OVATA, *Web. & Mohr.*
Naked, flat rocks, top of Mount Marcy; September, LESQX.
Pulvinate or caespitose; leaves lanceolate, pointed, the upper ones tapering into a hair point; capsule on a straight pedicel, exserted, ovate, solid; lid obliquely beaked; teeth of the peristome long, split to the middle, dark red; calyptra mitriform, lobate; inflorescence monoecious.
- G. OLNEYI, *Sulliv.*
Rocks. Catskill mountains. (Torrey legit) C. F. AUSTIN.
- G. DONNIANA, *Smith.*
Rocks. Adirondack mountains; rare, LESQX.

RACOMITRIUM, *Brid.*R. ACICULARE, *Brid.*

Rocks along mountain streams. Catskill mountains. Sand Lake.
June.

R. SUDETICUM, *Funk.*

Moist rocks along streams. Adirondack mountains; Aug., LESQX.
Catskill mountains. JAMES in Pr. Am. Phil. Soc.

R. MICROCARPUM, *Brid.*

Rocks, either moist or dry. On mountains. Common. May—June.

R. FASCICULARE, *Brid.*

Rocks near waterfalls. Adirondack mountains; Ausable river, etc.,
LESQX. Catskill mountains. JAMES in Pr. Am. Phil. Soc.

HEDWIGIA, *Ehrh.*H. CILIATA, *Dicks.*

Granite rocks and stone walls. Very rarely on decayed logs. Every-
where common. May.

SCHISTOSTEGA, *Mohr.*S. OSMUNDACEA, *Web. & Mohr.*

On dirt adhering to roots of overblown trees in deep woods, a short
distance south of Cranberry marsh, Sand Lake. This is at present
its only known locality in this country. August.

Very delicate, slender, simple or rarely bifurcate, 3"—6" long,
growing from a shining, yellowish-green and persistent prothallium,
rooting only at the base, two-shaped; sterile plants frondlike, with
the leaves two-ranked, rhomboidal, ecostate, vertically inserted,
confluent at the base; fertile plants frondiform below or with the
stem nearly naked, bearing flowers and minute horizontal leaves of
various forms at the top; flowers gemmiform; vaginula ovate-glo-
bose; capsule on a long slender pedicel, minute, nearly globose,
without a peristome; operculum convex; calyptra minute, mitriform
or dimidiate-conical, covering the operculum only; spores minute.
A very rare little moss of peculiar habit and loose cellular structure,
with a beautiful glaucous green color when fresh. First found in
this country in 1865.

TETRAPLODON, *Bryol. Europ.*T. ANGUSTATUS, *Bryol. Europ.*

On the excrement of cows in a swamp near Lake Placid, Adiron-
dack mountains; August, LESQX.

T. MNIOIDES, *L. fil.*

Excrement of some animal near the top of Mount Marcy; August,
LESQX.

APHANORHEGMA, *Sulliv.*A. SERRATA, *Sulliv.*

Moist ground in fields. Common. November.

PHYSCOMITRIUM, *Brid.*P. PYRIFORME, *L.*

Moist ground, especially on clayey soil. Common everywhere. May.

FUNARIA, *Schreb.*F. FLAVICANS, *Michx.*

Damp clayey soil in woods. Staten Island, A. A. ADEE. Buffalo, G. W. CLINTON. Rare. April—May.

This species is more common in the Southern States, and grows especially on ground where charcoal has been burned.

F. HYGROMETRICA, *Hedw.*

Ground wet or dry. Crevices of rocks, and in places burnt over in charring coal. Common everywhere. June.

Var. CALVESCENS, *Bryol. Europ.*

Wet springy places. Buffalo, G. W. CLINTON.

MEESIA, *Hedw.*M. ULIGINOSA, *Hedw.*

Moist sandy ground and marshy places. Along the railroad between West Albany and Center. Fort Edward, E. C. HOWE. Rare. June.

M. TRISTICHA, *Funk.*

Swamps and wet places. Fort Edward, E. C. HOWE. Rare. June.

BARTRAMIA, *Hedw.*B. FONTANA, *Brid.*

Wet rocks and springy places on mountains. Common. June.

B. MUHLENBERGII, *Schwaegr.*

Moist sandy or gravelly places. Along the railroad between West Albany and Center. Niagara Falls, G. W. CLINTON. Fort Edward, E. C. HOWE. June.

B. ITHYPHYLLA, *Brid.*

Fissures of rocks. Black mountain near Lake George; August, LESQX.

B. POMIFORMIS, *Hedw.*

On the ground in ravines and in the crevices of rocks. Frequent. May.

B. OEDERI, *Swartz.*

Rocks on hills and mountains. Helderberg and Adirondack mountains. Akron and Devil's Hole, G. W. CLINTON. Schoharie, Miss R. WATERBURY. Shawangunk mountains, C. F. AUSTIN. June.

CONOSTOMUM, *Swartz.*C. BOREALE, *Swartz.*

Crevices of rocks. Top of Mount Marcy; very rare; August, LESQX.

BRYUM, *Dill.*B. CERNUUM *Brch. & Schp.*

Crevices of rocks. Lake George; July, LESQX.

B. ACUMINATUM, *Hoppe & Hornsch.*

Fissures of rocks. Adirondack mountains, LESQX. Rock City, G. W. CLINTON. Very rare. September.

Very similar to the following species in appearance, leaves and capsules; but differs in having the flowers gemmaceous and terminal, and, the inner peristome without cilia.

B. ELONGATUM, *Dicks.*

Humected black soil in crevices of rocks. High summits of the Adirondack mountains; Whiteface mountain, etc., LESQX. High Peak, Catskill mountains. Rare. July.

B. NUTANS, *Schreb.*

Low grounds. Crevices of rocks in mountains. Common. June.
Var. BICOLOR, *Bryol. Europ.*

Marshy places on mountains. Adirondack mountains, LESQX.

B. CRUDUM, *Schreb.*

Deep shaded crevices of rocks on mountains. Black mountain; Catskill and Adirondack mountains, LESQX. Fort Edward, E. C. HOWE. June.

B. ANNOTINUM, *Hedw.*

Moist banks by roadsides. Sand Lake. August.

B. WAHLENBERGII, *Schwaegr.*

Springy places and wet gravelly banks. Base of Helderberg mountains, fertile specimens. Rare in fruit. June.

B. PYRIFORME, *Hedw.*

Sandy soil, burnt ground, etc. Common. June.

B. INTERMEDIUM, *Brid.*

Thin soil covering rocks. Not rare. June.

B. BIMUM, *Schreb.*

Swamps and wet ground about roots of trees. Common. June.

B. PSEUDO-TRIQUETRUM, *Schwaegr.*

Wet rocks, especially on hills and mountains. Catskill mountains. Poestenkill. Not common. June, July.

B. ROSEUM, *Schreb.*

On the ground and about the roots of trees in woods. Rare in fruit. October.

B. CAPILLARE, *Hedw.*

Adirondack mountains, August, LESQX. Buffalo, G. W. CLINTON. Fort Edward, E. C. HOWE.

B. CYCLOPHYLLUM, *Bryol. Europ.*

Wet places. Caledonia creek at Green's, where it was found in 1865 by G. W. CLINTON, the first to discover it in this country.

Dioecious: loosely caespitose; stem branching by innovations from the top or emitting slender branches from the base; leaves bright green above, brown below, distant, half clasping the stem, spreading, ovate-suborbicular, obtuse, entire, concave, costate to near the apex; capsule ovate-pyriform, pendulous; operculum mammillate; annulus compound.

B. TURBINATUM, *Hedw.*

Humected rocks. Niagara Falls; very rare; July, LESQX.

B. CÆSPITICIMUM, *L.*

Dry ground in fields and open places. Common. May.

B. ARGENTEUM, *L.*

Dry hard soil and thin earth covering rocks. Mountain and plain.
Everywhere. June - November.

B. ATROPURPUREUM, *Web. & Mohr.*

Sandy soil. Buffalo (Forest Lawn), G. W. CLINTON. Very rare,
and hitherto considered a Southern species. June.

MNIUM, *Brch. & Schp.***M. PUNCTATUM**, *Hedw.*

Swamps and wet places in woods. Common and variable.

November - April.

A very small form occurs in woods and ravines, especially on mountains, growing on wet ground and rocks, sometimes on rotten logs.

M. HORNUM, *Hedw.*

Humected granite rocks. Adirondack mountains; July, LESQX.
Stones and banks along rivulets. Shawangunk mountains, C. F. AUSTIN.

M. SERRATUM, *Brid.*

Along rivulets. Greenbush. Smoke's creek, G. W. CLINTON. Not
common. May.

M. LYCOPODIOIDES, *Hook.*

Moist rocks in woods on mountain slopes. Adirondack mountains;
Black mountain near Lake George, LESQX.

Much like *M. SERRATUM*, but distinguished by its larger size, dioecious inflorescence, distant long ligulate acuminate leaves, with more numerous and acute double teeth on the margin and a more compact areolation, longer, elliptical or subcylindrical, slightly incurved capsule, and longer teeth of the peristome.

M. CUSPIDATUM, *Hedw.*

Ground, stones and old logs in woods. Frequent. May.

M. AFFINE, *Bland.*

Damp ground and rotten logs in woods and ravines. Common. May.

Var. **ELATUM**, *Bryol. Europ.*

Along deep shaded creeks in mountains. Black mountain, LESQX.

Var. **RUGICUM**, *Bryol. Europ.*

Same places as the former, LESQX.

M. SPINULOSUM, *Bryol. Europ.*

Ground in hemlock woods on mountains. Common on the Helderberg and Catskill mountains. June.

M. STELLARE, *Hedw.*

Deep shaded rocks above Keene; Adirondack mountains; rare;
August, LESQX.

AULACOMNION, *Schwaegr.*A. TURGIDUM, *Schwaegr.*

Bogs near the top of Mount Marcy; sterile, LESQX.

A. PALUSTRE, *Schwaegr.*

Bogs. Marshy ground. Decayed vegetable matter in wet places.
Common. June.

A. HETEROSTICHUM, *Bryol. Europ.*

Moist shaded banks in ravines. Frequent. May.

TIMMIA, *Hedw.*T. MEGAPOLITANA, *Hedw.*

Ground in shaded ravines. Greenbush. Schoharie, Miss R. WAT-
TERBURY. May.

ATRICHUM, *Beauv.*A. UNDULATUM, *Beauv.*

Clayey soil, banks and ravines. Common. November–May.

A. ANGUSTATUM, *Beauv.*

Ground, roadsides and banks. Frequent. November–May.

POGONATUM, *Beauv.*P. BREVICAULE, *Brid.*

Clayey ground, roadsides, etc. Frequent. Sept.–November.

P. CAPILLARE, *Brid.*

Borders of gravelly torrents; slopes of Mount Marcy; Adirondack
mountains, LESQX.

P. ALPINUM, *Brid.*

About ledges of rocks on mountains. Common on the Catskill
mountains. July.

POLYTRICHUM, *Brid.*P. FORMOSUM, *Hedw.*

Ground and rotten logs in woods, especially on mountains. Common.
July.

P. PILIFERUM, *Schreb.*

Dry hard soil overlying rocks, especially in mountainous regions.
Not rare. June.

P. JUNIPERINUM, *Hedw.*

Shaded ground in open woods and swamps. Common. June.

P. COMMUNE, *L.*

Ground in old fields. Borders of woods and bogs. Everywhere.
June.

In mountain regions where the soil is poor, this moss quickly oc-
cupies the little knolls in pastures and meadows, thereby diminish-
ing the grass crop and rendering renewed cultivation necessary.

BUXBAUMIA, *Haller.*B. APHYLLA, *Haller.*

Ground in open woods. Sand Lake. Helderberg mountains. Rare.
November–April.

DIPHYSCIUM, *Web. & Mohr.*D. FOLIOSUM, *Web. & Mohr.*

Shaded banks and knolls in open woods. Not rare.

August, September.

FONTINALIS, *Dill.*F. ANTIPYRETICA, *L.* Var. GIGANTEA, *Sulliv.*

Attached to sticks and stones in mountain streams and lakes. Common but usually sterile.

Var. EATONI, *Sulliv.*

A slender form with narrow leaves. Catskill mountains, fruiting abundantly; July, LESQX.

The true F. ANTIPYRETICA has not yet been found in the State.

F. NOVÆ-ANGLIÆ, *Sulliv.*

Mountain lakes and sluggish streams. Bowman's Pond and Cranberry Creek, Sand Lake. Catskill mountains, LESQX.

F. LESCURIÆ, *Sulliv.*

Streams and waterholes. Outlet of the lake between the Mountain House and the Laurel House, Catskill mountains; also the Adirondack mountains, LESQX.

F. DALECARLICA, *Bryol. Europ.*

Stones in mountain streams. Common.

August.

DICHELYMA, *Myrin.*D. CAPILLACEUM, *Dill.*

Streams, waterholes and lakes, attached to sticks and stones. Bowman's Pond and Cranberry Creek, Sand Lake. Sterile.

D. FALCATUM, *Hedw.*

Stones in mountain rivulets. In woods both sides of the road between the Mountain House and the Laurel House, Catskill mountains. Rare. July.

Fruiting specimens of this really beautiful moss were found in nearly dry rivulets in the locality given, which at present is its only known station in the State.

PTERIGYNANDRUM, *Hedw.*P. FILIFORME, *Timm.*

Rocks on mountains, especially along streams. Shaded granite rocks, Adirondack mountains, above Keene, LESQX. Common on the Catskill mountains. July, August.

LEUCODON, *Schwaegr.*L. JULACEUS, *Hedw.*

Trees. Common.

November, December.

L. BRACHYPUS, *Brid.*

Trees. Sometimes on rocks. Mostly on mountains. Common,

November, December.

LEPTODON, *Mohr*.L. TRICHOMITRION, *Mohr*.

Trees in woods. Sometimes on rocks. Common. Nov., Dec.

ANOMODON, *Hook. & Tayl.*A. VITICULOSUS, *L.*

Rocks. Goat Island, LESQX. Various localities about Niagara Falls, G. W. CLINTON. Schoharie, Miss R. WATERBURY. Abundant on the Helderberg mountains. Always sterile within our limits, the plant bearing pistillidia but no antheridia.

A. APICULATUS, *Bryol. Europ.*

Rocks and trees, mostly on mountains. Rocks, Akron, G. W. CLINTON. Trees, Poestenkill. November, December.

Resembles the following species, from which it may be distinguished by the slight apiculation at the apex of the leaves and the ciliate-papillate lobes at their base.

A. OBTUSIFOLIUS, *Bryol. Europ.*

Trees in woods. Especially on the maple, (*Acer saccharinum*). Common. November, December.

A. ATTENUATUS, *Schreb.*

Base of trees, rocks and ground. Frequent. Nov., Dec.

A.? TRISTIS, *Cesati.*

Trees in woods. Poestenkill. Fruit unknown.

LESKEA, *Hedw.*L. POLYCARPA, *Ehrh.*

Trees in low grounds subject to inundations. Swamp south of Greenbush. July.

L. OBSCURA, *Hedw.*

Trunks and roots of trees on low banks of streams. Hudson below Albany. July.

L. NERVOSA, *Schwaegr.*

Rocks. Niagara Falls, G. W. CLINTON. Trenton Falls, JAMES.

The specimens are sterile, but believed to belong to this species.

L. ROSTRATA, *Hedw.*

Base of trees and on rocks. Very common. November.

THELJA, *Sulliv.*T. HIRTELLA, *Hedw.*

Base of trees. Common in Western New-York, G. W. CLINTON. November.

T. ASPRELLA, *Schp.*

Base of trees. Common. November.

This species is quite common in the vicinity of Albany, but *T. HIRTELLA*, which in most places is as plentiful as *T. ASPRELLA*, has not yet been observed here.

MYURELLA, *Schp.*M. CAREYANA, *Sulliv.*

Rocks and crevices mostly on mountains. Helderberg mountains. Greenbush. Chittenango, G. W. CLINTON. Shawangunk mountains, C. F. AUSTIN. Rare. Sterile.

It assumes two modes of growth; one, prostrate, forming thin mats; the other, upright and compact.

PYLAISAEA, *Schp.*P. SUBDENTICULATA, *Schp.*

Base of trees, usually white oak, in dryish woods. Helderberg mountains; Albany, C. F. AUSTIN. Rare. November.

P. INTRICATA, *Hedw.*

Trees in open woods, sometimes in old orchards. Frequent. November - March.

P. VELUTINA, *Schp.*

Trees, mostly in mountain woods. Sand Lake. Catskill mountains. Rockland county, C. F. AUSTIN. October, November.

HOMALOTHECIUM, *Schp.*H. SUBCAPILLATUM, *Schp.*

Trees. Common but not abundant. November, December.

PLATYGYRIUM, *Schp.*P. REPENS, *Brid.*

Decaying wood, old logs, rails, stumps. Common. Nov., Dec.

CYLINDROTHECIUM, *Schp.*C. CLADORRHIZANS, *Hedw.*

Old logs in woods, rarely on stones. Common. Nov., Dec.

C. SEDUCTRIX, *Hedw.*

Roots of trees, stones and ground. Frequent. Nov., Dec.

C. BREVISETUM, *Schp.*

On leaning trunks, Shawangunk mountains, C. F. AUSTIN. Not common. November, December.

NECKERA, *Hedw.*N. PENNATA, *Hedw.*

Trees in woods. Frequent. November - April.

N. COMPLANATA, *L.*

Rocks, Catskill mountains, T. P. JAMES. Very rare. Sterile.

HOMALIA, *Brid.*H. JAMESII, *Schp.*

Catskill mountains, growing with N. COMPLANATA; T. P. JAMES.

CLIMACIUM, *Web. & Mohr.*C. AMERICANUM, *Brid.*

Moist ground and rotten wood in fields and in woods. Common but seldom found in fruit. November.

C. DENDROIDES, *L.*

Habitat as in the preceding. Cemetery woods, Sand Lake. Wet bank, Rensselaerville, Miss R. WATERBURY. Rare. Sept., Oct.

Distinguished from the preceding by the shorter capsule, shorter rostrum to the operculum, and less distinctly auricled base of the leaves.

HYPNUM, *Dill.*II. TAMARISCINUM, *Hedw.*

Ground and decayed logs in swamps and wet woods. Common. October - March.

II. DELICATULUM, *C. Mull.*

Ground and rocks in dry hilly woods. Not rare. Aug., Sept.

II. MINUTULUM, *Hedw.*

Base of trees and rotten wood in woods. Common. July - Oct.

II. PYGMÆUM, *Bryol. Europ.*

Rocks. Foster's Flat, G. W. CLINTON. Rare. August.

II. GRACILE, *Bryol. Europ.*

Ground and rotten logs in woods. Catskill mountains. Fort Edward, E. C. HOWE. July.

II. ABIETINUM, *L.*

Rocks. Goat Island, LESQX. Whirlpool wood, Niagara Falls, G. W. CLINTON. Helderberg mountains. Sterile.

II. BLANDOWII, *Web. & Mohr.*

Swamps and bogs. Caledonia, G. W. CLINTON. Warren, Herkimer county, J. A. PAINE, Jr. Rare. June.

Stems erect or ascending, 3'—4' long, simple or sparingly divided, pinnately branched, densely villous; branchlets attenuated, distichous, flexuous or recurved; leaves ovate and broad-ovate, short acuminate, more or less plicate, usually with a strong fold in the middle obscuring the costa which extends half way, reflexed on the margin and papillose on the back, with slender, branching filaments at the basal angles; areolation elongated; capsule oblong-cylindrical, subarcuated; operculum conic, acute; annulus broad. A dull yellowish-green moss resembling in appearance, both *H. ABIETINUM* and *H. PALUDOSUM*.

II. PALUDOSUM, *Sulliv.*

Swamps and bogs. Not uncommon. June.

II. SQUARROSUM, *L.*

Wet places, ground and stones. Catskill mountains, half way between the Mountain House and the Laurel House. Very rare.

Sterile.

II. TRIQUETRUM, *L.*

Ground in woods and swamps. Common and variable. Dec. - Mar.

II. BREVIROSTRE, *Ehrh.*

Rocks and base of trees in mountains. Catskill mountains, below Cauterskill Falls. Middletown, Miss R. WATERBURY. Rare in fruit. November - April.

Fruiting specimens were found in the localities mentioned.

- H. *SPLENDENS*, *Hedw.*
Ground, rotten logs, and rocks in woods. Frequent. May, June.
- H. *UMBRATUM*, *Ehrh.*
Ground in pine and hemlock woods on high mountains. Base of Mount Marcy, September, October, LESQX. Slopes of High Peak, Catskill mountains. Not common.
- H. *ALLEGHANIENSE*, *C. Mull.*
Moist rocks along streams and clefts of rocks on mountains. Helderberg mountains. Devil's Hole, G. W. CLINTON. Sterile.
- H. *HIANS*, *Hedw.*
Ground in open places, banks and ravines, especially on clayey soil. Not rare. November, December.
- H. *PILIFERUM*, *Schreb.*
Ground and wet banks along streams in woods. Helderberg mountains, in a deep ravine southwest of Knowerville station. Fort Edward, woods back of the Institute, E. C. HOWE. Rare. November, December.
- H. *SULLIVANTII*, *Spruce.*
Moist banks in woods. Base of Catskill mountains, LESQX. Ravine near Knowerville station.
- H. *TENELLUM*, *Dicks.*
Found in small quantity growing with *H. PULCHELLUM* about the roots of an old stump, Helderberg mountains.
Monoecious; stems slender, irregularly branched, greenish-yellow, shining; leaves erect-spreading, narrowly lanceolate, nearly subulate, serrulate, costate to the apex; perichætical leaves oblong acuminate, ecostate; capsule oval-oblong, horizontally inclined, annulate; operculum rostrate. A very small species first detected in this country in 1865.
- H. *STRIGOSUM*, *Hoffm.*
Open woods, ravines and hill sides, on the ground. Variable and frequent. September, October.
- H. *DIVERSIFOLIUM*, *Bryol. Europ.*
Ground. Buffalo, December, G. W. CLINTON. Rare.
- H. *BOSCHII*, *Schwaegr.*
Shaded rocks, base of Catskill mountains, not common, sterile, LESQX.
- H. *SERRULATUM*, *Hedw.*
Ground in open woods, sometimes about the roots of trees in wet or dry places. Frequent. June - November.
- H. *DEPLANATUM*, *Schp.*
Wet stones, Shawangunk mountains, C. F. AUSTIN.
- H. *DEPRESSUM*, *Brch.*
Shawangunk mountains, C. F. AUSTIN.
- H. *RUSCIFORME*, *Weis.*
On stones in mountain streams, Catskill mountains, LESQX. Shawangunk mountains, C. F. AUSTIN. August - November.

H. DEMISSUM, *Wils.*

Moist surfaces of rocks on mountains. Catskill mountains. Rare.
July, August.

H. MICROCARPUM, *C. Mull.*

Rotten tree-roots in woods, Staten Island, A. A. ADEE.

The form here noticed is the variety with inclined capsules. It probably does not extend to the central and northern parts of the State.

H. CYLINDRICARPUM, *C. Mull.*

Old logs in woods. Base of the Helderberg mountains, near Know-
erville station. Rare. November, December.

A variety with capsules a little shorter than usual.

H. RECURVANS, *Schwaegr.*

Ground, old logs and rocks, especially on mountains. Very variable
and frequent. November, December.

H. ALBULUM, *C. Mull.*

Moist ground and base of shrubs about waterholes, Shawangunk
mountains, C. F. AUSTIN.

A southern moss which probably does not extend far within our
southern boundary.

H. EUGYRIUM, *Bryol. Europ.*

Rocks in shallow streams, base of Mount Marcy, LESQX. Cranberry
creek, Sand Lake. Dripping rocks, Catskill mountains. June.

H. MOLLE, *Dicks.*

Rocks in mountain streams. Catskill mountains. June.

H. OCHRACEUM, *Turn.*

Same habitat as the preceding. Adirondack mountains, August,
LESQX. Shawangunk mountains, C. F. AUSTIN. Sand Lake.

Sterile in the two localities last named.

H. MONTANUM, *Wils.*

Humected rocks, near the top of Mount Marcy, August, LESQX.

H. CUSPIDATUM, *L.*

Cranberry swamp near Port Kent, Lake Champlain, LESQX. Fort
Edward, E. C. HOWE. Sterile.

H. SCHREBERI, *Willd.*

Ground in open places and borders of woods. Frequent. Nov. - Dec.

H. CORDIFOLIUM, *Hedw.*

Swamps and waterholes. Not rare. June.

H. GIGANTEUM, *Schp.*

Cranberry swamp near Port Kent, LESQX. Caledonia, the creek
swamp, G. W. CLINTON.

Diocious: stems robust, erect, 6'—10' long, thickly branched;
branchlets open, somewhat attenuated or cuspidate, becoming shorter
above; leaves usually imbricating, concave, broadly cordate-ovate,
entire, obtuse, costate nearly to the apex, with two or three rows of
large pellucid cellules at the excavated basal angles; capsule on a
long pedicel, oblong-cylindrical, horizontal, without an annulus;
operculum mammillate.

- H. STRAMINEUM, *Dicks.*
Bogs near the top of Mount Marcy, August, LESQX.
- H. UNCINATUM, *Hedw.*
Rocks, ground and rotten wood in woods, especially on mountains.
Common. July.
- H. REVOLVENS, *Swartz.*
Bergen swamp, G. W. CLINTON. Sterile.
- H. FLUITANS, *Hedw.*
Swamps and low ponds about Lake Champlain, common, July,
LESQX.
- H. ADUNCUM, *Hedw.*
Trout lake near Lake George, LESQX. Fort Edward, E. C. HOWE.
- Var. GIGANTEUM, *Bryol. Europ.*
Big Bay, Strawberry Island, growing in water, G. W. CLINTON.
Waterholes, Jamesville, J. A. PAINE, Jr. Sterile.
- Var. GRACILESCENS, *Bryol. Europ.*
Wet marshy ground; Buffalo, G. W. CLINTON. Sterile.
- H. FILICINUM, *L.*
Wet springy places on the ground and on dripping rocks. Common
and variable. Rare in fruit. May, June.
- H. CRISTA-CASTRENSIS, *L.*
Ground and rotten logs, especially in mountainous districts. Not
uncommon. September.
- H. MOLLUSCUM, *Hedw.*
Ground in woods. Sand Lake. Helderberg mountains. Not com-
mon. November - April.
- H. CUPRESSIFORME, *L.*
Bark of trees, Adirondack mountains, July, LESQX.
- H. IMPONENS, *Hedw.*
Old logs and ground in woods. Frequent. November - April.
- H. REPTILE, *Michx.*
Old logs in mountain woods. Common. August.
- H. FERTILE, *Sendt.*
Decayed wood, sometimes on rocks, on mountains. Woods south
shore of Bowman's Pond, Sand Lake. Catskill mountains. Rare.
July.

Monoecious: stems creeping, 2'—3' long, pinnately branched; leaves oblong-lanceolate, long attenuate, strongly incurved-hooked, distantly serrulate toward the point, faintly bi-costate at the base; capsule on a long pedicel, cylindrical, cernuous-incurved, wide mouthed when dry; operculum convex-apiculate; annulus broad. A soft moss with yellowish-green foliage, distinguished from H. REPTILE by its long pedicels, operculum not rostellate, and leaves longer pointed and more strongly curved, giving to the plant its peculiar soft and almost crisped appearance.

H. CURVIFOLIUM, *Hedw.*

Wet ground in fields and by roadsides, old logs in woods, sometimes on rocks. Frequent and variable. June.

H. HALDANIANUM, *Grev.*

Ground and old logs in woods. Common and variable. Nov. - April.

H. PRATENSE, *Koch.*

Bogs around Lake George and Lake Champlain, sterile, LESQX.

H. RUGOSUM, *Ehrh.*

Exposed places on rocks. Goat Island, LESQX. Whirlpool wood, G. W. CLINTON. "Sun-set Rock," Catskill mountains. Rare. Sterile.

H. NITENS, *Schreb.*

Peat bogs near Port Kent, LESQX. Bergen swamp, G. W. CLINTON. Fort Edward, E. C. HOWE. May, June.

H. SALEBROSUM, *Hoffm.*

Decaying wood and sticks in pine and hemlock woods on mountains. Helderberg mountains. Catskill mountains. Scarce. November - April.

H. LÆTUM, *Brid.*

Ground, banks, rocks, old logs in woods, roots of trees. Abundant everywhere. November, April.

H. ACUMINATUM, *Beauv.*

Roots of trees and thin soil on rocks. Saratoga and Catskill mountains, LESQX. Portage and Chittenango, G. W. CLINTON. November - April.

H. RUTABULUM, *L.*

Moist ground in woods and ravines. Common and variable. November - April.

H. PLUMOSUM, *L.*

Rocks along mountain streams. Common. November - April.

H. POPULEUM, *Hedw.*

Ground in pine woods, Catskill mountains; also near Lake George, May, LESQX.

H. VELUTINUM, *L.*

Ground in pine and hemlock woods. Sand Lake and Helderberg mountains. Not common. March.

Stems creeping, closely entangled, irregularly pinnately branched, branches more or less contorted and curved at the apex; leaves loosely imbricating, spreading, subfalcate, lanceolate long acuminate, or gradually tapering from the base to the apex, the whole margin serrulate, distinctly costate beyond the middle; capsule oval-oblong, horizontal-incurved; operculum broad, short-conic; pedicel short, 5''-8'' long, papillose. Forms thin mats on the ground in thick woods. Foliage deep green, sometimes with a yellowish tinge.

H. REFLEXUM, *Web. & Mohr.*

Stones in deep woods; slopes of Mount Marcy; August, LESQX.

- H. STARKII, *Brid.*
Wet stones in woods; Lake Placid, Adirondack mountains, August, LESQX.
- H. RIVULARE, *Brch.*
Wet rocks in mountain streams, swamps and ravines. Devil's Hole, G. W. CLINTON. Cemetery woods, Sand Lake. Rare in fruit.
November - April.
- H. NOVÆ-ANGLIÆ, *Sulliv. & Lesqx.*
Wet rocks and damp ground, mostly on mountains. Common, but seldom fruits.
November - April.
- H. STELLATUM, *Schreb.*
Bogs, Port Kent, LESQX. Bergen swamp, G. W. CLINTON. Sterile.
- H. POLYMORPHUM, *Brch.*
Ground and rocks. Common and variable. June, July.
Var. MINUS, *Sulliv. & Lesqx.*
Old logs of *Thuja occidentalis*, base of Mount Marcy, LESQX.
- H. HISPIDULUM, *Brid.*
Ground, roots of trees and decayed wood. Common. June, July.
- H. SUBTILE, *Hoffm.*
Base of trees, especially *Acer saccharinum*. Helderberg mountains. Whirlpool woods, G. W. CLINTON. September.
- H. MINUTISSIMUM, *Sulliv. & Lesqx.*
Rocks; Counterfeiter's Ledge, Akron, G. W. CLINTON. Very rare. August, September.
- H. CONFERVOIDES, *Schwaegr.*
Near Lebanon Springs, JAMES in Pr. Am. Phil. Soc.
- A. SPRUCEI, *Brch.*
Goat Island. JAMES in Pr. Am. Phil. Soc.
- H. ADNATUM, *Hedw.*
Stones in open woods, roots and bark of trees. Frequent and variable. July - September.
- H. SERPENS, *L.*
Decayed wood near the ground. Not rare. June.
- H. RADICALE, *Brid.*
Roots of trees, rotten wood, etc. Common and variable. June, July.
- H. ORTHOCLADON, *Beauv.*
Wet places on the ground, decayed wood, and stones in rivulets. Frequent and variable. June, July.
- H. NOTEROPHILUM, *Sulliv. & Lesqx.*
Springs and streams in limestone regions. Caledonia, G. W. CLINTON. Sterile. Rare.
- H. RIPARIUM, *L.*
Swamps, borders of lakes, waterholes. Frequent and very variable. June - September.

H. PULCHELLUM, *Dicks.*

Adirondack mountains, LESQX. Helderberg mountains, about the roots of an old stump Rare.

Stems short, irregularly branched, radiculose at base; leaves subsecund, slightly curved, rather loosely imbricating, concave, lanceolate and oblong-lanceolate, narrowly acuminate, entire, ecostate, with a narrow linear areolation; capsule oblong, slightly inclined; operculum convex-conic; annulus composed of two rows of narrow cells. A small species with delicate, shining, yellowish-green foliage.

H. DENTICULATUM, *L.*

Ground in woods, base of small trees in low grounds, rocks on mountains. Common. July, August.

H. MUHLENBECKII, *Hartm.*

Ground and rotten wood in woods. Common. June, July.

H. SULLIVANTIAE, *Schp.*

Humected rocks, Catskill mountains, also near Lake George, July, LESQX. Shawangunk mountains, C. F. AUSTIN.

ORDER HEPATICÆ—*Liverworts.*RICCIA, *Mich.*R. NATANS, *L.*

Stagnant pools. Brooklyn, (Torrey legit) C. F. AUSTIN. Albany. Not common. June.

Var. TERRESTRIS, *Nees.*

Wet ground, borders of pools. With the preceding. Frond usually somewhat stellately lobed; lobes linear, diverging; passes into the typical form, C. F. AUSTIN.

R. LUTESCENS, *Schwein.*

Margins of pools, low muddy grounds. Common. Fruit unknown. Sometimes found floating, late in autumn, in pools exsiccated during summer.

R. FLUITANS, *L.*

Stagnant water, rocky rivulets. Not rare. Sterile.

ANTHOCEROS, *Mich.*A. PUNCTATUS, *L.*

Wet banks, moist ground in fields. Common. September.

A. LÆVIS, *L.*

Wet ground and rocks in rivulets; common, Sept., C. F. AUSTIN.

NOTOTHYLAS, *Sulliv.*N. VALVATA, *Sulliv.*

Damp ground in fields. Common. October.

N. MELANOSPORA, *Sulliv.*

With ANTHOCEROS PUNCTATUS and equally common, September, C. F. AUSTIN.

LUNULARIA, *Mich.*L. VULGARIS, *Mich.*

Common and spontaneous in conservatories; distinguished from MARCHANTIA POLYMORPHA, by the crescent-shaped, gemmæ-bearing receptacles; sterile; C. F. AUSTIN.

MARCHANTIA, *L.*M. POLYMORPHA, *L.*

Burnt ground, wet places, ditches, borders of swamps. Frequent. June - August.

PREISSIA, *Nees.*P. COMMUTATA, *Nees.*

Shaded wet places, ravines. Albany and Helderberg mountains. Niagara Falls, G. W. CLINTON. June.

FEGATELLA, *Raddi.*F. CONICA, *Corda.*

Wet banks, along streams; in swamps and ravines. Common. May.

REBOULIA, *Raddi.*R. HEMISPHERICA, *Raddi.*

Rocks along streams, May, C. F. AUSTIN.

R. MICROCEPHALA, *Tayl.*

Moist shaded banks and rocks; common; May, C. F. AUSTIN.

GRIMALDIA, *Raddi.*G. BARBIFRONS, *Raddi.*

Exposed rocky soil, Schoharie, Miss R. WATERBURY. April, May.

DUVALIA, *Nees.*D. RUPESTRIS, *Nees.*

Wet places in rocky ravines. Havana, Schuyler co., E. G. PICKETT.

METZGERIA, *Raddi.*M. FURCATA, *Nees.*

Rocks damp or dry, trees. Common, but seldom fruits.

M. PUBESCENS, *Raddi.*

Rocks among moss, High Peak, Catskill mountains. Rare. Sterile.

ANEURA, *Dumort.*A. SESSILIS, *Spreng.*

Decaying wood in swamps. Common.

A. PALMATA, *Nees.*

Old logs. Common.

A. MULTIFIDA, *Dumort.*

Old logs in swamps, wet ground in woods; frequently submerged; common, C. F. AUSTIN.

STEETZIA, *Lehm.*S. LYELLII, *Lehm.*

Wet ground, in springy, boggy places. Sand Lake. Shawangunk mountains, C. F. AUSTIN. Sterile.

PELLIA, *Raddi*.P. EPIPHYLLA, *Nees*.

Wet ground, borders of ditches. Frequent.

April, May.

BLASIA, *Mich*.B. PUSILLA, *L*.

Wet gravelly or sandy banks. Albany. Not common. Sterile.

GEOCALYX, *Nees*.G. GRAVEOLENS, *Nees*.

Ground and old logs; common, C. F. AUSTIN.

CHILOSCYPHUS, *Corda*.C. POLYANTHUS, *Corda*.

Sticks and stones in streams and swamps; often submerged. Common but sterile.

LOPHOCOLEA, *Nees*.L. HETEROPHYLLA, *Nees*.

Ground and old logs. Common and variable.

June.

SPHAGNÆCETIS, *Nees*.S. COMMUNIS, *Nees*.

Rotten wood and old logs. Common but rarely fruits.

JUNGERMANNIA, *L*.J. TRICOPHYLLA, *L*.

Wet ground, damp rocks, among moss, etc. Common.

J. SETACEA, *Web*.

With the last and as common, C. F. AUSTIN.

J. CONNIVENS, *Dicks*.

Decayed wood and damp places on the ground. Frequent.

J. CURVIFOLIA, *Dicks*.

Old logs. Frequent and variable in color.

J. BICUSPIDATA, *L*.

Rotten wood and among moss. Sand Lake. Catskill mountains.

J. CATENULATA, *Hub*.

Ground and old logs in swamps; very common, C. F. AUSTIN.

Stems prostrate, rarely suberect, slightly compressed or subulate. Leaves suborbicular, concave, obliquely clasping, nearly twice as wide as the stem, bifid, with an obtuse sinus and acute straight or connivent and more or less incurved lobes; amphigastria none; involucreal leaves subovate, 2-3-cleft, the lobes spinulose-dentate; perianth on a very short lateral branch, elongated, subcylindrical, the apex trigonal, sub-acute, whitish, the mouth ciliate-lobed, the lobes spinulose-dentate. Forms extensive olive-green patches.

J. SULLIVANTIANA. (n. s.)

Cold shaded ground, Orange county, C. F. AUSTIN.

"Amphigastria minute, ovate or sub-quadrate, sometimes emar-

ginate. Color light green. Stems 2-4 lines long, filiform, creeping, densely radiculose. Leaves scarcely wider than the stem, somewhat distant, subdistichous, erecto-patent, broadly and obtusely complicate-concave, under pressure broadly cuneate-triradiate, distinctly serrate-denticulate, $\frac{1}{2}$ -bifid; sinus broad and obtusish or sometimes acutish, lobes triangular-ovate, acute; areolation minute, for the most part quadrate, with the interstices narrow and hyaline. Involucral leaves 3, $\frac{1}{2}$ -connate, 2-3(?) lobed, spinulose-dentate. Perianth terminal on a longish, club-shaped branch, plicate to the base; apex obtusely triangular, white, deeply laciniate, the lobes sub-linear, truncate, their apex minutely denticulate."

AUSTIN *MSS.*

J. LESCURIANA. (n. s.)

On the ground in open woods, Orange county, C. F. AUSTIN.

"This is a larger species than the last with longer and more entangled sterile stems and subulate, sub-squarrose amphigastria. Fertile stems more clavate, erect, and crowded. Leaves more imbricated and the lobes more ovate, the lower not serrate. Involucral leaves numerous and crowded into roseate or capitate heads which are at first terminal, but at length dorsal, the inner ones highly connate, scarious and eroded-denticulate on the margin above. Perianth broadly oval, nearly white, strongly and acutely plicate, and *even in the young state deeply laciniate-lobed*; the mouth denticulate. The leaves towards the apex of the fertile stems are less deeply bifid than the lower ones and often 2-5 papillate-dentate at the subtruncate apex of the lobes." AUSTIN *MSS.*

J. BICRENATA, *Lindbg.*

Ground in bleak open woods; Helderberg mountains, Shawangunk mountains, C. F. AUSTIN.

Color varying from pale green to reddish-brown. Stems short, thick, densely radiculose; leaves orbicular or subquadrate, very concave, closely imbricating, rather thick and firm, emarginate-2-toothed, with a lunate sinus and acute teeth; involucral leaves 2-3-toothed, serrate; perianth terminal, ovate, plicate, the mouth ciliate-denticulate, connivent.

J. INCISA, *Schrad.*

Old logs. Sand Lake. Not common.

J. BARBATA, *Schreb.*

Rocks and thin soil covering rocks in mountainous localities. Frequent and variable. Rarely fruits.

Var. **ATTENUATA,** *Mart.*

Rocks and ground; High Peak, Catskill mountains. Fertile.

Stems more slender than in the typical form, erect; lower leaves eroded-denticulate at the apex; upper leaves uniformly 3-toothed; amphigastria wanting.

J. MICHAUXII, *Web.*

Perpendicular faces of rocks on mountains. Sand Lake. Catskill mountains.

J. MINUTA, *Crantz.*

Rocks, Catskill mountains.

Amphigastria none; leaves complicate-concave, pectinate-spreading, $\frac{1}{4}$ - $\frac{1}{2}$ -bifid, the lobes subequal, ovate, acute or obtuse; inner involucral leaves trifid; perianth oval-oblong, subcylindrical, the mouth plicate. Resembles the last, but is more slender, leaves not contorted, areolation more quadrate, C. F. AUSTIN.

J. SCUTATA, *Web.*

Old logs. Common.

J. SCUTATA is described as having the perianth terminal, and at length dorsal; in our plant (which may be a distinct species) the perianth is ventral as in *SPHAGNOCETIS COMMUNIS*; the amphigastria is smaller, C. F. AUSTIN.

J. PECKII, (n. s.)

Decayed wood, Sand Lake.

"A minute densely caespitose species of a light brownish-red color. Stems rigid—with the leaves—lanceolate in outline, the base densely radiculose and creeping, the apex ascending, microphyllöse; rootlets very long and of a light pink color. Leaves imbricated, erecto-vertical, upwardly connivent, concave, rotund-quadrate, somewhat margined; the base obliquely clasping; the ventral margin almost connate with the amphigastria, the dorsal decurrent; the apex somewhat incurved, emarginate-bilobed; sinus acute or obtuse; lobes straightish or somewhat connivent and incurved; areolation large, subrotund; the cellules contiguous and poriform; interstices somewhat obscure; involucral leaves small, unequal and unequally 2-3(?)-toothed. Perianth on a very short branch arising from the under side of the stem near the base, minute, ovate, somewhat oblique; the mouth oblique, subtruncate, minutely denticulate, at length fissured. Amphigastria minute, oblong-ovate, margined, entire; the apex incurved." AUSTIN *MSS.*

Differs from **J. SCUTATA** as follows: Plant smaller, color light red, stems lanceolate, leaves frequently obtusely bilobed, amphigastria smaller and entire, involucral leaves small and unequal, perianth never terminal and areolation of the leaves larger, C. F. AUSTIN.

J. SCHRADERI, *Mart.*

Old logs and decayed wood. Frequent. August - October.

J. CRENULATA, *Smith.*

Ground, Shawangunk mountains, C. F. AUSTIN.

J. EXSECTA, *Smith.*

Rotten wood. Sand Lake and Catskill mountains.

SCAPANIA, *Lindbg.*S. NEMOROSA, *Nees.*

Ground, rotten wood, rocks, in wet or dry places, mountain and plain. Frequent. Rocks, Catskill mountains, fertile. June.

PLAGIOCHILA, *Nees & Mont.*P. SPINULOSA, *Nees & Mont.*

Rocks, High Peak, Catskill mountains. Rare.

P. ASPLENOIDES, *Nees & Mont.*

Rocks and banks along rivulets. Frequent and variable.

P. PORELLOIDES, *Lindbg.*

Roots of trees in swamps; common, C. F. AUSTIN.

SARCOSCYPHUS, *Corda.*S. EHRHARTI, *Corda.*

Rocks in rivulets, Catskill mountains. Shawangunk mountains, near Greenville, C. F. AUSTIN.

FRULLANIA, *Raddi.*F. GRAYANA, *Mont.*

Rocks and trees. Frequent. Abundant in swamps on balsam and tamarack trees where it is fertile.

F. HUTCHINSIÆ, *Nees.*

Rocks in rivulets, near Greenville, Orange county, C. F. AUSTIN.

F. VIRGINICA, *Gottsche.*

Trees and rocks. Common.

F. EBORACENSIS, *Gottsche.*

Trees and rocks. Frequent.

LEJUNIA, *Libert.*L. SERPYLLIFOLIA, *Libert.*

Rocks and trees in mountainous districts. Catskill mountains.

L. CALCAREA, *Libert.*

Stones and roots of trees, Orange county, C. F. AUSTIN.

MADOTHECA, *Dumort.*M. PLATYPHYLLA, *Dumort.*

Rocks and trees. Frequent and variable.

M. PORELLA, *Nees.*

Sticks and stones in streams. Sand Lake. Sterile.

RADULA, *Nees.*R. COMPLANATA, *Dumort.*

Rocks and roots of trees. Very frequent and commonly fertile.

PTILIDIUM, *Nees.*P. CILIARE, *Nees.*

Old logs and ground in woods; mountain and plain. Very common and variable.

A large, erect, sterile form is found on the ground on high mountains.

SENDTNERA, *Endl.*S. JUNIPERINA, *Nees.*

Crevices of perpendicular rocks on mountains, Catskill mountains, High Peak and below Cauterskill Falls.

TRICHOCOLEA, *Nees.*T. TOMENTELLA, *Nees.*

Swamps and bogs. Common but seldom fruits.

MASTIGOBRYUM, *Nees.*M. TRILOBATUM, *Nees.*

Ground, rocks and much decayed wood in woods. Frequent. Rarely fruits.

M. DEFLEXUM, *Nees.*

Rocks and base of trees. Catskill mountains.

LEPIDOZIA, *Nees.*L. REPTANS, *Nees.*

Rotten logs and base of trees in woods, hills and mountains. Not rare.

CALYPOGEIA, *Raddi.*C. TRICHOMANIS, *Corda.*

Ground and old logs, often in wet places; common, C. F. AUSTIN.

In the foregoing List, 274 species of Musci and 66 species of Hepaticæ are recorded. It is believed that not a few species yet remain to be added to our Flora. It is the purpose of the writer to continue his efforts to perfect the List, and he would solicit contributions of specimens and facts from the bryologists of the State. It is well to note the habitat and time of fructification.

The following species of Moss doubtless occur within our limits, but have been omitted because they are not positively known to have been detected therein: *Ephemerum serratum*, *Astomum sullivantii*, *A. nitidulum*, *Bruchia flexuosa*, *Archidium ohioense*, *Dicranum refescens*, *Bryum lescurianum*, *Thelia lescurii*, *Hypnum scitum*, and *H. scorpioides*. Three species of moss new to this country, were detected the past season, and three new species of Liverwort are herein described. If we consider that the regions especially rich in species—the Catskill and the Adirondack mountains—have been but little visited by collectors, we must infer that many interesting species yet remain to reward future explorers.

ALBANY, December, 1865.

(C.)

LIST OF PLANTS FOR STATE HERBARIUM,

COLLECTED BY

HENRY B. LORD,

IN THE VICINITY OF LUDLOWVILLE, TOMPKINS COUNTY, 1865.

DENTARIA DIPHYLLA,	With root.
SINAPIS NIGRA,	Flower and fruit.
STELLARIA LONGIFOLIA,	do do
RHUS GLABRA,	do do
ACER SPICATUM,	Flower.
GEUM ALBUM,	Flower and fruit.
AGRIMONIA EUPATORIA,	do do
CIRCEA ALPINA,	Flower.
THASPIUM TRIFOLIATUM(?),	do
CORNUS FLORIDA,	Fruit.
CORNUS PANICULATA,	do
SAMBUCUS PUBENS,	do
MITCHELLA REPENS,	Flower and fruit.
EUPATORIUM SESSILIFOLIUM,	Flower.
ASTER UNDULATUS (2 forms),	do
SOLIDAGO ARGUTA,	do
SOLIDAGO MUHLENBERGII,	do
HIERACIUM SCABRUM,	Flower and fruit.
SONCHUS OLERACEUS,	do do
SONCHUS ASPER,	do do
PYROLA ROTUNDIFOLIA,	Fruit.
PYROLA CHLORANTHA,	do
VERONICA OFFICINALIS,	Flower and fruit.
GERARDIA PEDICULARIA,	do do
LYCOPUS EUROPÆUS,	do do
LITHOSPERMUM OFFICINALE,	do do
ASARUM CANADENSE,	Fruit.
JUGLANS CINEREA,	do
CARYA ALBA,	Flower.
CARYA GLABRA,	do
CARPINUS AMERICANUS,	do
SMILACINA RACEMOSA,	Fruit.
UVULARIA GRADIFLORA,	Flower and fruit.
JUNCUS NODOSUS,	do do
CAREX TORTA.	
CAREX RETROCURVA.	
CAREX TRICHOCARPA.	
CAREX PLATYPHYLLA.	
CAREX ALOPECOIDEA.	
CAREX CÆDERI.	
ADNOPOGRON FURCATUS.	
BOTRYCHIUM VIRGINICUM.	
ABALIA QUINQUEFOLIA,	Root.

(D.)

FACTS AND OBSERVATIONS

TOUCHING THE FLORA OF THE STATE OF NEW YORK.

COLLECTED, MAINLY, IN 1865.

BY ONE OF THE REGENTS.

It is desirable that some one should contribute, annually, to this Report, a paper showing the progress of Botanical discovery in the State, and preparing the way for a perfect Catalogue or Flora of the State. Hoping that some one of more leisure and ability will, next year, undertake that duty, I resume its performance now.

The inevitable delay which occurs in the printing of the Regents' Reports to the Legislature, would enable me to include observations and facts made and ascertained in the season of 1866; but this is a record of those of 1865, and I prefer, in general, to keep it so.

Mr. PAINE's admirable Catalogue of the Plants of Oneida County and vicinity, which gives its chief grace and value to the last Report, contains the results of that gentleman's explorations in 1865, as well as in 1864 and previous years. It is to be regretted that he did not place authentic specimens of his discoveries in the State Herbarium; which, so far at least as its Flora is concerned, ought to be its great continent and illustrator. In drawing upon that Catalogue for materials for my Lists, I was, at first, in special cases, in doubt whether I could safely do so. I have concluded, however, to adopt the conclusions of that good botanist, for the purposes of this paper, with the occasional expression of dissent or doubt.

The following is a list of the plants, so far as known to me, which have been found growing spontaneously in the State, and which are not included in TORREY's Catalogue, nor in the additions thereto furnished in my paper appended to the last or Eighteenth Annual Report on the State Cabinet:

1. *Ranunculus flammula*, L. PAINE's Cat. p. 55, *vide* GRAY. If I correctly understand the distinction between it and var. *reptans*, it is pretty common on the St. Lawrence.
2. *Ranunculus clintonii*, BECK. Mr. PAINE considers this a distinct species, though Dr. TORREY and Dr. GRAY, and botanists generally, regard it as a form of *R. reptans*.

3. *Nymphæa tuberosa*, PAINE. Paine's Cat. p. 184. This species can hardly be considered as established. Dr. GRAY has undertaken its investigation, but it may not be premature for me to express my impression that, while the specific character given by Mr. PAINE will probably fail, the species is a good one.
4. *Nuphar kalmiana*, PURSH. *N. lutea* of the Flora.
5. *Nuphar variegatum*, ENGELM. In reference to this species, the venerable E. DURAND, under the date of March 10, 1866, writes me: "*Nuphar variegatum*. I found in Philadelphia, in Dr. SHORT'S herb., now in Academy of Nat. Sciences, a specimen marked New-York, from H. H. EATON'S Herb." It "is easily distinguished from *N. advena*, by its leaves always floating, with closed sinuses and winged petioles." I have just been informed, authentically, that Dr. ENGELMANN now doubts the distinctness of this species.
6. *Argemone mexicana*, L. PAINE'S Cat. p. 185.
7. *Dentaria heterophylla*, NUTT. PAINE'S Cat. p. 60.
8. *Cakile maritima*, SCOP.; var. *æqualis*, CHAPM. Concy Island, one plant, 1865: STEPHEN CALVERLEY. (*C. maritima* of the Flora = *C. americana*, NUTT.)
9. *Malva alcea*, L. Buffalo, 1862, Alden, 1865; roadsides. G. W. C. For the identification of this species, I am indebted to my friend DAVID F. DAY, Esq.
10. *Trifolium procumbens*, L. PAINE'S Cat. p. 72. Sent to me, from the vicinity of New-York, in 1864, by A. A. ADEE, Esq. Regarded by botanists in the southern and eastern portions of the State as common; but *Medicago lupulina* is often taken for it.
11. *Medicago maculata*, WILLD. PAINE'S Cat. p. 72.
12. *Lespedeza stuevei*, NUTT. PAINE'S Cat. p. 73.
13. *Geum album*, GMELIN. Common in the western part of the State, and, probably throughout it. The *G. virginianum* of the Flora is, probably, *G. album*; but our Flora includes both species.
14. *Prunus spinosa*, L. PAINE'S Cat. p. 75.
15. *Potentilla paradoxa*, L. NUTT. PAINE'S Cat. p. 186.
16. *Hydrangea arborescens*, L. In 1865, the Rev. L. HOLZER collected, on the hills near Corning, on the road to Blossburg, what I believe to be this plant, though it had no radiant flowers.
17. *Pimpinella anisum*, L. Buffalo, 1865: D. F. DAY and G. W. C. Spontaneous about gardens; hardly a scape.
18. *Lonicera parviflora*, var. *douglasii*, GRAY. On the verge of the chasm between Niagara Falls and Suspension Bridge, 1865. G. W. C.
19. *Galium mollugo*, var. γ . HOOK. & ARN. New-York Island, 1865. M. W. DENSLow, Esq.
20. *Fedia olitoria*, VAHL. Abundant in a court-yard near Buffalo, and spreading, 1865. G. W. C.

21. *Aster azureus*, LINDL. Near the whirlpool of the Niagara river, on the top and edge of the bank, 1865. G. W. C.
22. *Solidago puberula*, NUTT. PAINE's Cat. p. 93. New-York botanists write me that it has long been regarded as common on Long Island, etc.
23. *Solidago speciosa*, NUTT. Harlem, 1861, C. F. AUSTIN. Re-discovered there, in 1865, by Dr. BURNSTEAD and Dr. ALLEN.
24. *Solidago speciosa*, var. *angustata*, TORR. & GR. PAINE's Cat. p. 93.
25. *Solidago houghtonii*, TORR. & GR. The open swamp in Bergen, 1865: Dr. C. M. BORTH and Mr. PAINE.
26. *Solidago linoides*, SOLANDER. PAINE's Cat. p. 94.
27. *Lapsana communis*, L. Buffalo, 1865, and in a court-yard and the adjacent street. G. W. C.
28. *Pyrola secunda*, L. var. *pumila*. PAINE's Cat. p. 187.
29. *Dodecatheon meadia*, L. PAINE's Cat. p. 105. This seems very doubtful.
30. *Utricularia clandestina*, NUTT. PAINE's Cat. p. 106.
31. *Utricularia gibba*, L. PAINE's Cat. p. 106.
32. *Gerardia integrifolia*, GRAY. Salamanca, side of the hill opposite the railroad station, 1865. G. W. C.
33. *Schwalbea americana*, L. PAINE's Cat. p. 109.
34. *Hyssopus officinalis*, L. PAINE's Cat. p. 110.
35. *Thymus serpyllifolia*, L. PAINE's Cat. p. 111.
36. *Atropa belladonna*, L. PAINE's Cat. p. 116.
37. *Atriplex hastata*, L. var. *oblongifolia*. PAINE's Cat. p. 120. This seems to be different from a narrow leaved form which I have found at Syracuse, and also about court-yards and gardens in Buffalo and Richfield Springs, and I have never seen it. If it be different, then Salina and Syracuse present four remarkably variant forms of *Atriplex hastata*.
38. *Amarantus retroflexus*, L. PAINE's Cat. p. 120.
39. *Amarantus hypochondriacus*, L. Niagara Falls, 1865. G. W. C.
40. *Amarantus spinosus*, L. Along the Buffalo and State Line railroad, near Elk-street, Buffalo, 1865. G. W. C.
41. *Polygonum careyi*, OLNEY. PAINE's Cat. p. 121.
42. *Rumex sanguineus*, L. PAINE's Cat. p. 122. I fear that a redveined form of *R. obtusifolius* is taken for this species.
43. *Rumex acetosa*, L. PAINE's Cat. p. 122.
44. *Callitriche austini*, ENGELM. "Staten Island, in shady by-ways on dry, hilly ground," June 1865. C. F. AUSTIN.
45. *Populus angulata*, AIT. PAINE's Cat. p. 189.

46. *Juniperus sabina*, L. var. *prostrata*. PAINE'S Cat. p. 130. Long known to our botanists, but first identified as a var. of *sabina*, by Dr. ROBBINS.
47. *Sparganium eurycarpum*, ENGELM. PAINE'S Cat. p. 131.
48. *Sparganium natans*, L. PAINE'S Cat. p. 132.
49. *Sagittaria graminea*, MICHX. PAINE'S Cat. p. 134. Dr. ENGELMANN, about two years ago, wrote me that this species exists in the Niagara river, near Buffalo; but I have not been able to identify it to my satisfaction.
50. *Platanthera rotundifolia*, LINDL. var. *oblongifolia*. PAINE'S Cat. p. 135.
51. *Cypripedium candidum*, MUHL. PAINE'S Cat. p. 139.
52. *Tofieldia glutinosa*, WILLD. PAINE'S Cat. p. 143.
53. *Juncus debilis*, GRAY. PAINE'S Cat. p. 145.
54. *Xyris bulbosa*, KUNTH. PAINE'S Cat. p. 146.
55. *Eleocharis compressa*, SULLIVANT. PAINE'S Cat. p. 147.
56. *Scirpus fluviatilis*, GRAY. PAINE'S Cat. p. 149. Well known to botanists, since GRAY pointed out the distinction between it and *S. maritimus*, and included in several local catalogues, including my own.
57. *Carex prairea*, DEW. PAINE'S Cat. p. 151. (I may as well remark here, that I dare not interfere in the disputes touching the species of this extremely large genus; and, so far as I refer to it, I adopt the conclusions of Mr. PAINE'S Catalogue, without examination.) I suppose this to be *C. teretiuscula*, var. *major*, KOCH. Bergen swamp, 1865: G. W. C. PAINE'S Cat. p. 151.
58. *Carex cephaloidea*, DEW. PAINE'S Cat. p. 151.
59. *Carex scabrior*, SARTWELL. PAINE'S Cat. p. 152.
60. *Carex tenella*, EHRH. PAINE'S Cat. p. 152.
61. *Carex argyrantha*, TUCKERMAN. PAINE'S Cat. p. 152.
62. *Carex lenticularis*, MICHX. PAINE'S Cat. p. 153.
63. *Carex strictior*, DEWEY. PAINE'S Cat. p. 154.
64. *Carex gynandra*, SCHWEIN. PAINE'S Cat. p. 154.
65. *Carex emmonsii*, DEW. PAINE'S Cat. p. 155.
66. *Carex lupuliformis*, SARTW. PAINE'S Cat. p. 157.
67. *Carex retrocurva*, DEW. PAINE'S Cat. p. 158.
68. *Carex vaginata*, TAUSCH. PAINE'S Cat. p. 158.
69. *Carex woodii*, DEW. PAINE'S Cat. p. 159.
70. *Carex glabra*, BOOTT. PAINE'S Cat. p. 160.
71. *Carex knieskernii*, DEW. PAINE'S Cat. p. 161.

72. *Carex richardsonii*, R. BROWN. PAINE'S Cat. p. 161.
73. *Carex vaseyi*, DEW. PAINE'S Cat. p. 163.
74. *Carex hartii*, DEW. PAINE'S Cat. p. 163.
75. *Carex hartii*, var. *bradleyi*, DEW. PAINE'S Cat. p. 163.
76. *Carex ampullacea*, GOOD. PAINE'S Cat. p. 164.
77. *Carex monile*, TUCKERM. PAINE'S Cat. p. 164.
78. *Carex vesicaria*, L. PAINE'S Cat. p. 164.
79. *Carex physema*, DEW. PAINE'S Cat. p. 165. To these Carices must be added:
80. *Carex utriculata*, var. *minor*, the credit of the discovery of which is, I believe, due to the Hon. HENRY B. LORD.
81. *Carex œderi*, var. *prolifera*, LORD. This form is found by Mr. LORD near Ludlowville, Tompkins county, and he deems it worthy to be noted as a variety, under the above name. At least one of the spikes of each plant is proliferous; that is, from one of the perigynia issues a stalk bearing a spike.
82. *Carex lupulina*, var. *gigantoidea*, DEWEY in SILLIMAN'S Journal. Discovered by Mr. LORD, near Ludlowville, in 1865.
83. *Tripsacum dactyloides*, L. Hunter's Point, Long Island, 1865. Dr. T. F. ALLEN.
84. *Cystopteris fragilis*, var. *dentata*, HOOK. PAINE'S Cat. p. 178.
85. *Aspidium dilatatum*, WILLD. PAINE'S Cat. p. 178.
86. *Aspidium bootii*, TUCKERM. PAINE'S Cat. p. 178. These two forms of *A. spinulosum*, as they are commonly conceded to be, are not extremely uncommon in the State, and have long been known to its botanists.
87. *Botrychium lanceolatum*, ANGSTR. PAINE'S Cat. p. 179.
88. *Isctes braunii*, DURIEU. The Niagara river, near Buffalo, at the mouth of the Little Bay of Strawberry Island, and along the head of Grand Island, 1865; G. W. C. This was determined by DURIEU, to whom specimens were sent, "with the same remark that Prof. BRAUN makes to Dr. ENGELMANN, that *I. braunii* and *echinospora* may probably prove to be forms of the same species." E. DURAND; in lit., Dec. 5, 1865.
89. *Isctes macrospora*, DURIEU. This species "was established on an unique specimen in the herbarium of the Phil. Academy of Natural Sciences, which I sent to Prof. DURIEU three years ago. It was marked, 'found in a pond of the Catskill.' It is distinguished by its very large spores and androspores, larger than in any other known species." E. DURAND, in lit., Dec. 11, 1865. The station of this plant is believed to be one of the small ponds or lakes back of the Mountain House.

The following plants, which are either maritime or principally affect the sea coast, have, since the last Report, been found in the interior of the State:

1. *Orontium aquaticum*, L. "Borders of a pond in Gilbertsville, Otsego county, H. LATHROP in herb." PAINE'S Catalogue.
2. *Eleocharis olivacea*, TORR. PAINE'S Catalogue.
3. *Calamagrostis arenaria*, ROTH. PAINE'S Catalogue.
4. *Spartina stricta*, var. *alterniflora*, GRAY. PAINE'S Catalogue.

The following list contains new stations of rare plants, or remarkable stations of common ones, and some corrections of reputed stations, and notable observations touching some of our plants:

1. *Ranunculus reptans*, L. On western edge of Strawberry Island, in the Niagara river, and off the Little Bay of that Island, in water from one to two feet deep.
2. *Adlumia cirrhosa*, RAF. Akron, Erie county, 1864: D. F. DAY and G. W. C.
3. *Nuphar kalmiana*, PURSH. Williams's Bridge, on the Harlem river, 1865. T. F. ALLEN.
4. *Dicentra eximia*, D.C. On recurring to my correspondence with DAVID THOMAS, in 1829, I find that he had not, as I supposed, then found this plant native in Cayuga county. Prof. PICKETT kindly communicated to me a letter of my dear friend, Dr. SARTWELL, dated June 23, 1865, in which he writes: "As to *Dicentra eximia*, I know not where it can be found. About twenty years ago, I found it in Wayne county, not far from Lyons; and DAVID THOMAS found it in Scipio, Cayuga county, about the same time, or before. I doubt whether it can be had, at this time, unless some one has it in his garden. I have no duplicate specimen."
5. *Lychnis vespertina*, SIBTH. New-York Island, 1865. W. W. DENSLOW.
6. *Vicia cracca*, L. Hanover, Chautauqua county, 1865: D. F. DAY. Mr. DAY informs me that it had taken possession of a farm in that town, and, being regarded as a weed, the farm had depreciated in value.
7. *Gymnocladus canadensis*, LAM. The Hon. HENRY B. LORD, of Ludlowville, Tompkins county, wrote to me, on the 15th of July 1865: "Too late for flowering specimens. I know of but one tree in this town, and two smaller growing near it, which I should take to be seedlings, only the flowers on the oldest tree are staminate. These trees are, apparently, spontaneous, growing outside of any enclosure, near the (Cayuga) Lake. They have been regarded with great curiosity by the people, no one knowing what to call them. The prevalent impression was that they were *mahogany* trees, and I have frequently had them pointed out to me as such; and, sometimes, the very interesting

incident was stated, that the largest tree (about 18 inches in diameter) was planted by a sailor, or rather the seed was planted which he brought with him from a voyage to the mahogany countries."

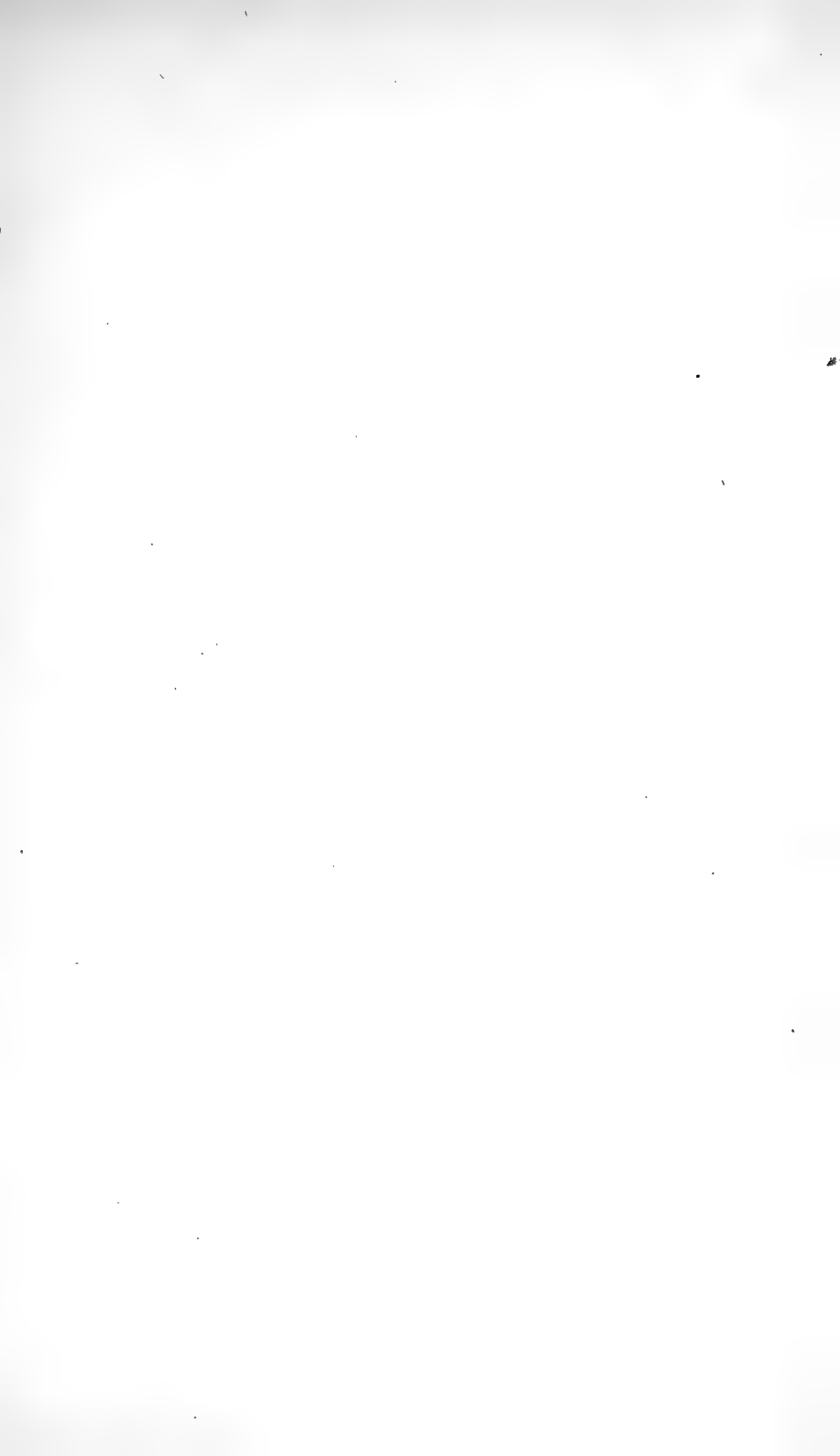
8. *Rosa setigera*, MICHX. In company with Dr. BOOTH, I found some bushes of this near Rochester, in 1864, an our way to Irondequoit Bay, and the Doctor informed me that there were other stations of it near Rochester. In the same year I found a single bush of it on the edge of a wooded swamp, remote from any garden, near Buffalo. In 1865, I found it abundant, on the banks of the Oak Orchard creek, at Albion. I am inclined, however, to the belief that, in all these stations, it was bird-sown, and that it is not indigenous to the State.
9. *Lythrum hyssopifolia*, L. Staten Island, 1865. W. H. LEGGETT.
10. *Epilobium molle*, TORREY. Buffalo, 1865. G. W. C.
11. *Opuntia vulgaris*, MILL My venerable friend, Dr. JAMES HADLEY, now of Buffalo, wrote me, on the 23d of May 1866, as follows: "In answer to your inquiries I would state that I never found, and do not know that any one else ever found, *Opuntia vulgaris* at Fairfield. The statement of Dr. TORREY, in his Flora of the State, 'The most northern locality in this State is Fairfield, where it was found by Prof. HADLEY', is an error. I collected this plant at New-Haven, Connecticut; and it may be that a specimen, collected there, slipped in among some plants from Fairfield which I furnished to Doctor TORREY. I can imagine no other way in which the error could have occurred." My good friend, JAMES L. BENNETT, of Providence, R. I., in March 1866, wrote me that, in 1856 or 1857, he found the *Opuntia vulgaris* "in the neighborhood of Syracuse, in a southwestern direction from the city," and that "it appeared a native, and not an accidental interloper."
12. *Valeriana sylvatica*, RICHARDS. Bergen swamp, Genesee county, 1865. Dr. BOOTH, FISH, PAINE.
13. *Solidago ohioensis*, RIDDELL. Bergen swamp, 1865. BOOTH, FISH.
14. *Veronica anagallis*, L. Caledonia, Livingston county; and in the Tonawanda swamp, on the Oak Orchard creek, near Alabama, 1865. G. W. C. Near Bergen, 1865: L. HOLZER, FISH, BOOTH.
15. *Melissa officinalis*, L. Roadsides in Hamburg, Erie county, 1865. Naturalized, D. F. DAY.
16. *Blephilia hirsuta*, BENTH. "It grows along the Chemung river, west of the railroad bridge, outside of Corning, near the Painted Post station." Rev. L. HOLZER, 1865.
17. *Gentiana saponaria*, var. *linearis*, GRAY. Irondequoit Bay, 1863. GEO. W. FISH.
18. *Frasera carolinensis*, WALT. Under the date of "Greatfield, 2 mo. 2, 1828," DAVID THOMAS wrote me: "*Frasera carolinensis* is called a biennial, but I am satisfied that it is often triennial." It is abundant in rocky groves east of and near Buffalo. My friend, D. F. DAY, and myself have observed it closely in and

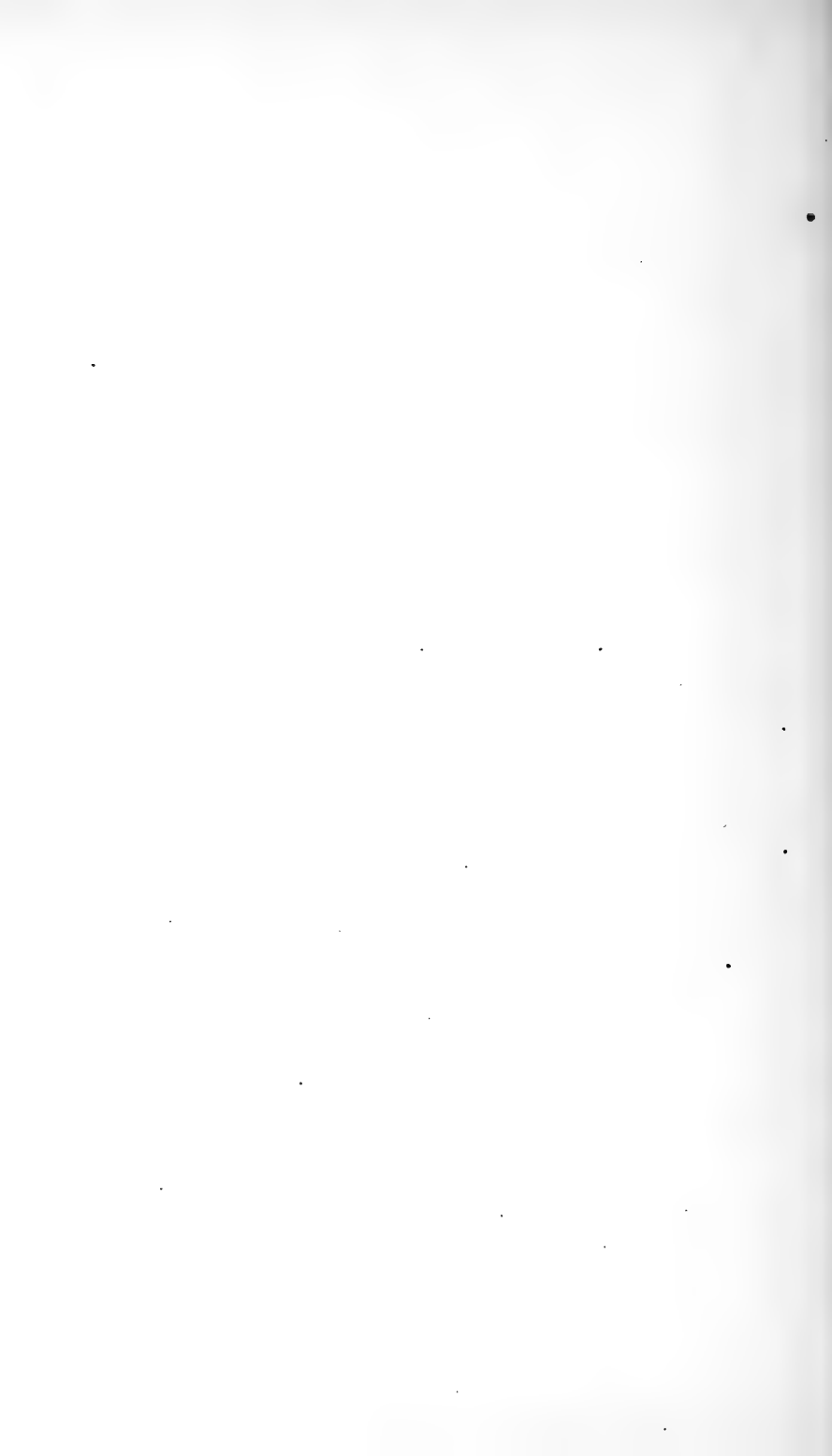
since 1861. In that year we found only radical leaves and a few old fruit stalks. In 1862 it flowered. In 1863 and 1864 it did not; but in 1865 it did flower.

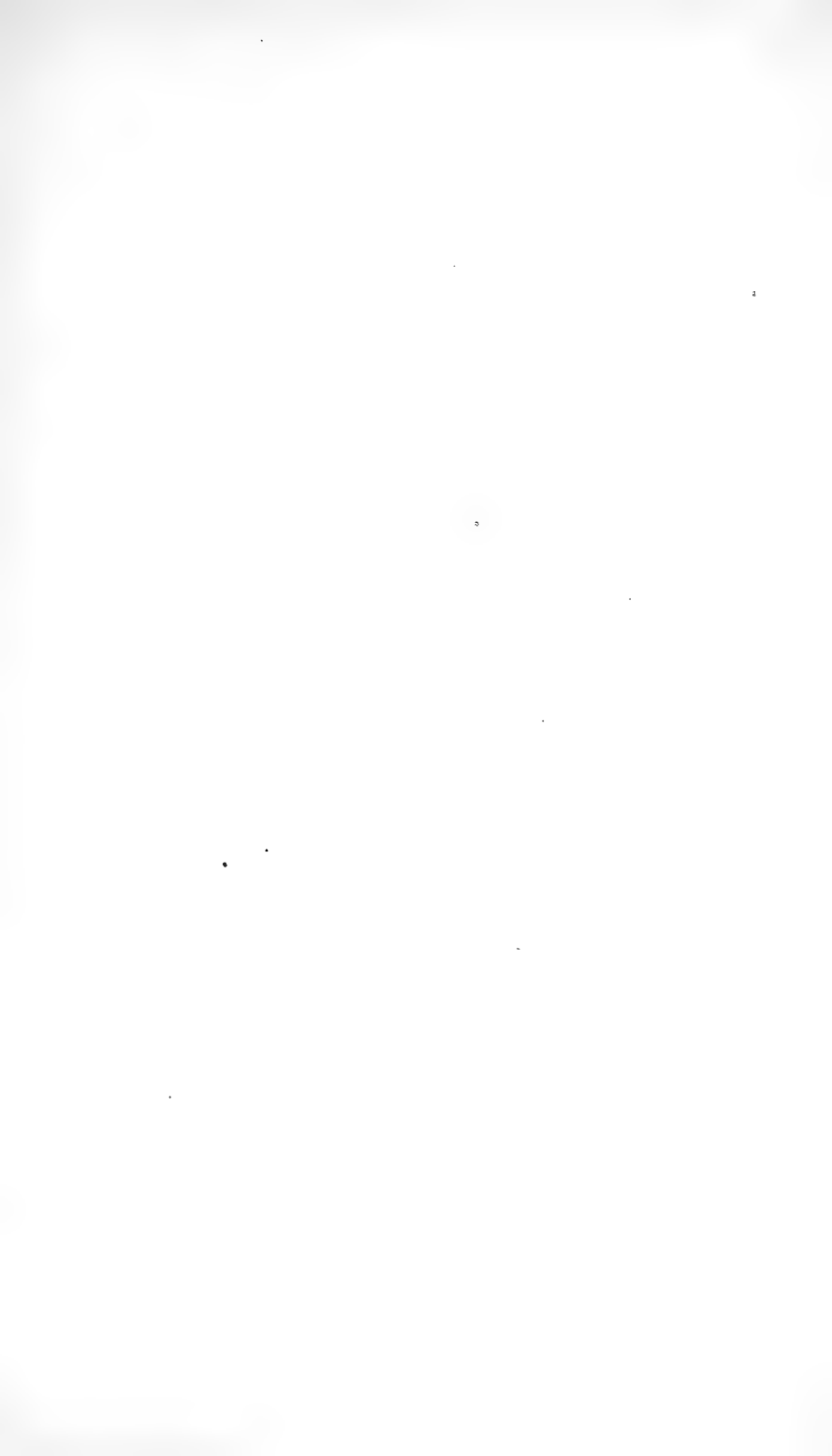
19. *Acerates viridiflora*, ELL. Staten Island, 1865. W. H. LEGGETT.
20. *Myrica cerifera*, L. Caledonia, and the Bergen swamp, common. 1865.
21. *Naias major*, ALLIONI. Irondequoit Bay, 1865. Prof. E. G. PICKETT.
22. *Zygadenus glaucus*, NUTT. Caledonia, 1865: G. W. C. Bergen swamp, 1865: FISH, BOOTH, PAINE, HOLZER.
23. *Tofieldia glutinosa*, WILLD. Bergen swamp, 1865: BOOTH, PAINE, FISH, HOLZER.
24. *Eleocharis rostellata*, TORREY. Bergen swamp, 1865: BOOTH, FISH, PAINE, HOLZER.
25. *Scirpus cespitosus*, L. Bergen swamp, 1865: FISH, BOOTH, HOLZER, G. W. C.
26. *Scleria verticillata*, MUHL. Bergen swamp, 1865: CLINTON, BOOTH, FISH, PICKETT.
27. *Carex gynocrates*, WORMSKIOLD; *C. dioica* of the Flora. Bergen swamp, 1865: BOOTH, PAINE.
28. *Carex siccata*, DEWEY. Bergen swamp, 1865. G. W. C.
29. *Carex grayii*, CAREY. Rochester, BOOTH, ALDEN, 1865; HOLZER and G. W. C.
30. *Phalaris canariensis*, L. Buffalo, on rubbish heaps, 1865. D. F. DAY
31. *Scolopendrium officinarum*, SWARTZ. On the third day of March, 1865, LEWIS FOOTE, Esq., of Detroit, Michigan, discovered a new station of this fern, which, in a letter to me, he describes as being: "about 200 feet from the track of the Syracuse & Binghamton R. R., about five miles from Syracuse and half a mile from Janesville, in a deep rocky ravine, through which a small stream empties into the Butternut creek." In noticing this interesting discovery, in the American Journal, Professor GRAY supposes that this may be PURSH's original station: But there is reason to believe that PURSH's was neither this nor the Chittenango Falls station. PURSH states that he found it "in shady woods, among loose rocks, in the western parts of New-York, near Onondaga, on the plantations of J. GEDDIS, Esq." The Hon. GEORGE GEDDES, the son of PURSH's "J. GEDDIS, Esq.," under the date of "Fairmount, March 31, 1866," very obligingly wrote me as follows, in answer to my inquiries: "I regret to have to say that my knowledge of botany is too limited to enable me to identify the fern commonly called the *Harts-tongue*. But it so happens that I remember many years since, when I was small boy, that my father set me looking for it in a gorge in the limestone precipice just south of my house, which is $4\frac{1}{2}$ miles west of the center of Syracuse. The gorge is within one mile of my house, and is quite like the locality on the Butternut creek and the locality on the Chittenango. I am very

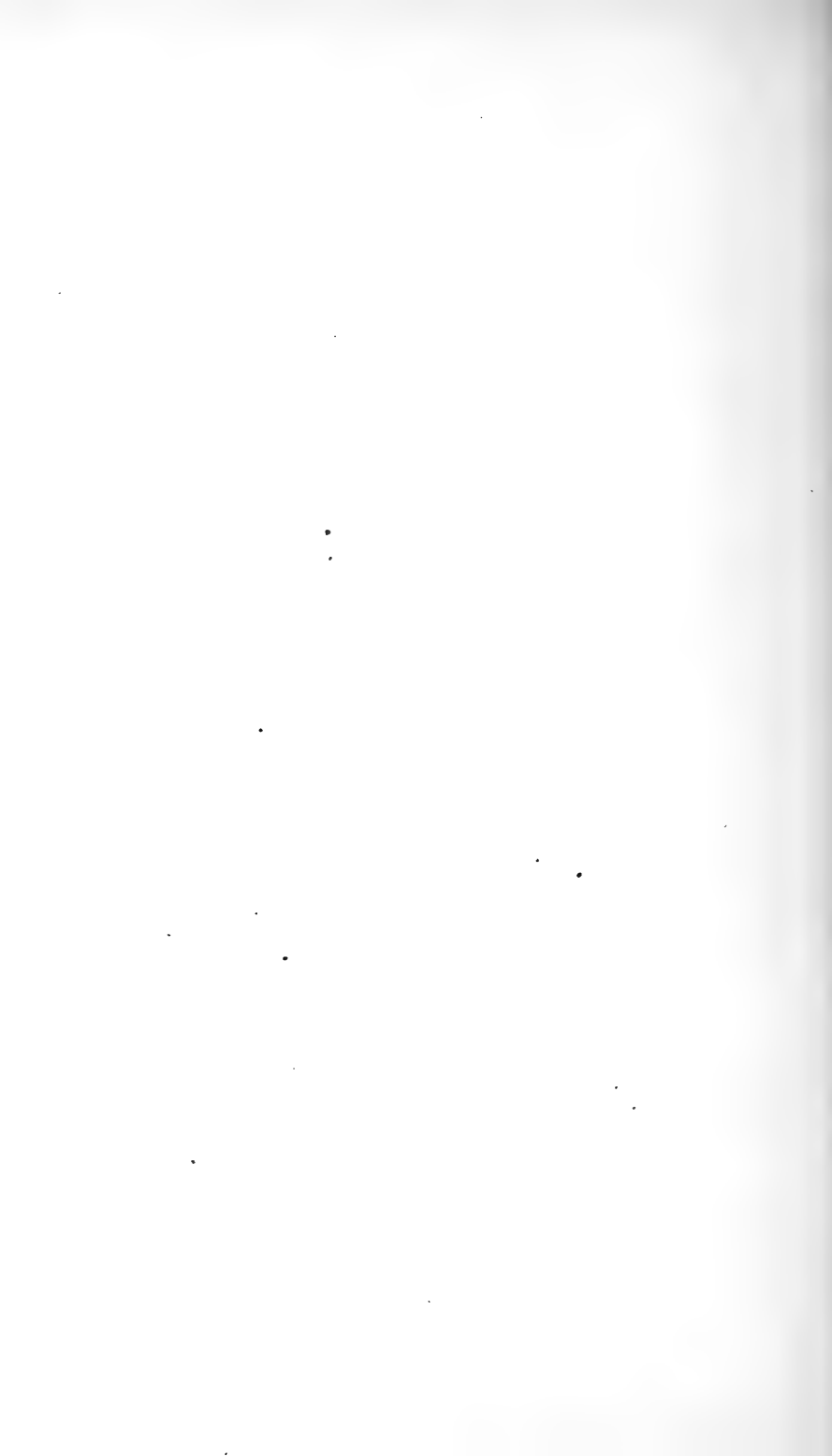
familiar with all these three places. I very well remember that my father was anxious to secure a specimen of this fern, as the fact of its having been found here was *disputed*. Your letter, read in connection with my recollection of his having said that some noted botanist had found it in the gorge near here, and the dispute that had grown out of the report, leaves no doubt in my mind that the fern was found within one mile of here, and by the man you name, though not strictly on my father's land, but just off his property. This being so, it is safe for you to say that on the Chittenango, on the Butternut, and in the town of Onondaga, just at the base of the limestone cliff of one hundred feet high, this fern has been found. The first of these discoveries was the one in 1806, by PURSH. It would have gratified my father much, could he have shown that this fern grew in various places along the base of the limestone range, though he was unable to find a specimen here as late as the time when he set me looking for it, when I was carrying a gun over our hills about the year 1825."

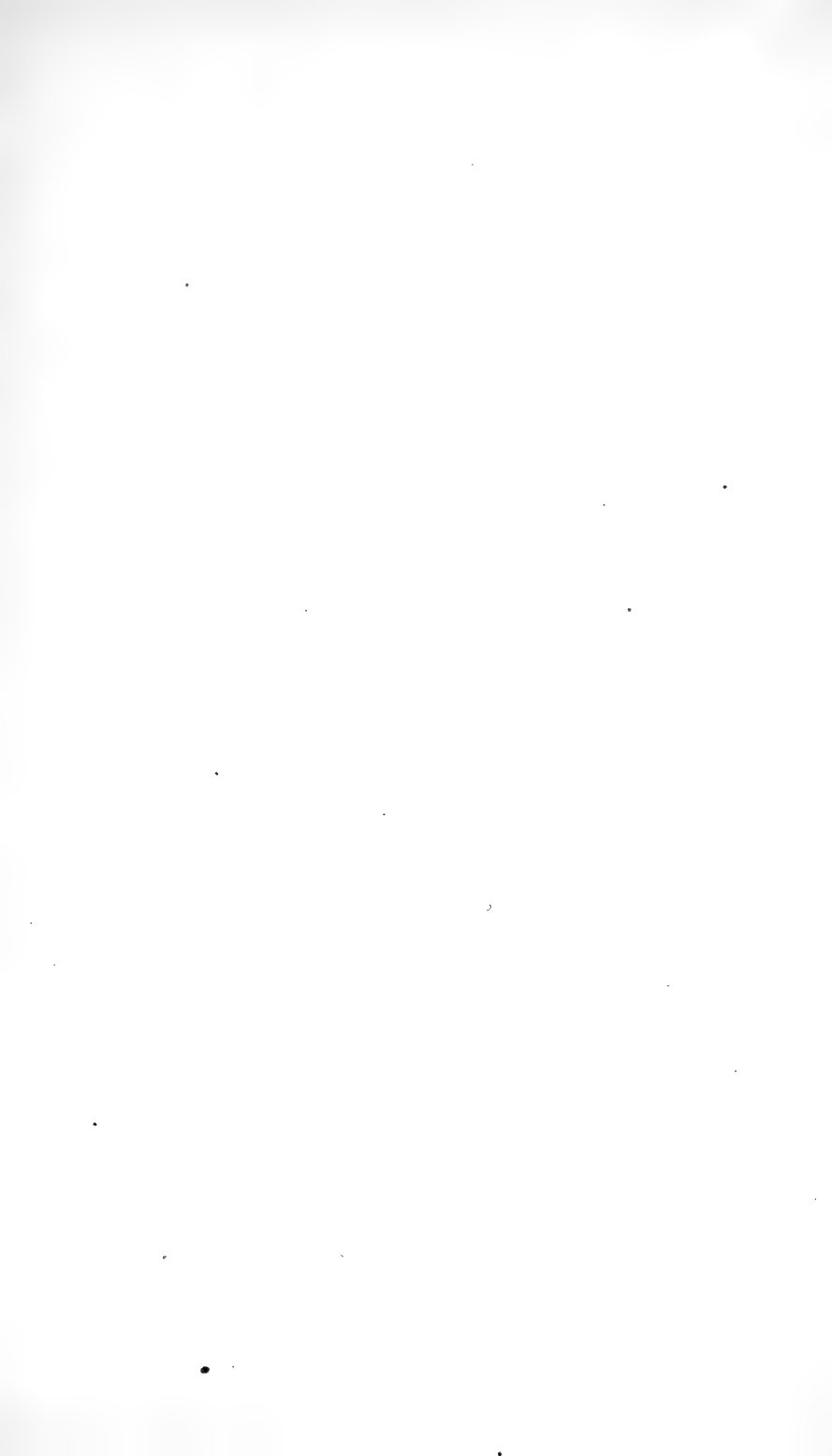
On account of delay in the publication of this Report, the remaining Papers named in the Table of Contents, on pages 37, 38, will appear in the next Annual Report.

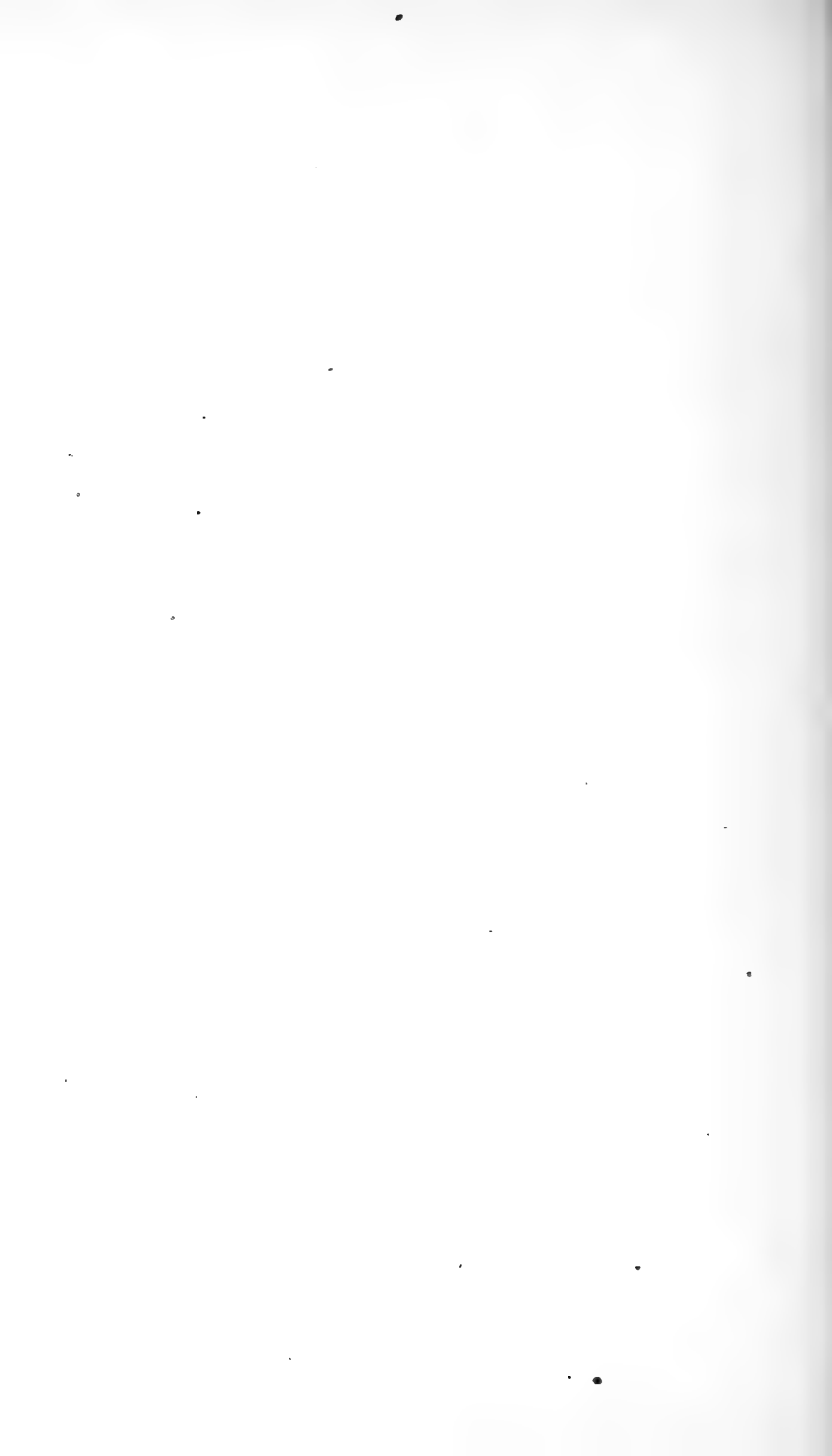


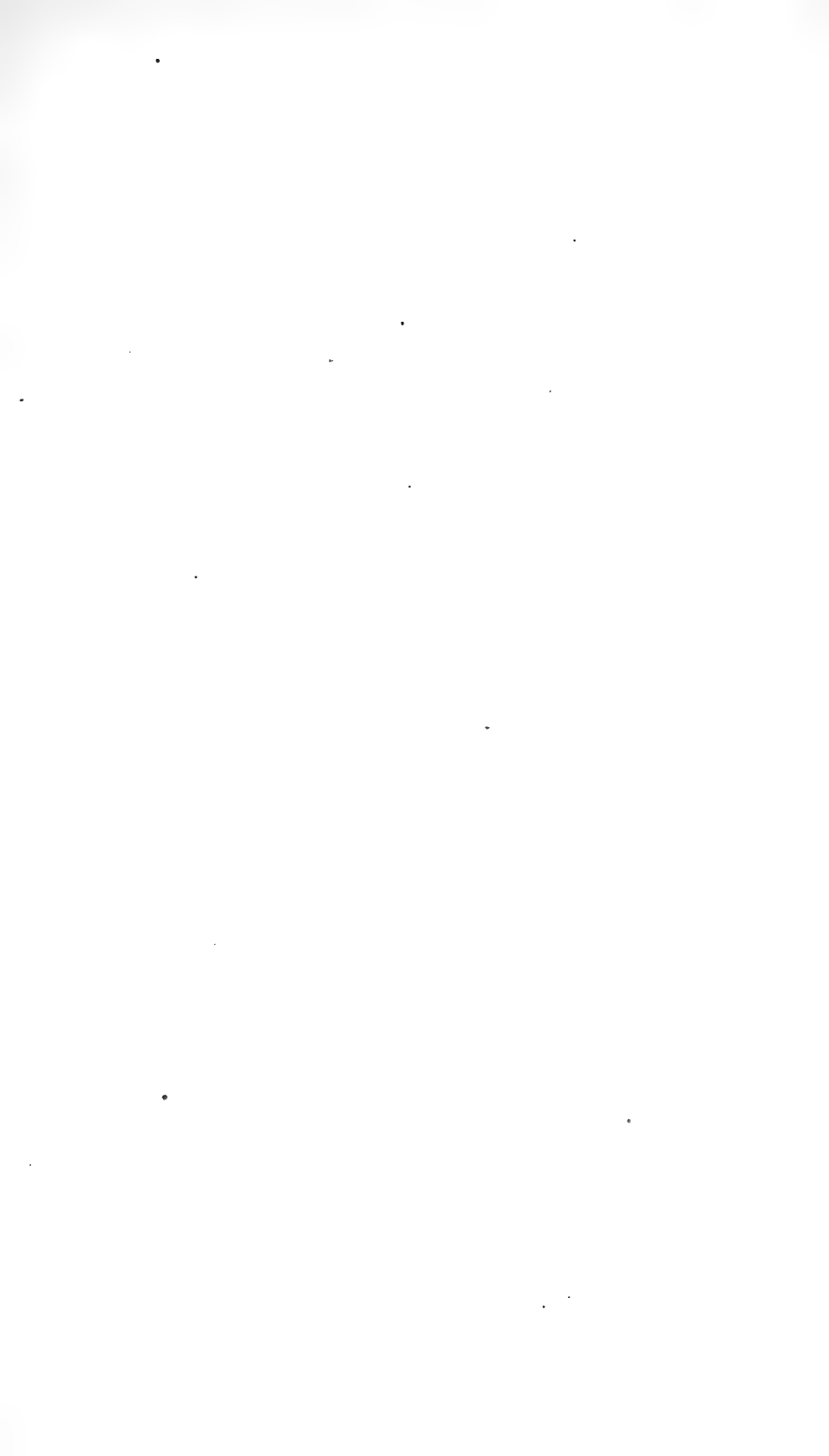


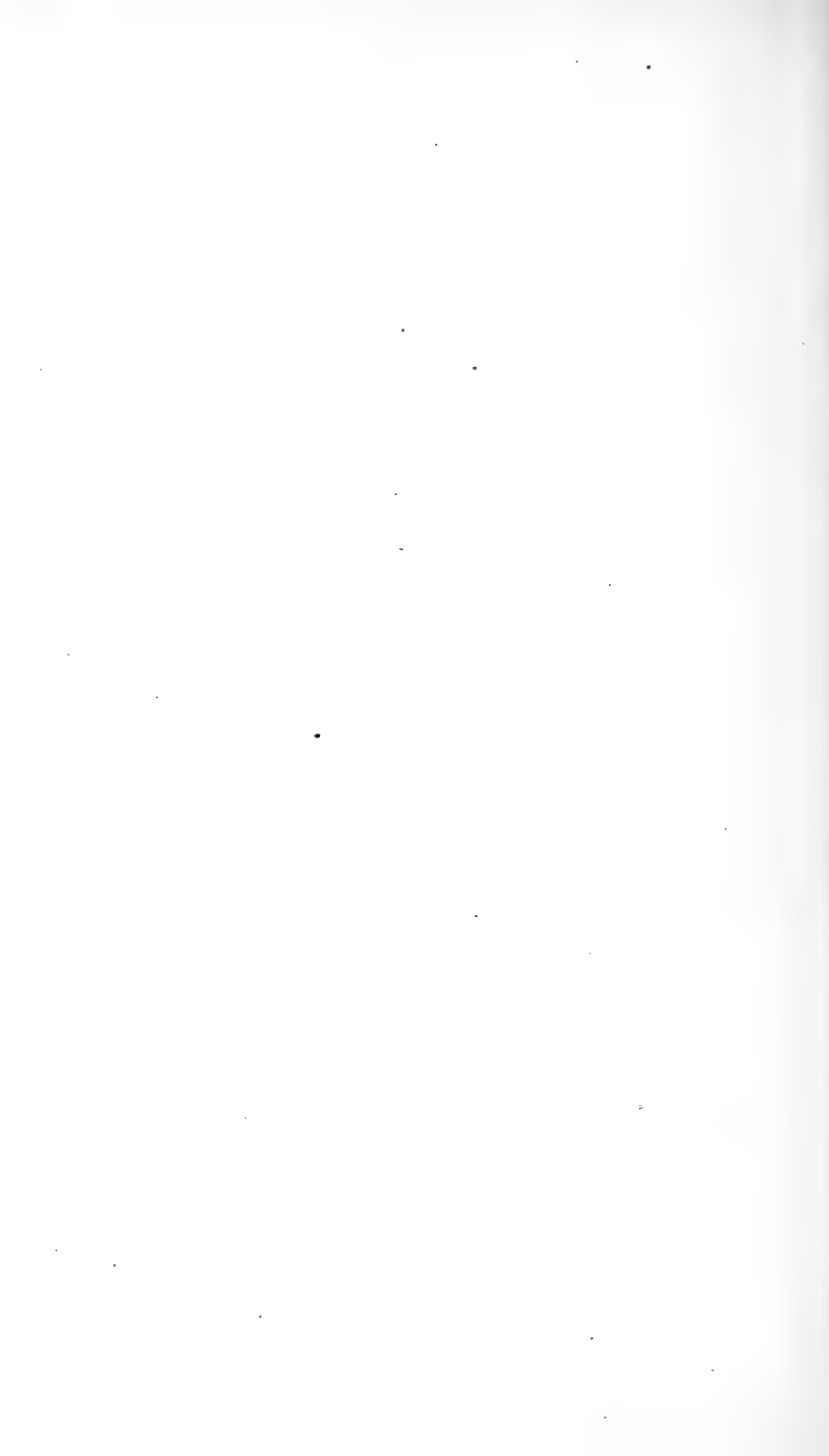




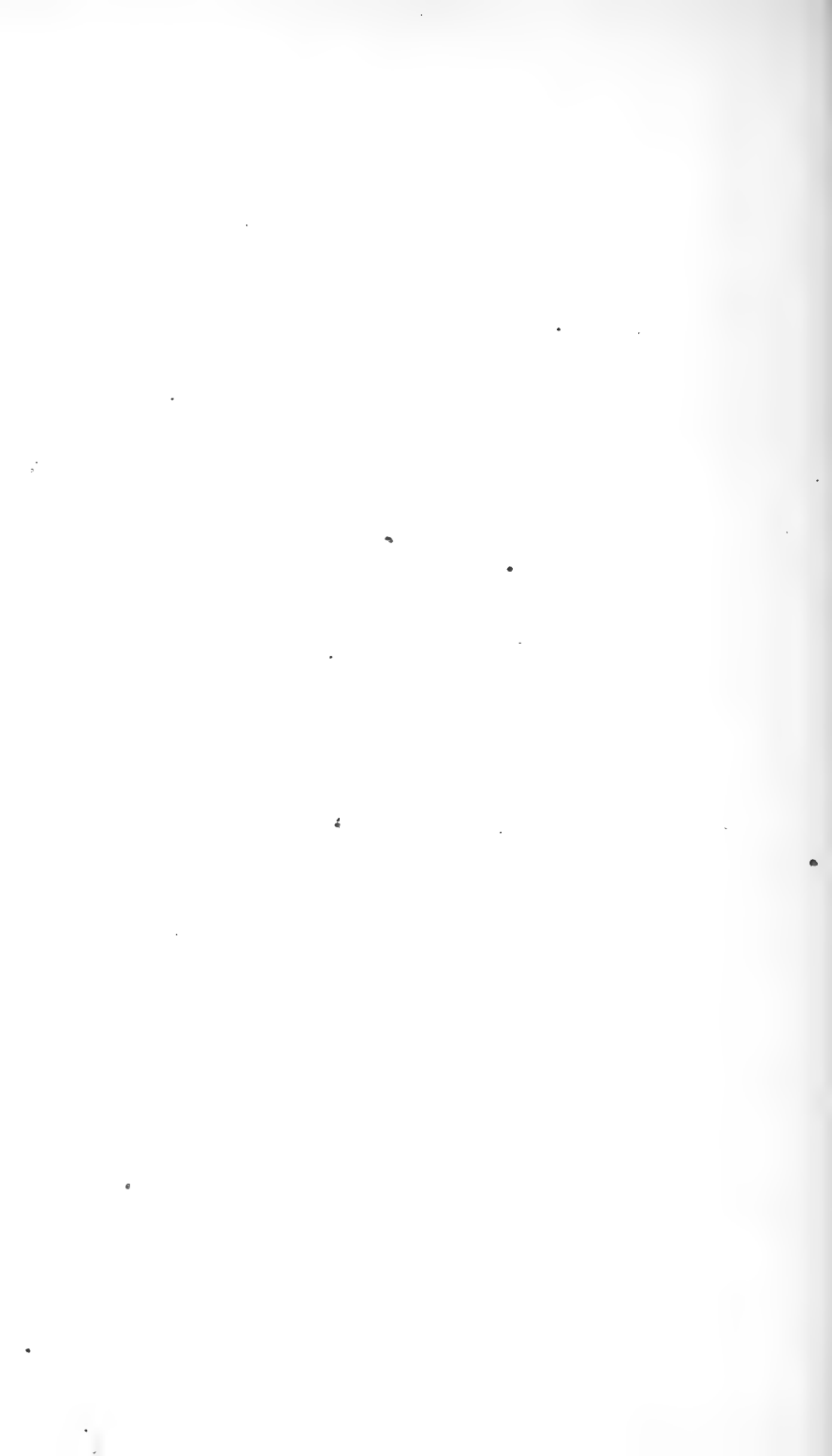


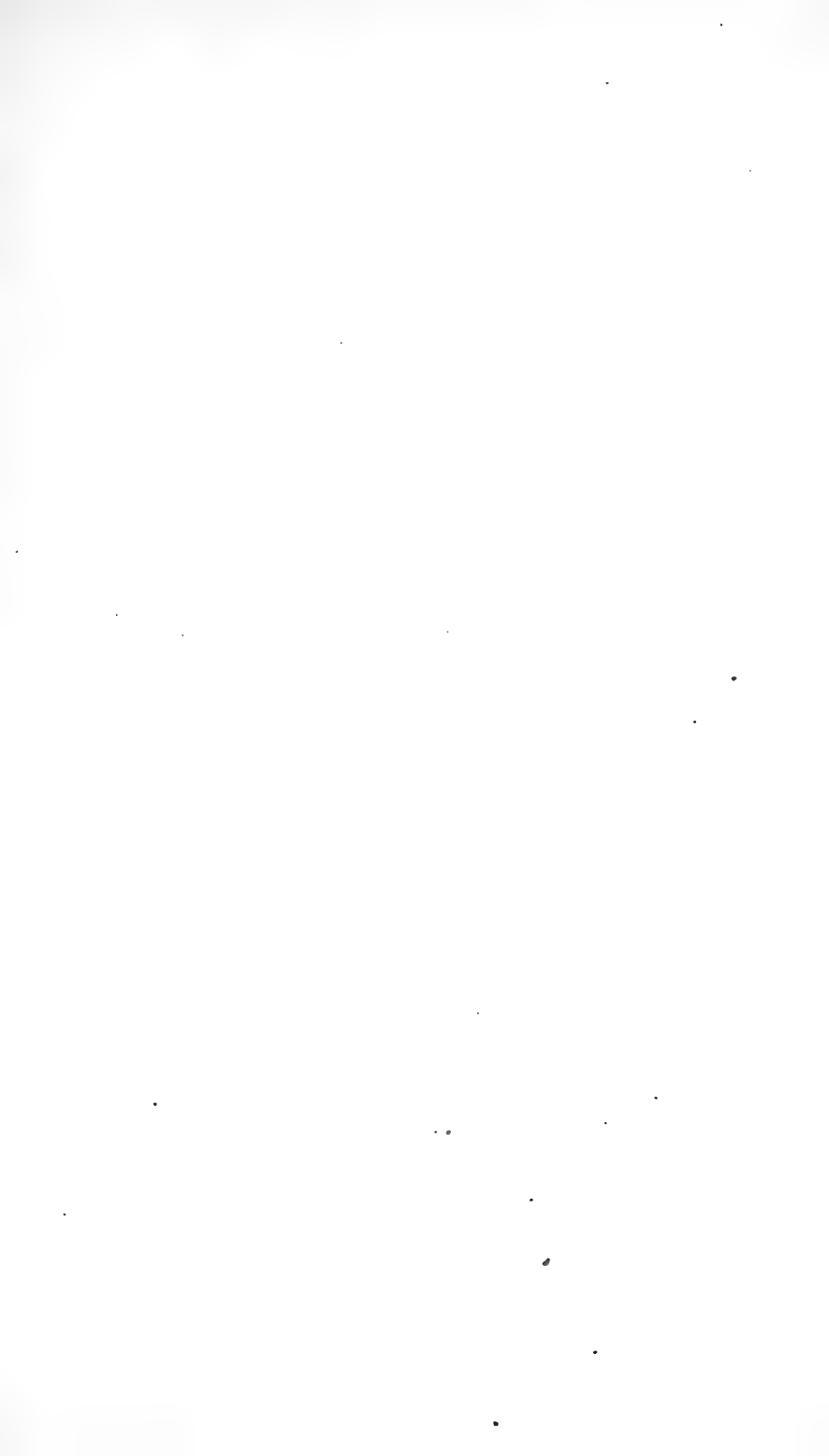


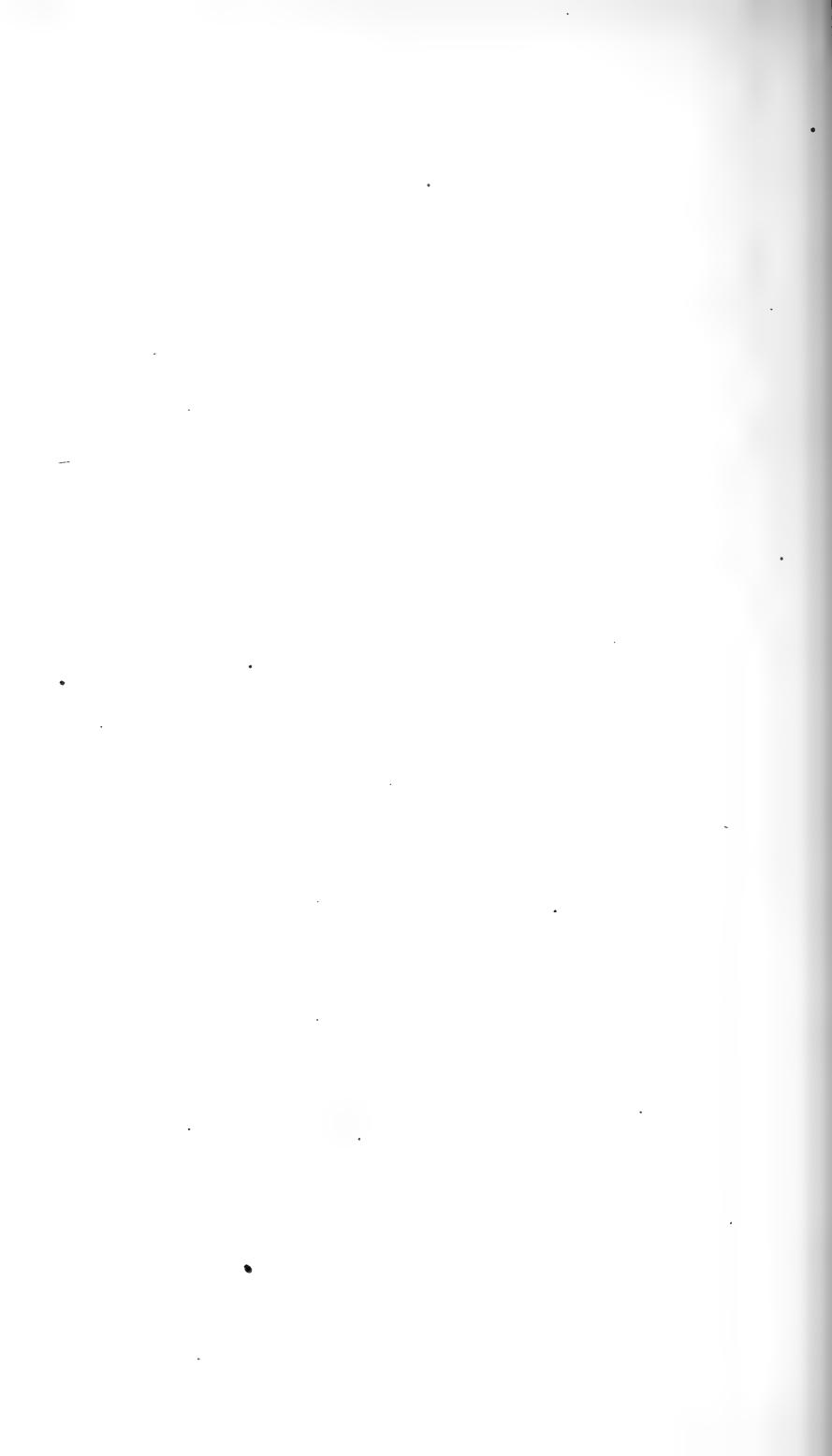


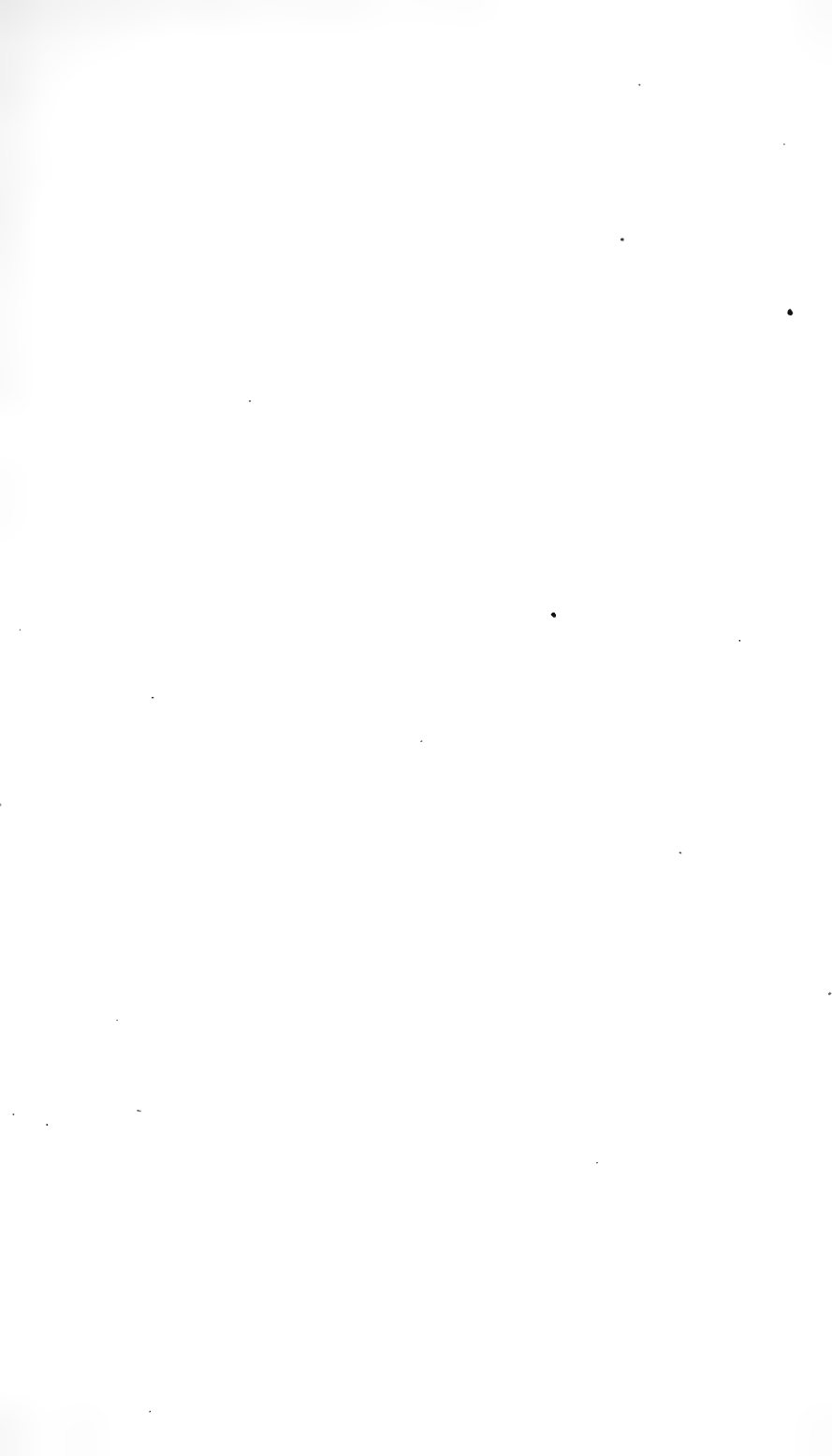


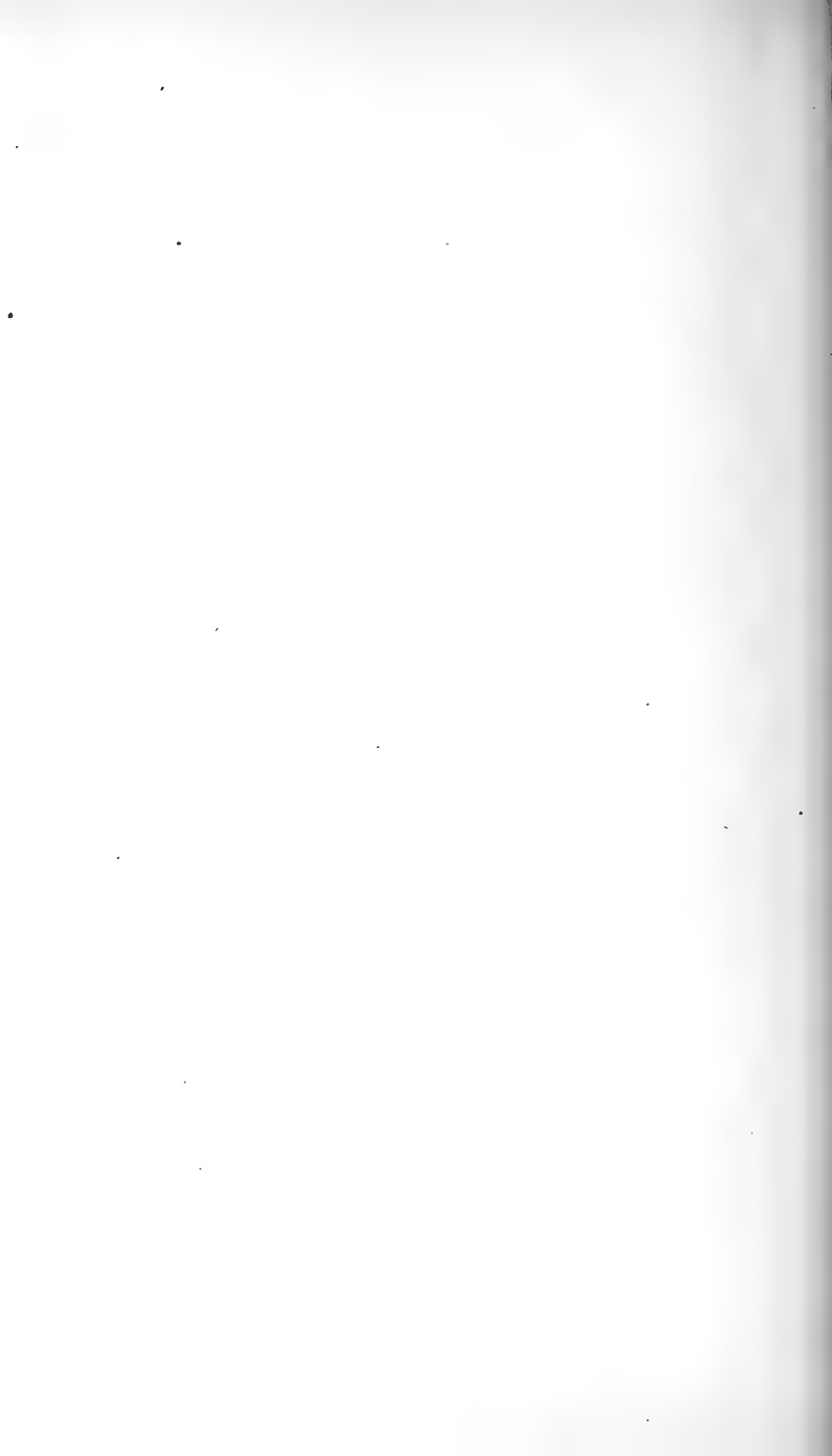


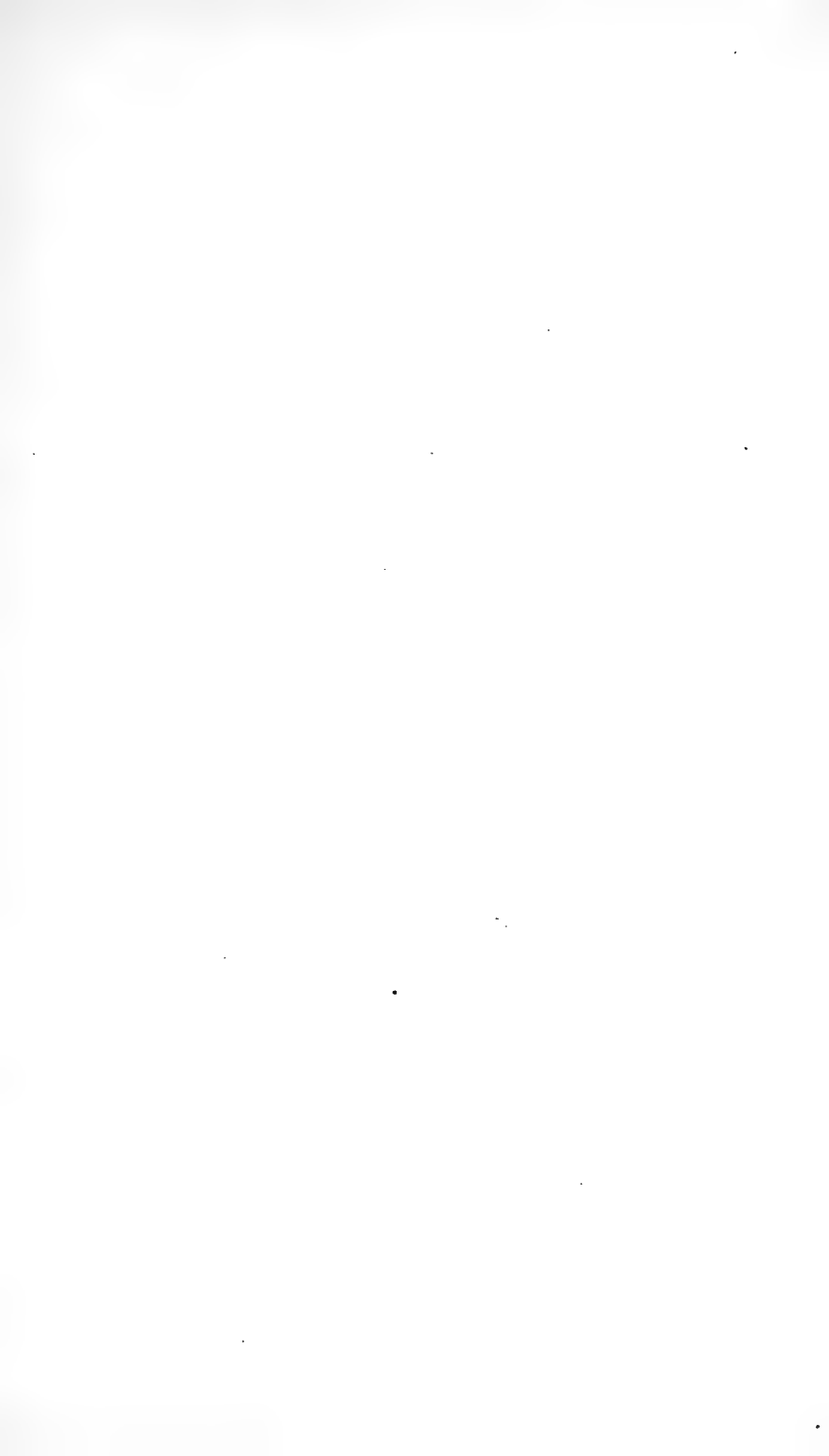


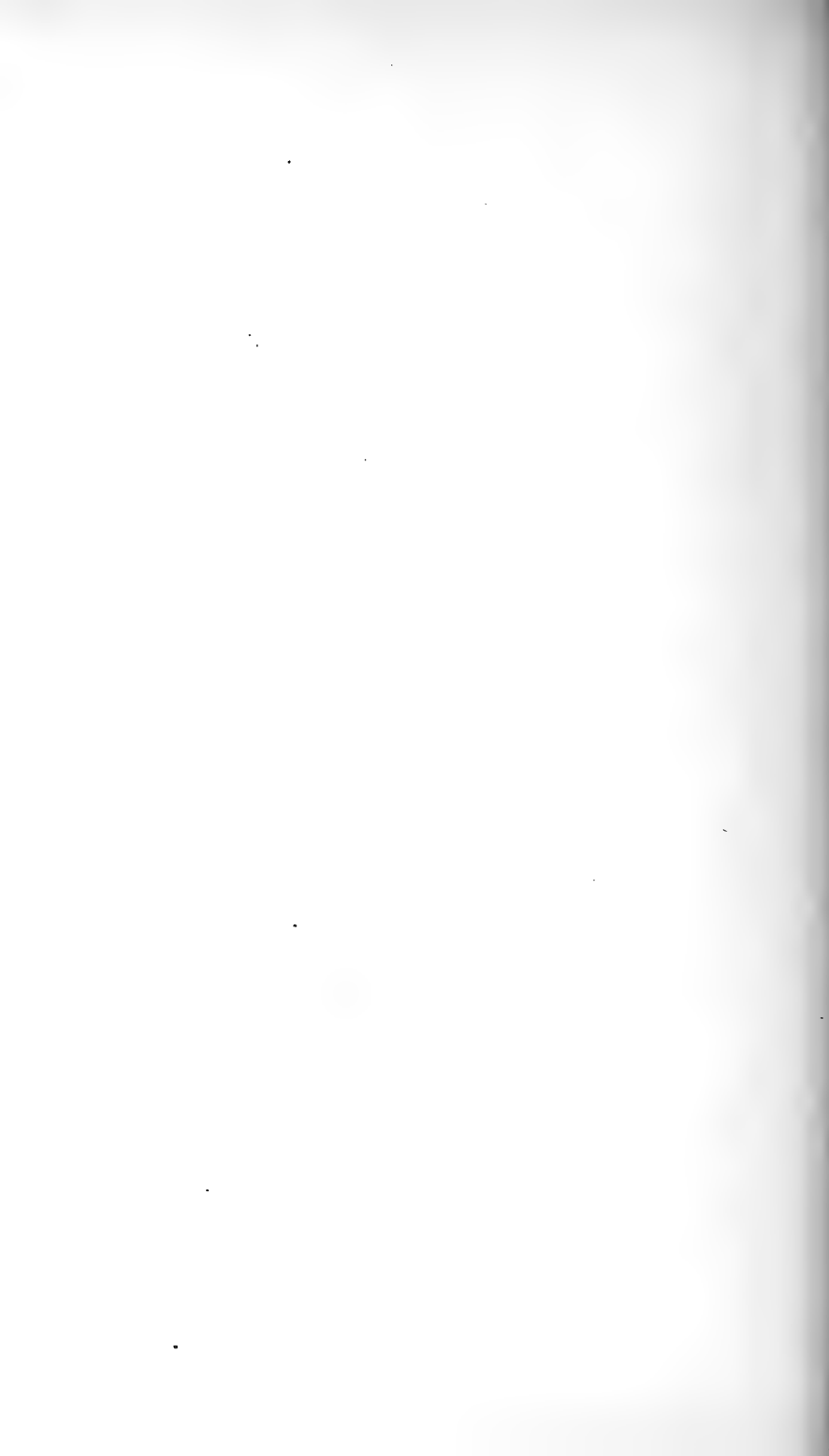


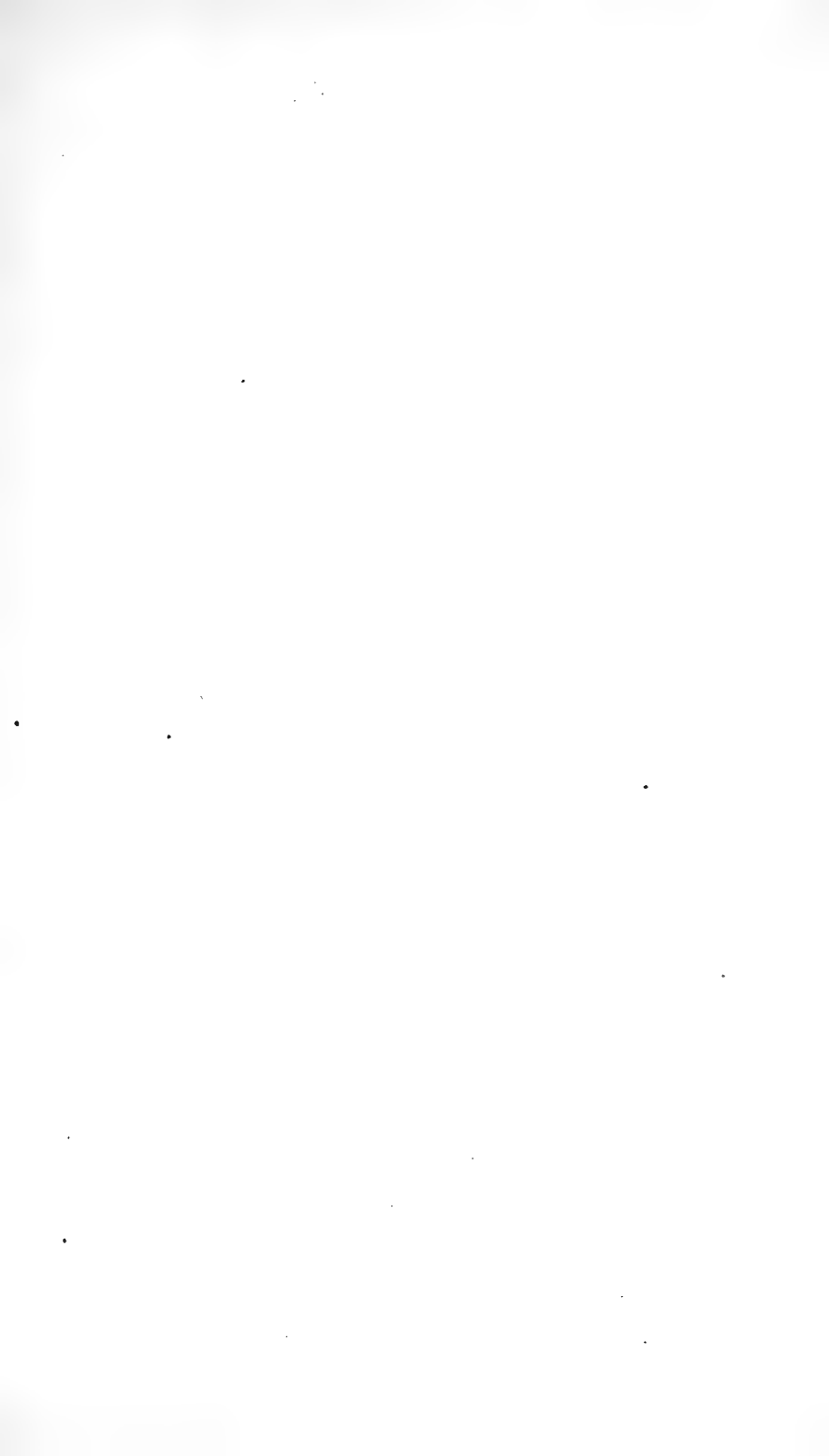


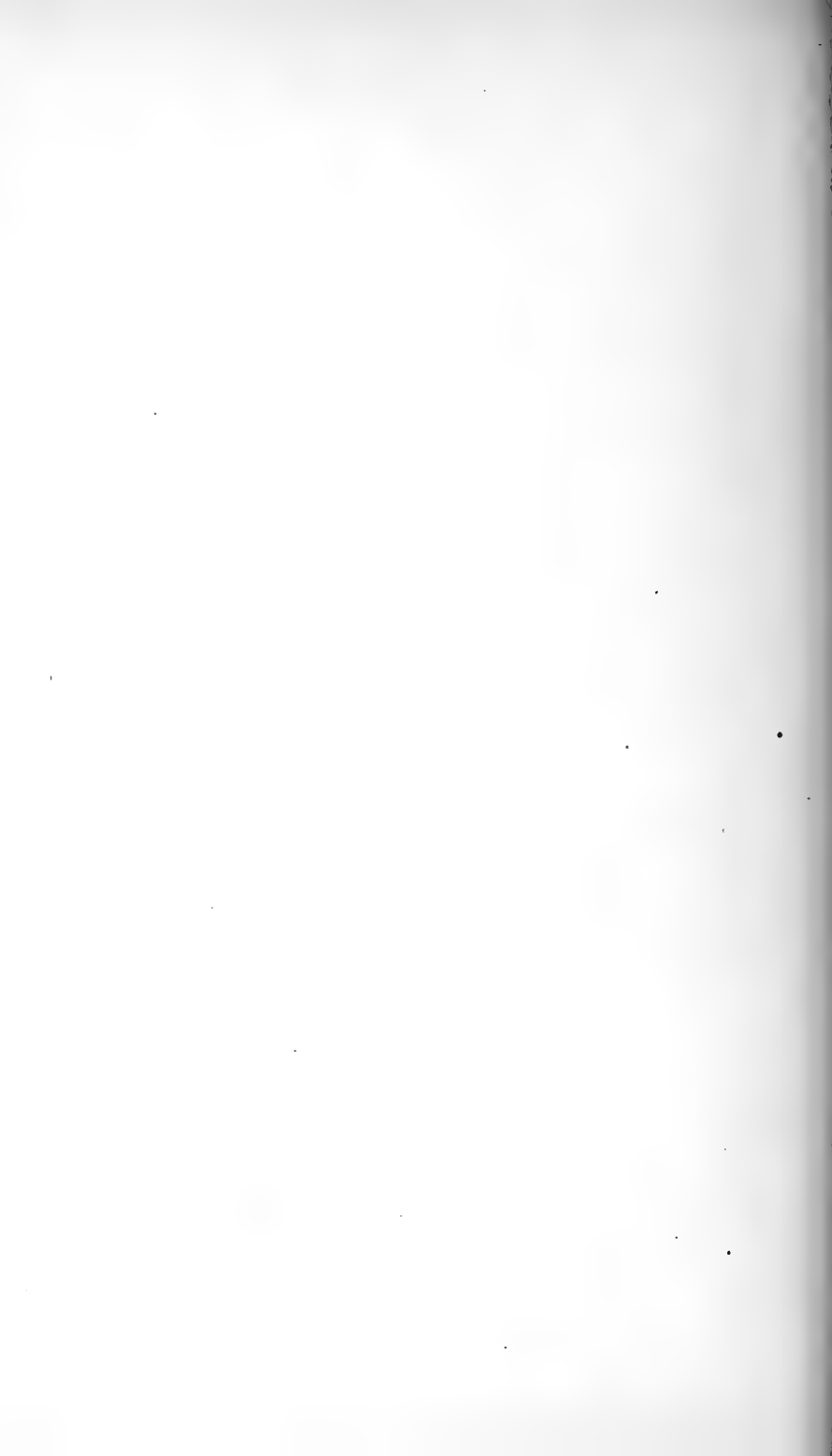


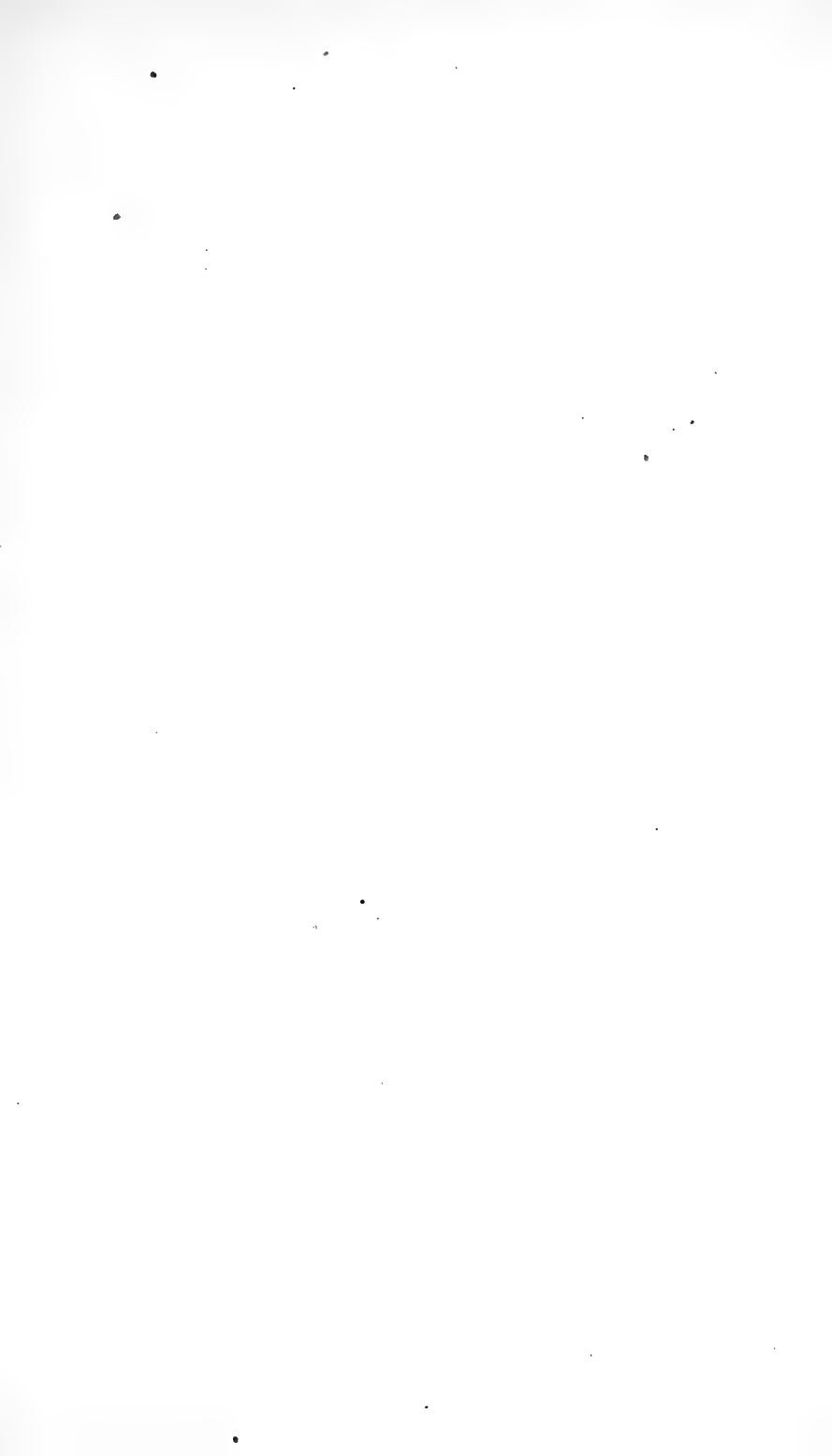


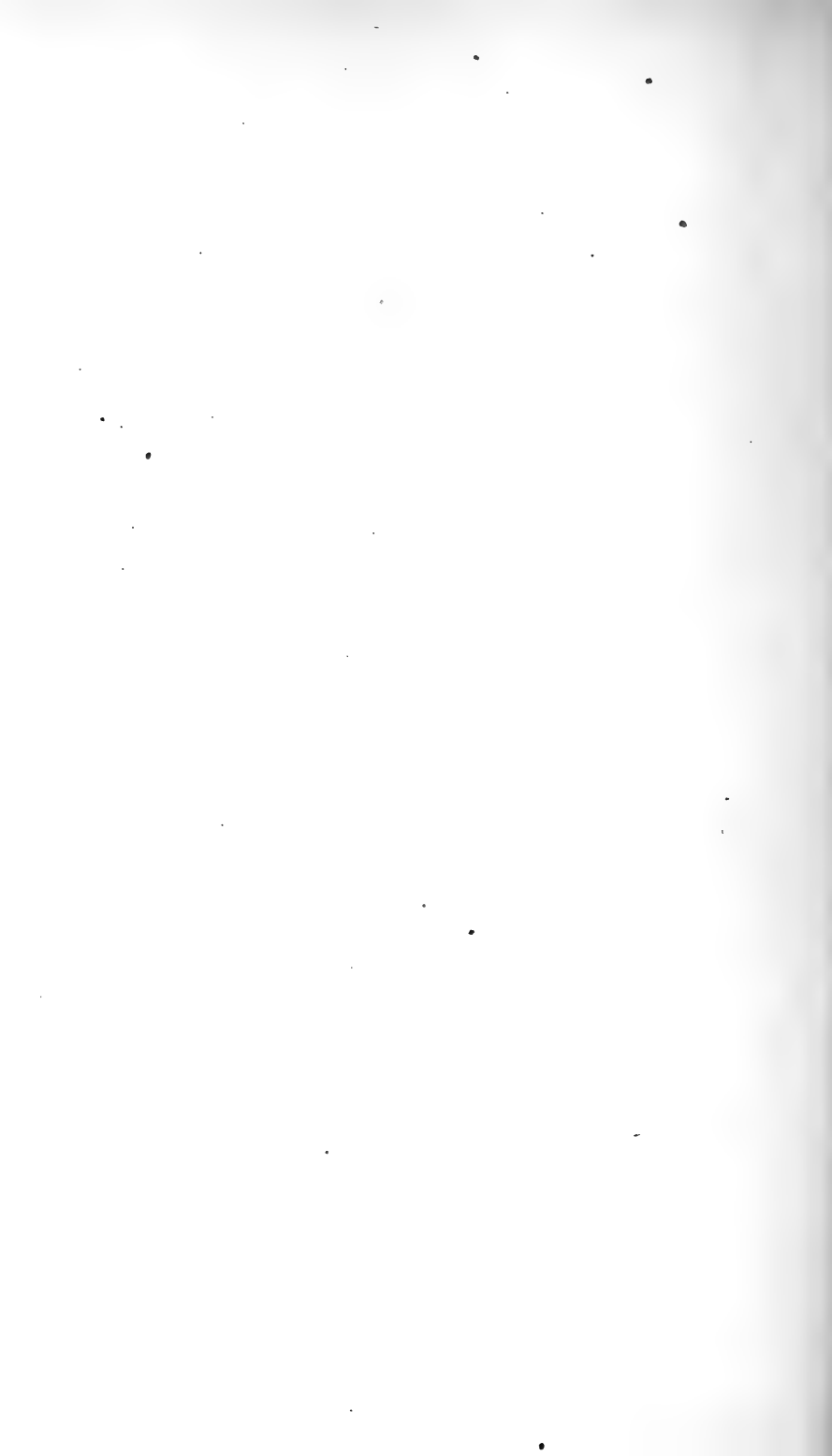


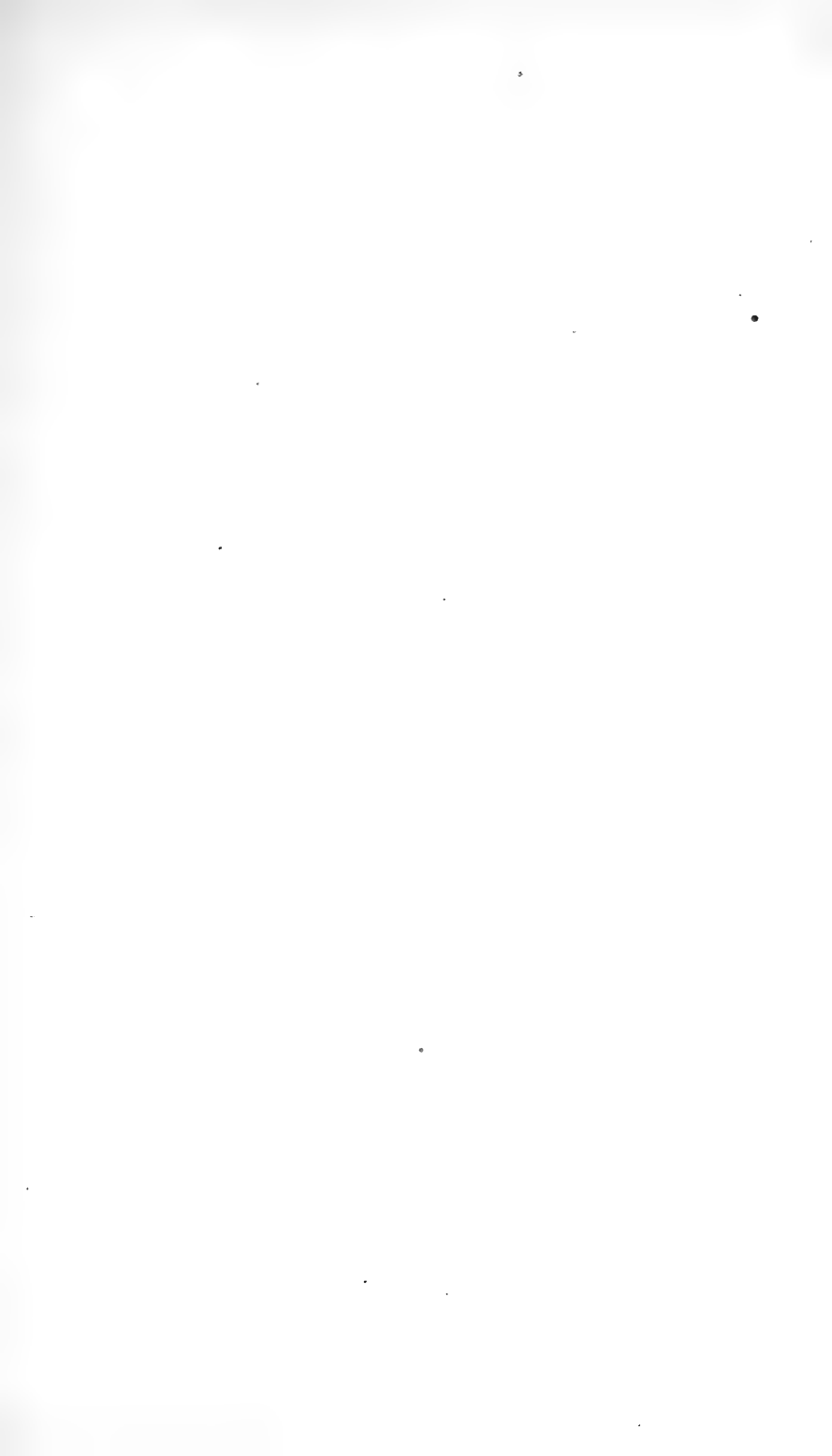


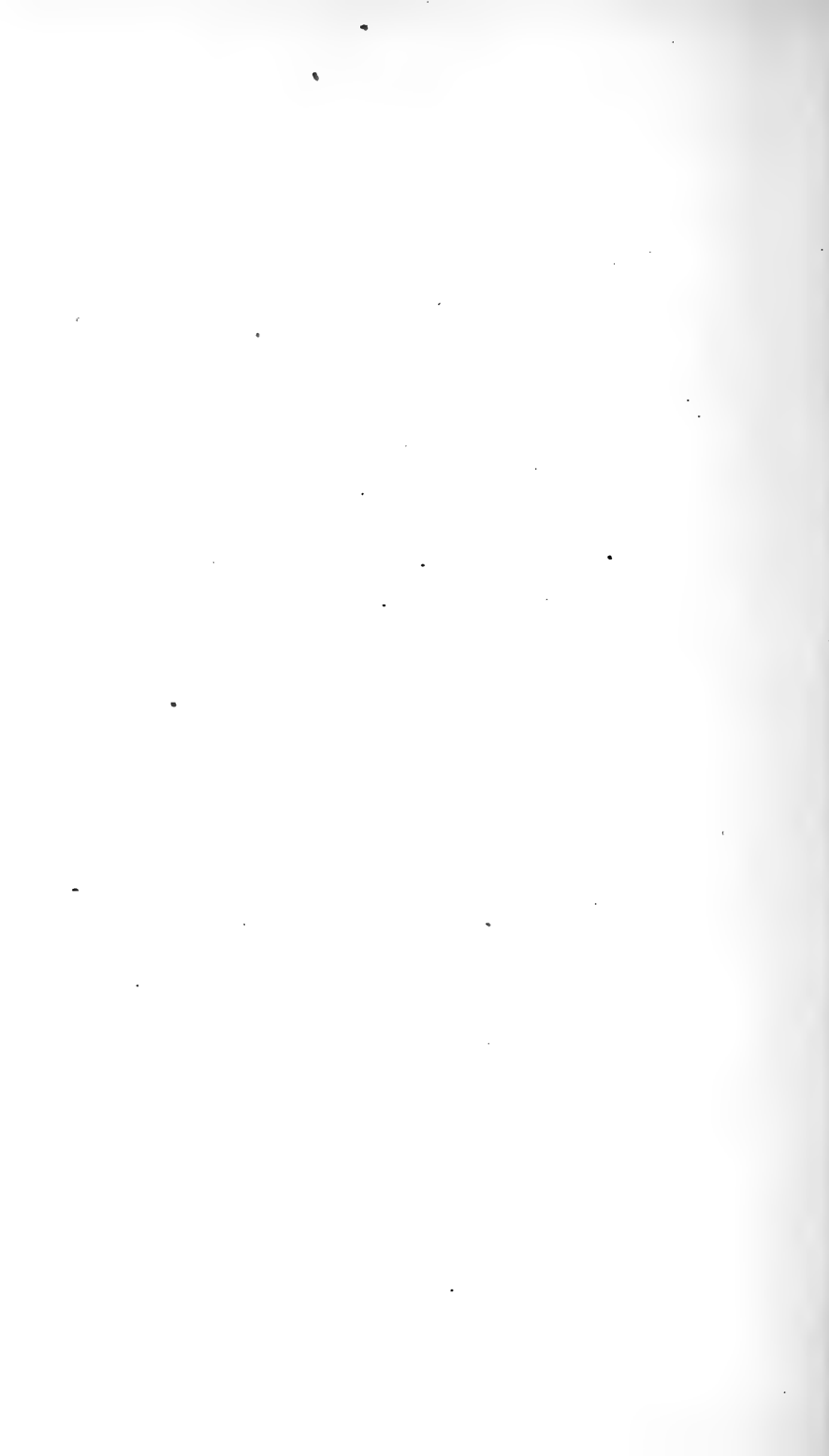


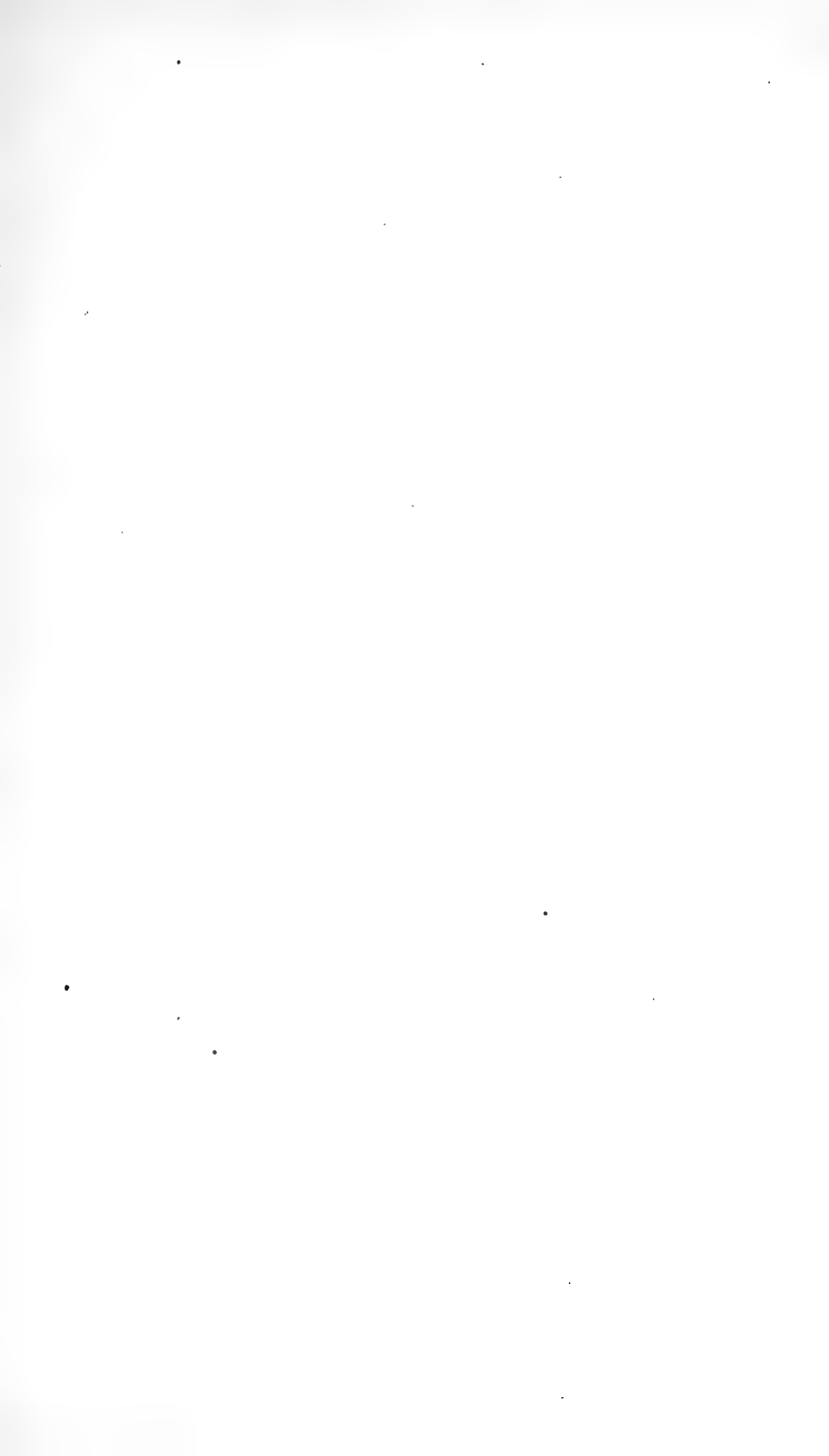




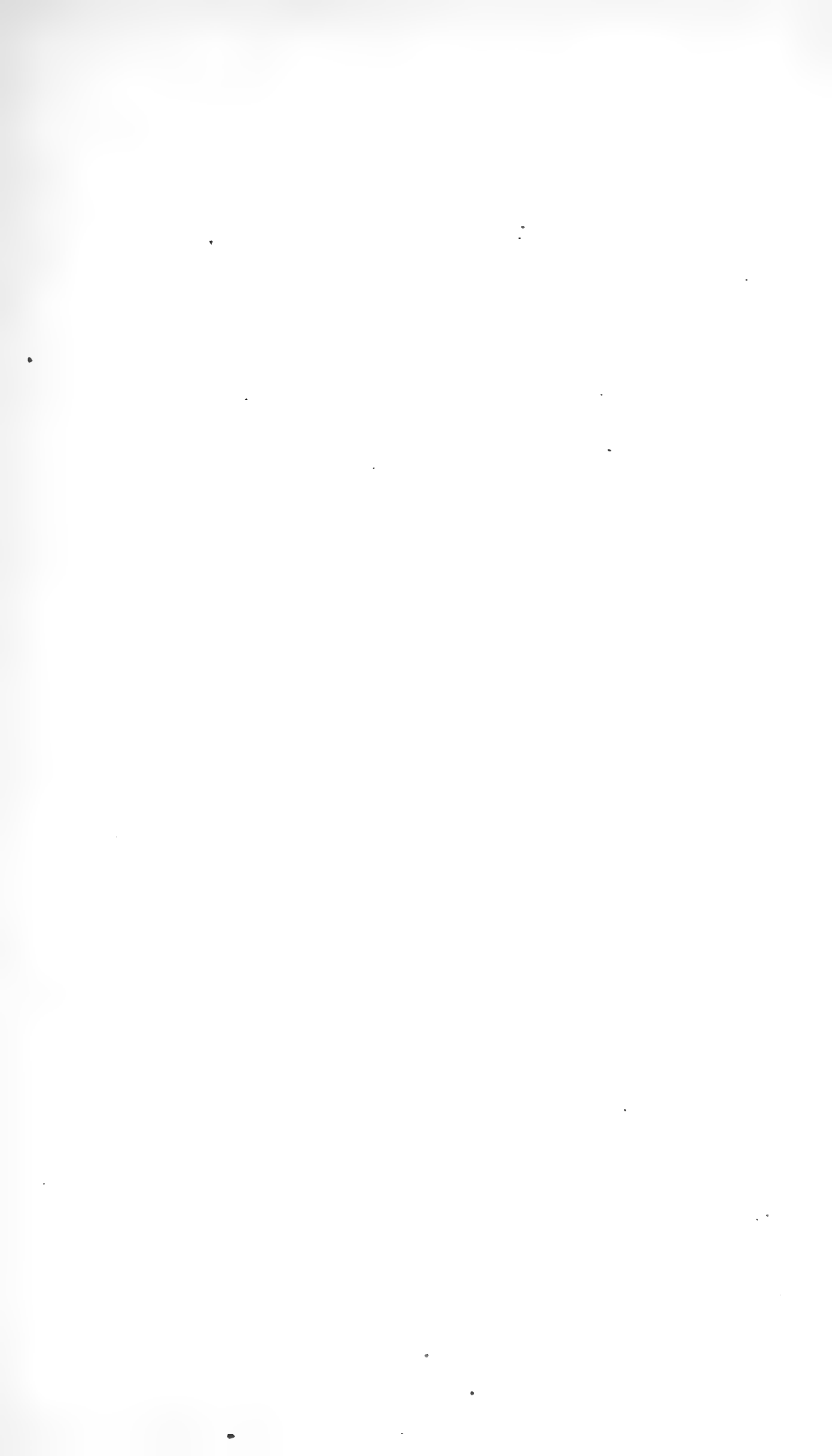


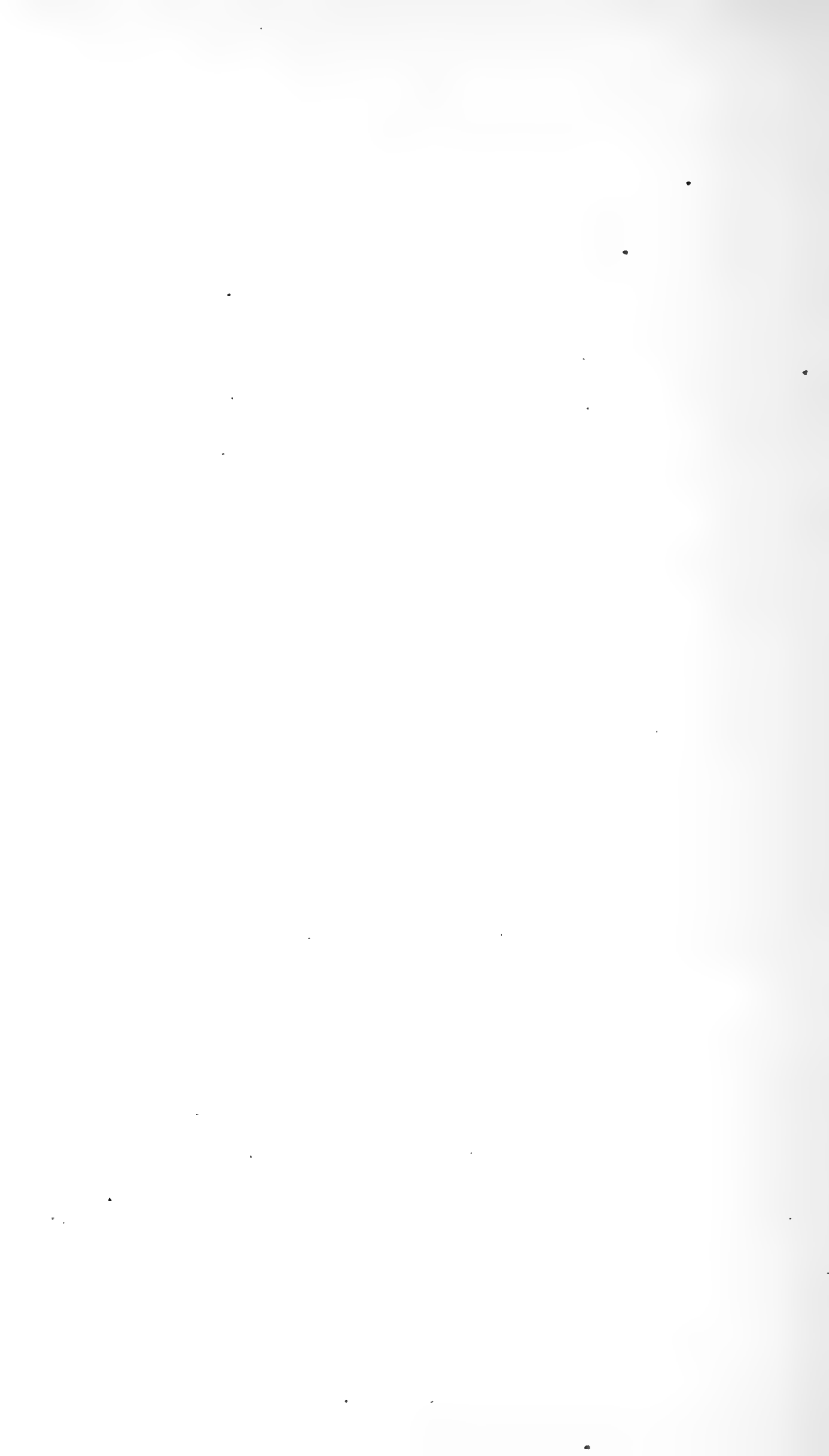


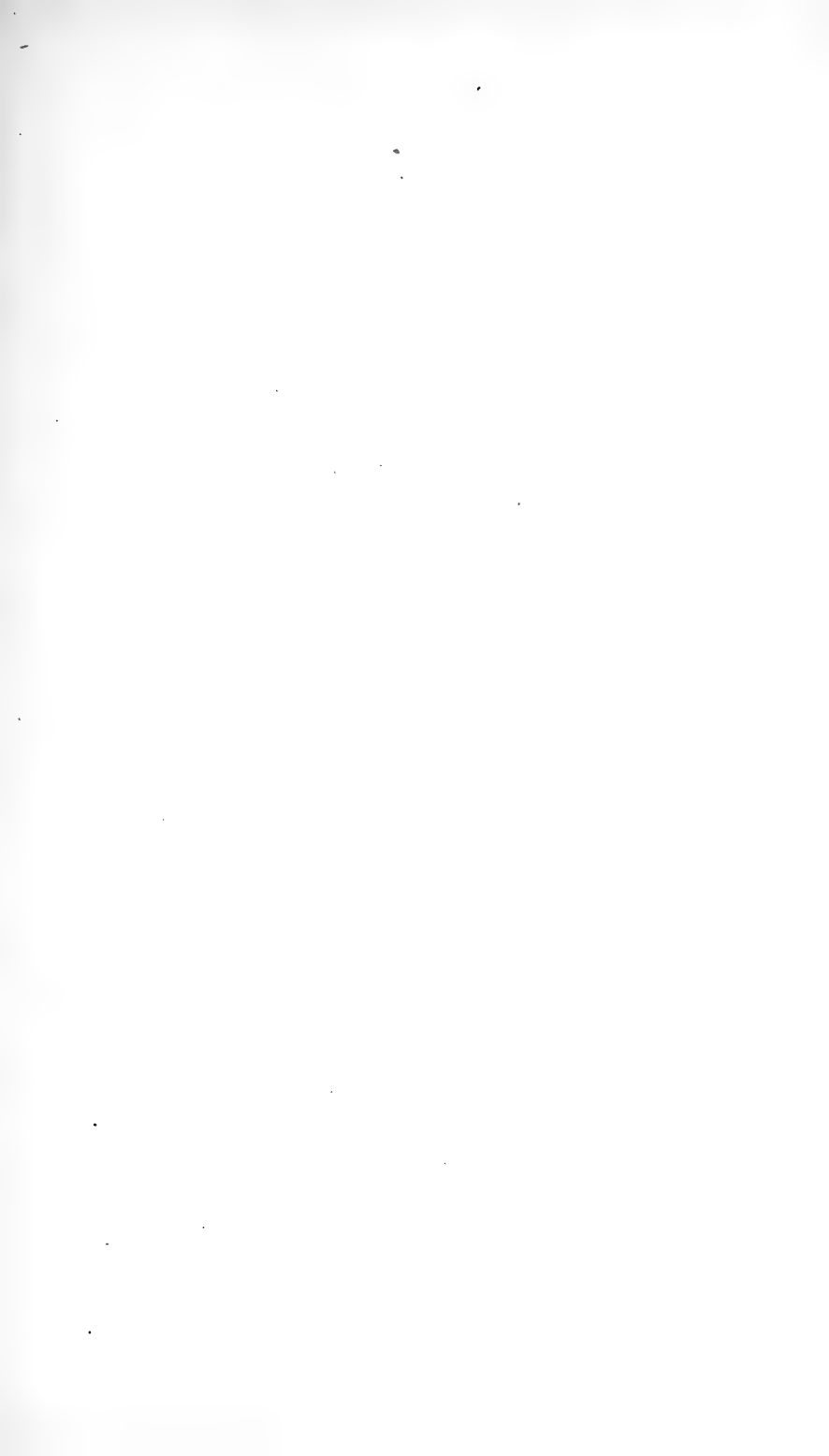








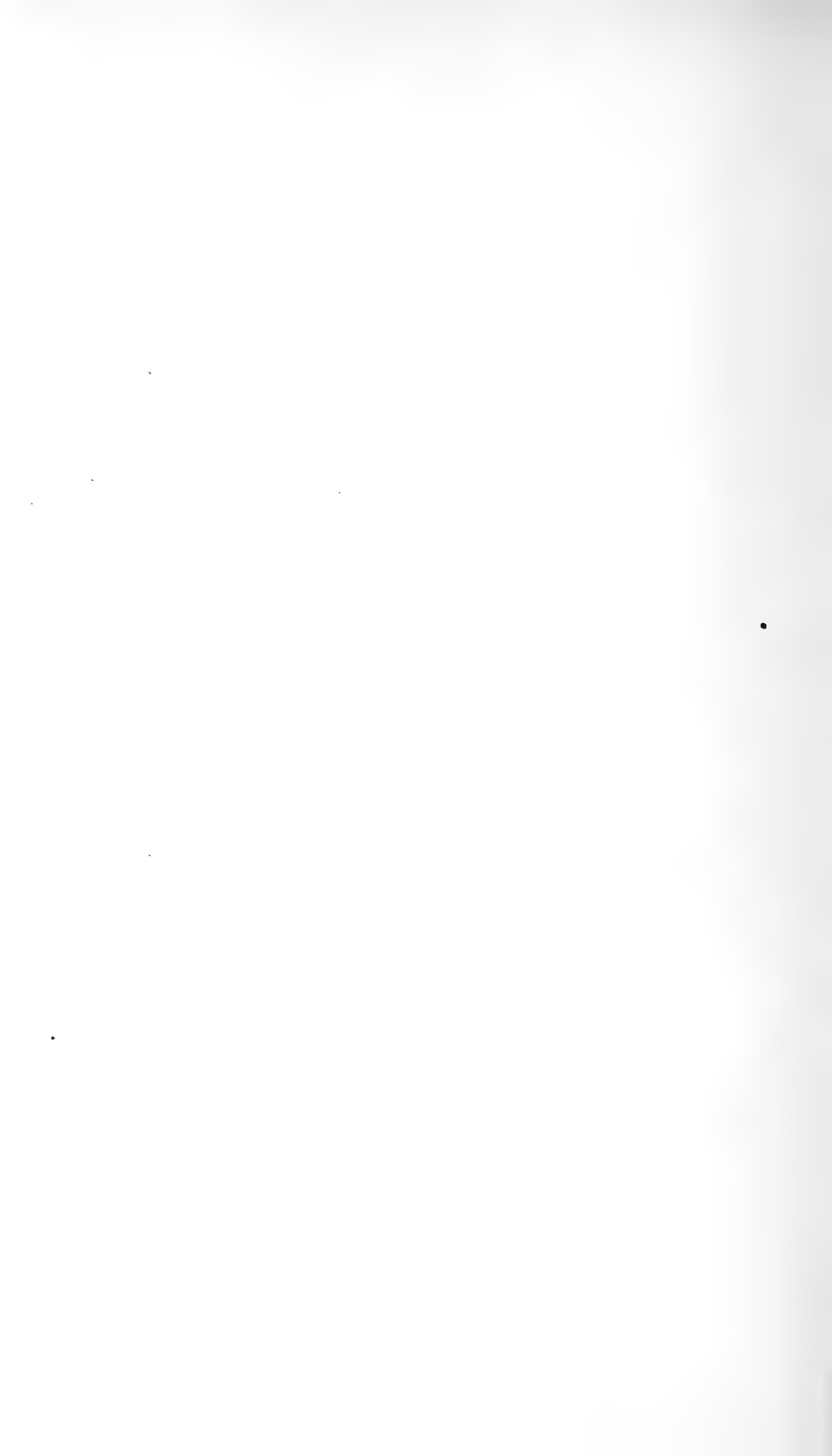


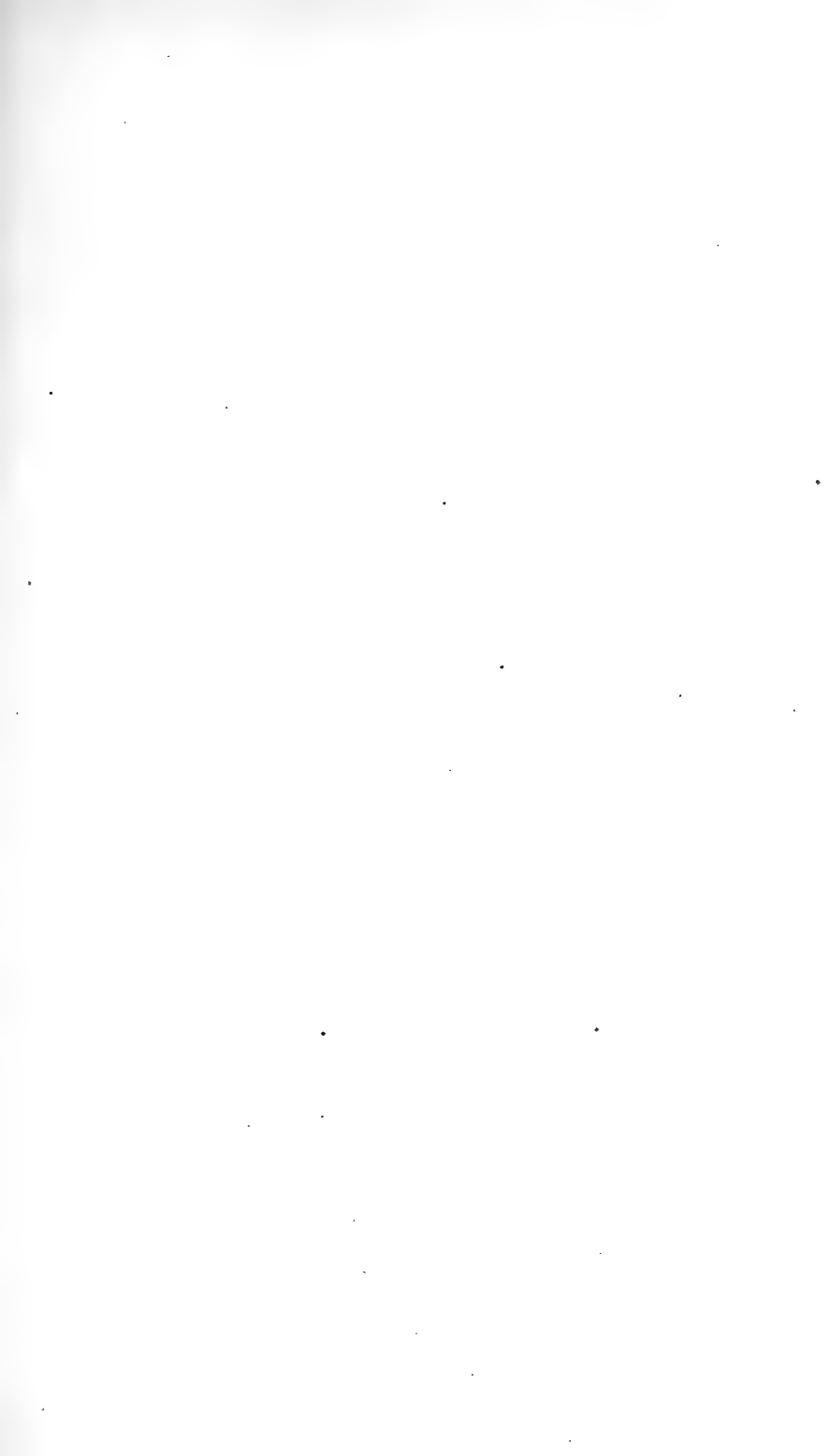








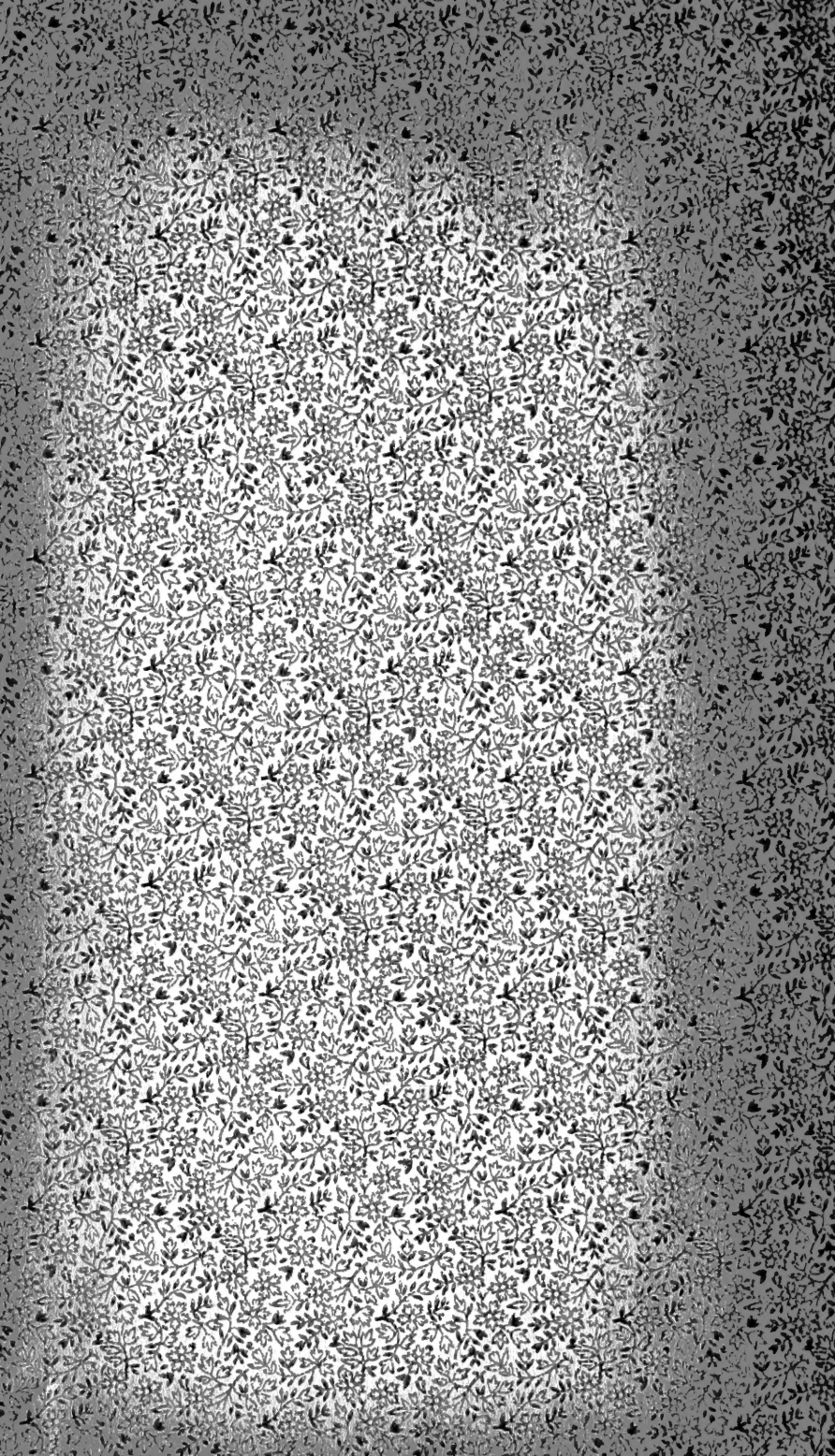






MAY 22 1919

~~JUN 22 1919~~





3 5185 00207 3920

