

BULLETIN

OF

THE NEW YORK

BOTANICAL GARDEN.

CONTENTS:

REPORT OF THE SECRETARY AND DIRECTOR-IN-CHIEF FOR 1898. 171

APPENDIX 1. ACCESSIONS OF MATERIAL. 185

APPENDIX 2. SCHEDULE OF EXPENDITURES DURING 1898 UNDER APPROPRIATIONS MADE BY THE BOARD OF MANAGERS. 193

APPENDIX 3. LISTS OF PLANTS IN THE GROUNDS, 1898. 195

REPORT OF THE COMMITTEE ON PATRONS, FELLOWS AND ANNUAL MEMBERS, SUBMITTED JANUARY 9, 1899, INCLUDING LIST OF ANNUAL MEMBERS. 243

REPORT OF THE HONORARY CURATOR OF THE ECONOMIC COLLECTIONS TO THE BOARD OF SCIENTIFIC DIRECTORS. 252

BOTANICAL CONTRIBUTIONS:

DESCRIPTION OF A NEW STONECROP FROM MEXICO, BY N. L. BRITTON. 157

THE CESPITOSE WILLOWS OF ARCTIC AMERICA AND THE ROCKY MOUNTAINS, BY P. A. RYDBERG. 257

UNDESCRIBED PLANTS OF THE SOUTHERN UNITED STATES, BY JOHN K. SMALL. 278

NEW GRASSES FROM THE SOUTHERN UNITED STATES, BY GEO. V. NASH. 290

REPRODUCTIONS OF PHOTOGRAPHS TAKEN WITHIN THE GROUNDS, PLATES 3-8. 295

(194)

APPROPRIATION FOR SCIENTIFIC DIRECTORS, FOR MUSEUM AND HERBARIUM MATERIAL.

Appropriated,..... \$1,500.00
Expended,..... 1,497.27
Balance,..... \$2.73

APPROPRIATION FOR SCIENTIFIC DIRECTORS, FOR LECTURES.

Appropriated,..... \$200.00
Expended,..... 196.85
Balance,..... \$3.15

APPROPRIATION FOR SCIENTIFIC DIRECTORS, FOR BULLETIN.

Appropriated,..... \$500.00
Expended,..... 490.60
Balance,..... \$9.40

APPROPRIATION FOR SCIENTIFIC DIRECTORS, FOR LIBRARY.

Appropriated,..... \$380.00
Expended,..... 353.17
Balance,..... \$26.83

APPROPRIATION FOR SCIENTIFIC DIRECTORS, FOR CONTINGENT FUND.

Appropriated,..... \$360.00
Expended,..... 358.49
Balance,..... \$1.51

APPROPRIATION FOR SURVEYING OUTFIT.

Appropriated,..... \$400.00
Expended,..... 389.95
Balance,..... \$10.05

APPROPRIATION FOR TYPEWRITER.

Appropriated,..... \$100.00
Expended,..... 100.00

APPROPRIATION FOR SAFE.

Appropriated,..... \$100.00
Transferred,..... 100.00

APPROPRIATION FOR MOWING-MACHINE.

Appropriated,..... \$40.00
Expended,..... 40.00

APPROPRIATION FOR EQUIPMENT OF STABLE.

Appropriated,..... \$700.00
Expended,..... 664.85
Balance,..... \$35.15

(195)

Appendix 3.—Lists of Plants in the Grounds, 1898.

A. WILD FLORA.

Subkingdom 3.—BRYOPHYTES.*

Class 1. HEPATICAE.—Liver-worts.†

Riccia fluitans Sullivantii.
Bazzania trilobata.
Cephalozia catenulata.
 conivens.
 media.
Frullania Eboracensis.
Lejeunea echinata.
Odontoschisma sphagni.

Dicranum scoparium.
Leucobryum glaucum.
Orthotrichum Ohioense.
Weissia Americana.
Ptychomitrium incurvum.
Hedwigia albicans.

Funaria hygrometrica.
Physcomitrium turbinatum.
Barbula unguiculata.
Bryum argenteum.
 caespiticium.

Class 2. ANTHOCEROTES.

Anthoceros laevis.
Notothylas orbicularis.

Leprobryum pyriforme.
Mnium cuspidatum.
 punctatum.
Anomodon attenuatus.
Leskea obscura.

Class 3. MUSCI.—Mosses.†

Polytrichum commune.
 Ohioense.
 piliferum.
Pogonatum tenue.
Catharina angustata.
Buxbaumia aphylla.
Webera sessilis.
Fissidens taxifolius.
Ceratodon purpureus.
Ditrichum tortile.
Dicranella heteromalla.

Leprobryum pyriforme.
Mnium cuspidatum.
 punctatum.
Anomodon attenuatus.
Leskea obscura.
Thuidium paludosum.
Climacium Americanum.
Cirriphyllum Boscii.
Brachythecium oxycladon dentatum.
 plumosum.
Plagiobothrium denticulatum.
 elegans.
Raphidostegium microcarpum.
Hypnum Haldeanumum.
 cupressiforme.
 molluscum.

Subkingdom 4.—PTERIDOPHYTES.

OPHIOGLOSSACEAE.—Adders-tongue family.

Botrychium dissectum.

Polyodiaceae.—Fern family.

OSMUNDACEAE.—Royal Fern family.

Osmunda cinnamomea.
 regalis.

Asplenium Filix-foemina.
 platyneuron.
Cystopteris fragilis.
Dicksonia punctiloba.
Dryopteris acrostichoides.

*The Mycetozoa and the Thallophyta (Algae, Fungi and lichens) of the tract have been considerably collected and studied, but their enumeration is deferred until the lists are more complete. The list of Bryophyta will be enlarged by subsequent study.

† Collected and determined by Marshall A. Howe.

‡ Collected and determined by Elizabeth G. Britton.

Dryopteris marginalis.
Novboracensis.
spinulosa intermedia.
Thelypteris.
Onoclea sensibilis.
Phegopteris hexagonoptera.
Phegopteris.
Polypodium vulgare.

Equisetaceae.—Horsetail Family.
Equisetum arvense.
fluviale.
hyemale.

Selaginellaceae.—Selaginella Family.
Selaginella apus.
rupestris.

Subkingdom 5.—SPERMATOPHYTES.*

Class 1. GYMNOSPERMAE.

Pinaceae.—Pine Family.
Juniperus Virginiana.
Larix laricina.
Pinus Strobus.
Tsuga Canadensis.
Picea excelsa.

Class 2. ANGIOSPERMAE.

Subclass 1. MONOCOTYLEDONES.

Typhaceae.—Cat-tail Family.
Typha latifolia.

Sparangiaceae.—Bur-reed Family.
Sparganium eurycarpum.

Alismaceae.—Water Plantain Family.
Alisma Plantago-aquatica.
Sagittaria latifolia.

Gramineae.—Grass Family.
Agropyron repens.
Agrostis alba.
vulgaris.
intermedia.
perennans.
Andropogon scoparius.
Virginicus.
Anthoxanthum odoratum.
Aristida dichotoma.
gracilis.
Avena sativa.
Bromus racemosus.
Calamagrostis Canadensis.
Cenchrus tribuloides.
Chaetochloa glauca.
viridis.

Cinna arundinacea.
Dactylis glomerata.
Danthonia compressa.
spicata.
Eatonia nitida.
Pennsylvanica.
Elymus Canadensis.
Eragrostis capillaris.
hypnoides.
pectinacea.
Purshii.
Festuca elatior.
octoflora.
Holcus lanatus.
Homalocenchrus oryzoides.
Virginicus.
Hystrix Hystrix.
Lolium italicum.
perenne.
Muhlenbergia diffusa.
Mexicana.
sobolifera.
Panicularia acutiflora.
brachyphylla.
Canadensis.
fluitans.
nevada.
pallida.
Panicum agrostoides.
Atlanticum.
barbulatum.
Bicknellii.
capillare.
Gattingeri.
clandestinum.
commutatum.

Panicum commutatum minor.
Crus galli.
depauperatum.
dichotomum.
elongatum.
Engelii.
macrocarpum.
millietum.
minus.
Porterianum.
proliferum.
pubescens.
sphaerocarpon.
tsugelorum.
Walteri.
Paspalum pubescens.
setaceum.
Phalaris arundinacea.
Phleum pratense.
Poa annua.
compressa.
flava.
pratensis.
Sporobolus vaginaclostrus.
Syntherisma filiformis.
linearis.
sanguinalis.
Tricuspis sceleroides.
Cyperaceae.—Sedge Family.
Carex Asa-Grayi.
cephalophora.
costellata.
crinita.
cristata.
digitalis.
flexilis.
gracillima.
grisea.
hystrixina.
lanuginosa.
laxiculmis.
laxiflora.
blanda.
patulifolia.
Jupulina.
lurida.
Muhlenbergii.
pallenscens.

Carex pedicellata.
Pennsylvanica.
pubescens.
roscra.
scoparia.
sparangitoides.
squarrosa.
stercilis.
stipata.
stricta.
tentaculata.
triceps.
typhnoides.
varia.
virescens.
vulpinoides.
xanthocarpa.
Cyperus diandrus.
esculentus.
filiculmis.
strigosus.
Eleocharis ovata.
tenuis.
Scirpus atrovirens.
lacustris.
planifolius.

Araceae.—Arum Family.
Acorus Calamus.
Arisaema triphyllum.
Peltandra Virginica.
Spathyema foetida.

Lemnaceae.—Duckweed Family.
Lemna minor.

Pontederiaceae.—Pickerel-weed Family.
Pontederia cordata.

Juncaceae.—Rush Family.
Juncoides campestris.
Juncus effusus.
tenuis.

Melanthiaceae.—Dunch-flower Family.
Uvularia sessilifolia.
Veratrum viride.

Liliaceae.—Lily Family.
Allium vineale.
Lrythronium Americanum.

* Native plants in roman; naturalized and adventive plants in italic.

- Hemerocallis fulva*.
Lilium Canadense.
superbum.
Ornithogalum umbellatum.
CONVALLARIACEAE.—Lily-of-the-Valley Family.
Asparagus officinalis.
Medeola Virginiana.
Polygonatum biflorum.
commutatum.
Trillium cernuum.
Uifolium Canadense.
Vagnera racemosa.
SMILACACEAE.—Smilax Family.
Smilax herbacea.
rotundifolia.
AMARYLLIDACEAE.—Amaryllis Family.
Hypoxis hirsuta.
DIOSCOREACEAE.—Yam Family.
Dioscorea villosa.
IRIDACEAE.—Iris Family.
Iris versicolor.
Sisyrinchium angustifolium.
graminoides.
ORCHIDACEAE.—Orchid Family.
Cystostachys cernua.
gracilis.
Habenanria lacera.
Subclass 2. DICOTYLEDONES.
SAURURACEAE.—Lizard's-tail Family.
Saururus cernuus.
JUGLANDACEAE.—Walnut Family.
Hicoria alba.
microcarpa.
minima.
ovata.
Juglans cinerea.
nigra.
MYRICACEAE.—Bayberry Family.
Comptonia peregrina.
Myrica Carolinensis.
SALICACEAE.—Willow Family.
Populus alba.
grandidentata.
Populus tremuloides.
Salix alba vitellina.
discolor.
nigra.
petiolaris.
sericea.
BETULACEAE.—Birch Family.
Alnus rugosa.
Betula lenta.
populifolia.
Carpinus Caroliniana.
Corylus Americana.
FAGACEAE.—Beech Family.
Castanea dentata.
Fagus Americana.
Quercus alba.
coccinea.
palustris.
platanoides.
rubra.
velutina.
ULMACEAE.—Elm Family.
Celtis occidentalis.
Ulmus Americana.
MORACEAE.—Mulberry Family.
Morus rubra.
URTIACEAE.—Nettle Family.
Boehmeria cylindrica.
Urticastrum divaricatum.
SANTALACEAE.—Sandalwood Family.
Commandra umbellata.
ARISTOLOCHIACEAE.—Birthwort Family.
Asarum reflexum.
POLYGONACEAE.—Buckwheat Family.
Polygonum arifolium.
aviculare.
Convolvulus.
Persicaria.
sagittatum.
Virginianum.
Rumex Acetosella.
Crispus.
obtusifolius.

- CHENOPODIACEAE.—Goosefoot Family.
Chenopodium album.
ambrosioides.
PHYTOLACCACEAE.—Pokeweed Family.
Phytolacca decandra.
AIZOACEAE.—Carpel-weed Family.
Mollugo verticillata.
PORTULACACEAE.—Purslane Family.
Portulaca oleracea.
CARYOPHYLLACEAE.—Pink Family.
Aisine graminea.
longifolia.
media.
Anychia Canadensis.
Arenaria serpyllifolia.
Saponaria officinalis.
Scleranthus annuus.
Silene Caroliniana.
stellata.
NYMPHAEACEAE.—Water-lily Family.
Castalia odorata.
Nymphaea Kalumiana.
MAGNOLIACEAE.—Magnolia Family.
Liriodendron Tulipifera.
RANUNCULACEAE.—Crowfoot Family.
Anemone quinquefolia.
Virginiana.
Aquilegia Canadensis.
Clematis Virginiana.
Hepatica Hepatica.
Ranunculus abortivus.
acris.
bulbosus.
hispidus.
obtusiusculus.
recurvatus.
septicentrionalis.
Synedemon thalictroides.
Thalictrum polygamum.
LAURACEAE.—Laurel Family.
Benzoin Benzoin.
Sassafras Sassafras.
FUMARIACEAE.—Bleeding-heart Family.
Dicuculla Cucullaria.
Capnoides sempervirens.
CRUCIFERAE.—Mustard Family.
Arabis Canadensis.
Barbarea Barbarea.
pratensis.
strida.
Bursa Bursa-pastoris.
Cardamine bulbosa.
Pennsylvanica.
Dentaria laciniata.
Draba verna.
Lepidium Virginicum.
Roripa palustris.
CRASSULACEAE.—Orpine Family.
Penthorum sedoides.
SAXIFRAGACEAE.—Saxifrage Family.
Heuchera Americana.
Saxifraga Virginicensis.
HAMAMELIDACEAE.—Witch-Hazel Family.
Hamamelis Virginiana.
Liquidambar Styrciflua.
PLATANACEAE.—Plane-tree Family.
Platanus occidentalis.
ROSACEAE.—Rose Family.
Agrinonia hirsuta.
mollis.
Fragaria Virginiana.
Geum Canadense.
Virginianum.
Potentilla argentea.
pumila.
simplex.
Rosa Carolina.
humilis.
Rubus Canadensis.
occidentalis.
setosus.
villosus.

- POMACEAE.—Apple Family.
Cydonia *Oxyacantha*.
Malus *Malus*.
Pyrus *communis*.
 DRUPACEAE.—Plum Family.
Prunus *Amygdalus*.
 serotina.
 CAESALPINIACEAE.—Senna Family.
 Cassia *nicitans*.
Gliricidia *tracanthos*.
 PAPILIONACEAE.—Pea Family.
 Apios *Apios*.
 Croton *argenteus*.
 Falcataria *falcataria*.
 Lathyrus *palustris*.
 Lespedeza *frutescens*.
 procumbens.
Medicago *trypulina*.
 Meibomia *Canadensis*.
 Dillenii.
 nudiflora.
 paniculata.
Melilotus *alba*.
officinalis.
Robinia *Pseudacacia*.
Tyrtolium *agrarium*.
hybridum.
pratenae.
repens.
Vicia *tetrasperma*.
 GERANIACEAE.—Geranium Family.
 Geranium *maculatum*.
 OKALIDACEAE.—Wood sorrel
 Family.
 Oxalis *cyrnosa*.
 LINACEAE.—Flax Family.
 Linum *Virginianum*.
 SIMARUBACEAE.—Ailanthus Family.
Ailanthus *glandulosa*.
 POLYGALACEAE.—Milkwort Family.
 Polygala *verticillata*.
 EUPHORBIACEAE.—Spurge Family.
 Acalypha *Virginica*.
 Ruppertia *maiculata*.
 ANACARDIACEAE.—Sumac Family.
 Rhus *glabra*.
radicans.
 ILLICACEAE.—Holly Family.
 Ilex *verticillata*.
 CISTACEAE.—Staff-tree Family.
 Celastrus *scandens*.
 Eucyathus *Americanus*.
 STAPHYLACEAE.—Bladder-nut
 Family.
 Staphylea *trifolia*.
 ACHERACEAE.—Maple Family.
 Acer *rubrum*.
 saccharinum.
 Saccharum.
 BALSAMINACEAE.—Jewel-weed
 Family.
 Impatiens *biliflora*.
 RHAMNACEAE.—Buckthorn Family.
 Ceanothus *Americana*.
Rhamnus *californica*.
 VITACEAE.—Grape Family.
 Parthenocissus *quinquefolia*.
 Vitis *aestivalis*.
 MALVACEAE.—Mallow Family.
Hibiscus *Syrriacus*.
Malva *rotundifolia*.
 HYPERICACEAE.—St. John's-wort
 Family.
 Hypericum *mutitum*.
 perforatum.
 Sarcocolla *gentianoidea*.
 CISTACEAE.—Rock-rose Family.
 Helianthemum *Canadense*.
 Lechea *intermedia*.
 Leggetii.
 VIOLACEAE.—Violet Family.
 Viola *blanda*.
amoena.
cucullata.
Labradorica.
obliqua.
ovata.
palmeta.
dilatata.
 Viola *pedata*.
rotundifolia.
scabriscula.
sororia.
 CACTACEAE.—Cactus Family.
 Opuntia *Opuntia*.
 ONAGRACEAE.—Evening Primrose
 Family.
 Circea *Luteitana*.
 Epilobium *coloratum*.
 Kniphofia *fruticosa*.
 Ptilosella.
 punilla.
 Onagra *biennis*.
 ARALIACEAE.—Ginseng Family.
 Aralia *nudicaulis*.
racemosa.
 Panax *trifolia*.
 Umbelliferae.—Carrot Family.
 Cicuta *maculata*.
Daucus *Carota*.
 Deringa *Canadensis*.
 Hydrocotyle *Americana*.
Pastinaca *sativa*.
 Sanicula *Canadensis*.
 gregaria.
 Washingtonia *Claytoni*.
 CORNACEAE.—Dogwood Family.
 Cornus *alternifolia*.
 Amomum.
 candidissima.
 florida.
 Nysa *syriatica*.
 CERICACEAE.—White-Alder
 Family.
 Clethra *alnifolia*.
 PYROLACEAE.—Wintergreen
 Family.
 Chimaphila *maculata*.
 Pyrola *elliptica*.
 MONOTROPAEAE.—Indian Pipe
 Family.
 Monotropa *uniflora*.
 ERICACEAE.—Heath Family.
 Azalea *nudiflora*.
 Epigaea *repens*.
 Gaultheria *procumbens*.
 Kalmia *latifolia*.
 VACCINIACEAE.—Huckleberry
 Family.
 Vaccinium *corymbosum*.
vacillans.
 PRIMULACEAE.—Primrose Family.
Lysimachia *Nymphaularia*.
quadrifolia.
terrestris.
 Steironema *ciliatum*.
 OLEACEAE.—Olive Family.
 Fraxinus *Americana*.
 Pennsylvanica.
Syringa *vulgaris*.
 GENTIANACEAE.—Gentian Family.
 Gentiana *Andrewsii*.
 APOCYNACEAE.—Dogbane Family.
 Apocynum *canadense*.
 Vinca *minor*.
 ASCLEPIADACEAE.—Milkweed
 Family.
 Asclepias *decumbens*.
exaltata.
pulchra.
 Syriaca.
 CONVULVACEAE.—Morning-
 Glory Family.
 Convolvulus *Sepium*.
 CUSCUTACEAE.—Dodder Family
 Cuscuta *Gronovii*.
 BORAGINACEAE.—Borage Family.
 Myosotis *laxa*.
 VERBENACEAE.—Vervain Family.
 Verbena *urticifolia*.
 LABIATAE.—Mint Family.
Glechoma *hederacea*.
 Hedeoma *pulegioides*.
 Koeleria *mutica*.
Leonurus *Cardiaca*.
 Lycopus *rubellus*.
 Virginicus.
Nepeta *Calarta*.
Origanum *vulgare*.
Prunella *vulgaris*.

