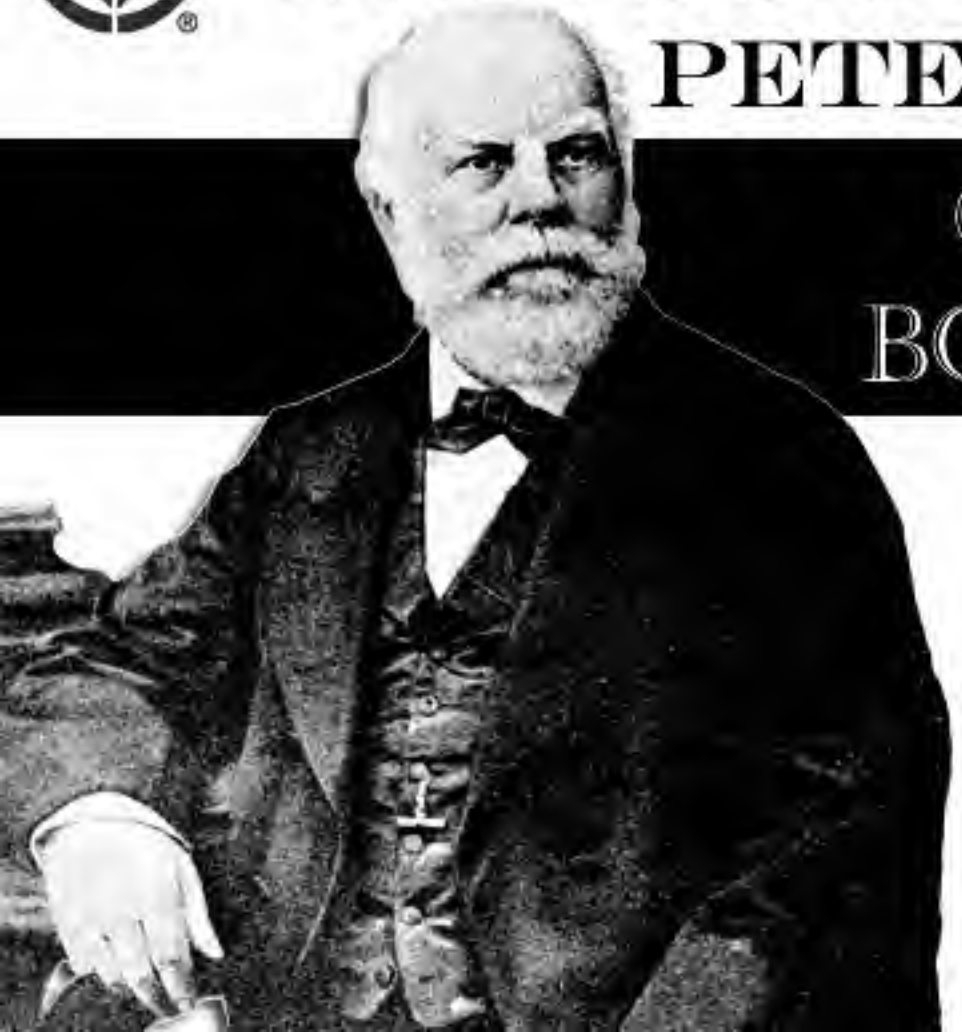
MISSOURI BOTANICAL GARDEN
PETER H. RAVEN LIBRARY



GEORGE ENGELMANN BOTANICAL NOTEBOOKS

Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

Mit der heutigen Post sende ich
ein Exemplar, enthaltend: zwei Ansichten
von Cuernavaca, der Stadt und Nord-West-
lich vorliegenden Agave-Arten.
Die mexikanische Bevölkerung ist
zum Theil Indianer und spricht die Mutter-
sprache meist rein. Die
ganz grossen Leistungen übertreffen
fast alle meine Erwartungen. Der
grösste Blüthenstengel, den ich gesehen,
war 85 Fuss hoch und am unteren
Theile 1 Fuss 6 Zoll dick, mit zahl-
reichen Aesten versehen, die 6 bis 12 Zoll dick,
gewesen mit einem, über einen Zoll
dicken Blüthenstengel, der mit einer
Unzahl Früchten besetzt. Die
beifolgenden Blüthen sind von
einem Exemplare, welches ich
nach Hause mitgenommen. Der
grösste Blüthenstengel, den ich
gesehen, war 17 Fuss hoch.
Der Blüthenstengel, dessen Spitze ich
gestern 185 Fuss hoch und am unteren
Theile 1 Fuss 6 Zoll dick, mit zahl-
reichen Aesten versehen, die 6 bis 12 Zoll dick,
gewesen mit einem, über einen Zoll
dicken Blüthenstengel, der mit einer
Unzahl Früchten besetzt. Die
beifolgenden Blüthen sind von
einem Exemplare, welches ich
nach Hause mitgenommen. Der
grösste Blüthenstengel, den ich
gesehen, war 17 Fuss hoch.
Der Blüthenstengel, dessen Spitze ich
gestern 185 Fuss hoch und am unteren
Theile 1 Fuss 6 Zoll dick, mit zahl-
reichen Aesten versehen, die 6 bis 12 Zoll dick,
gewesen mit einem, über einen Zoll
dicken Blüthenstengel, der mit einer
Unzahl Früchten besetzt. Die
beifolgenden Blüthen sind von
einem Exemplare, welches ich
nach Hause mitgenommen. Der
grösste Blüthenstengel, den ich
gesehen, war 17 Fuss hoch.

6. Juni 1878.

F. J. L.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8249

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

POSTAL CARD.

U.S. POSTAGE ONE CENT

WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

Dr. Geo. Engelmann Sen.
3003 Locust Str.
Saint Louis
Mo. U.S.

Missouri Botanical Garden
copyright reserved

Agave

G. D. Hirtz. Gedichte (in elsässischer Mundart). M. Einleit. v. Ed. Reuß. 1.10

E. Hobein. Blömings un Blomen ut fremden Gor'n. Plattdütsche Gedichte. Brosch. 0.50; eleg. geb. m. Goldschn. 1.10

—— Ueber Klaus Groth u. seine Dichtungen. 0.50

De Hochtid. Gedichte in Pommerisch Platt. (v. Chr. Gilow; s. d.) 2.10

Fr. Hoffmann. Koborgher Quackbrünnla. 1000 Stück lauter Schlumperliedla, Späßreimla u. Tanzwärschla, zum Singa unter der Dorflinden 2c. Mit der Singweis' derbei u. schön'e Bildlen (Holzschn.) obendrei. 1. Bandla. 0.90

H. Hoffmann v. Fallersleben. Allemannische Lieder. Nebst Worterklärung u. einer allemannischen Grammatik. 0.85

—— —— Die deutsche Philologie im Grundriß. 1836. (Enthält eine vollst. Bibliographie der Grammatiken, Wörterbücher u. Literatur der Mundarten.) 1.50

C. O. Hoffmann u. W. Viol. Schlesische Lieder M. Zeichn. v. Hosemann. 0.70

W. Hohschaid. Die Rekrutirung auf die neue Mode. Schauspiel in 2 Act. in schwäb. Dialecte. M. e. Zueignung an Frhr. v. Wöllwarth. 0.40

K. v. Holtei. Schlesische Gedichte. Min.-Ausg. 0.45

—— —— M. e. Glossar v. K. Weinhold. Geb. m. Goldschn. 1.60

—— —— Pracht-Ausg. in breit 8. mit Bildern in Holzschn. n. Zeichn. v. A. v. Heyden. Geb. m. Goldschn. 4.40

J. A. Huschak. Almbleameln. A Sammlung von g'sammelten und selba g'machten Schnaderhüpfeln u. Staud'nlieadeln. 0.50

Instippen. En plattdütsche Novelle. (Frz. Bockel.) M. 2 smukke Biller. 16. 0.60

G. Jung. Gedichte in plattdeutscher (Brandenburgischer) Mundart. 1.10

L. Justus. Dat Bödekerlied. (Hanover.) 0.10

K. A. Kaltenbrunner. Aus dem Traungau. Oberösterr. Dorf- u. Volksgeschichten. M. 17 Illustr. in Holzschn. 1.60

—— Oesterreichische Feldlerchen. Lieder u. Gesänge in oberensischer Mundart. 1.25

—— Oberösterreichische Lieder. M. Portr. 1.25

—— Alm u. Cither. Oberösterreichische Lieder. 1.25

Kartsch. Feldbleameln. (Gedichte in österr. Mundart.) För seine liawn Landsleut z'sammabrockt. 1.20

J. Kehrein. Volkssprache u. Volkssitte im Herzogthum Nassau. 2 Bde. 3.15

W. G. Kern u. W. Willms. Ostfriesland, wie es denkt und spricht. Eine Sammlung der gangbarsten ostfriesischen Sprichwörter u. Redensarten. M. e. Vorw. v. W. J. Jütting. 0.90

C. F. Kißling. Die geprellte Unterpfandsbehörde zu Dummkopfsheim u. Schreinshausen. Aus d. Leben gegriffen. Tragische Posse in 2 Act. in schwäb. Dialecte. 0.25

A. v. Klesheim. Das Mailüfterl. Gedichte in der Wiener Mundart. M. 5 Illustr. Geb. m. Goldschn. 1.50

—— 's Schwarzblattl aus'n Weanerwald. Gedichte in der österreichischen Volksmundart. 4 Thle. @ 1.25

—— In der Cantin. Soldatenlieder u. Geschichten. 0.90

—— Frau'n-Käferl. Gedichte in österreichischer Mundart. Geb. m. Goldschn. 1.50

F. v. Kobell. Oberbayerische Lieder mit ihren Singweisen. Für das bayrische Gebirgsvolk gesammelt u. hrsg. M. Bildern v. A. v. Ramberg. cart. 1.25

—— G'schpiel. Volksstücke u. Gedichte in oberbayerischer Mundart. 1.25

—— Der Hans'l vo' Finsterwald. — Der schwarzi Veitl. — 'S Kranzner-Resei. Drei größere Gedichte nebst anderen in oberbayerischer Mundart. 1.15

—— P'älzische G'schichte'. In der Mundart erzählt. 1.25

—— Gedichte in oberbayerischer Mundart. 0.95

—— Gedichte in pfälzischer Mundart. 0.65

—— Schnadahüpfeln und Sprüchln. Mit Bildern von Pocci. 0.40

—— Der Türken-Hansl, a' Geschichtl' aus'n Krieg vo' 1870. (Oberbayrisch.) 0.25

Kölns Legenden. Sagen, Geschichten, nebst Volksliedern, Schwänken, Anekdoten, Sprichwörtern 2c. Unter Mitwirkung v. Mehreren hrsg. v. E. Weyden. 4 Lie ex. M. Titelbild. 1.00

(Enthält vieles Mundartliche.)

Köln, wie es ist — und trinkt, seine Sitten, Gebräuche, Vergnügungen, Kirchmessen, Andachten, Krippchen, Fastelabend, Mundarten, Witze, Klüngel, Gewohnheiten 2c. 1. Hftchn. M. 1 Abb. 0.40

A. C. T. Krohn. Lütt plattdütsch Gedichte. 0.45

E. Kron. Bilder aus d. Basler Familienleben, in Baseldeutschen Versen. 0.80

E. Krüger. Uebersicht der heutigen plattdeutschen Sprache, besonders in Emden. 0.50

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Kuddelmuddel. Plattdütsche Rimels un Läuschen. 0.15

A. Kuhn. Sagen, Gebräuche u. Märchen aus Westphalen u. einigen andern, besonders angrenzenden Gegenden Norddeutschlands. 2 Thle. 3.75

M. Langenschwarz. Bergerliche Haamlichkeite aus d. Umgegend odder: Verbott'ne Blicke in unverbottne Familienstücken. Vun Aa'm, der schau lang schwarz ist. 4 Heftchn. (Frankfurter Dialect.) 1.00

F. Lennig. Die Weinproben. Komische Mainzer Lokalscenen in Mainzer Mundart. 0.45

—— Etwas zum Lachen. Komische Gedichte u. Vorträge in pfälzer und hochdeutscher Mundart. 0.75

—— Etwas z. Lachen. M. d. Nachlasse des Verf. verm. (In dem Bauerndialect der mainzer Gegend) 0.90

A. Linden. „Hie Welf." Abentürr u. Fahrten eenes Welfenlegionärs in Afrika, Asien u. am Nordpol. Plattdütsche komische Snurre in tein Capiteln mit Biller. 0.30

E. Lindner. Fliegende Blätter in Zipfer Mundart. 2 Liefer. @ 0.90

Lüder Woort. Plattdeutsche Dichtungen. 1.00

A. Lütolf. Sagen, Bräuche, Legenden aus den fünf Orten Lucern, Uri, Schwyz, Unterwalden u. Zug. 2.50

F. W. Lyra. Plattdeutsche Briefe, Erzählungen u. Gedichte mit besonderer Rücksicht auf Sprichwörter u. eigenthümliche Redensarten des Landvolks in Westphalen. 0.60

J. P. T. Lyser. De Geschicht von de olle Frou Beerbomsch un eerem lütten Swien Peter. Ein plattdeutsches Märchen. M. Holzschn. 0.30

Joach. Machl. Stückschen ut de Mus'kist. 3 Thle. 2.90; geb. 4.20

Daraus einzeln:

I. Theil: Tater Mariken. Ein Bild aus dem Volksleben. 0.65; geb. 1.00

II. „ Jean. Lütje Denkmal. Eine Theodicee in Form eines Cultur- u. Liebeslebens. Nebst Glossar. 1.30; geb. 1.80

III. „ Fanny, oder: Wat sick hebben schall, dat kriggt sik doch. Nebst Glossar. 0.95; geb. 1.70

J. Mähly. Rhigmurmel. Gedichte in Basler Mundart. 1.10

C. Malß. Volkstheater in Frankfurter Mundart. M. 2 Holzschn. 1.50; geb. 1.90

Daraus einzeln:

—— Der alte Bürgercapitain oder die Entführung. Lustspiel in 2 Aufz. (In Frankfurter Mundart.) 0.50

—— Herr Hampelmann im Eilwagen. Hampelmanniade in 6 Bildern. (In Frankfurter Mundart.) 0. 40

C. Malß. Die Landparthie nach Königstein. Frankfurter Lokalskizze in 4 Bildern. (In Frankfurter Mundart.) 0.40

—— Die Bauern. Genrebild in 1 Akt. (In Wetterauer Mundart.) 0.25

—— Herr Hampelmann sucht ein Logis. Lokal-Lustspiel in 5 Akten. (In Frankfurter Mundart.) 0.40

—— Die Jungfern Köchinnen. Lokalposse in 1 Akt. (In Frankfurter Mundart. 040

—— Das Stelldichein im Tivoli oder Schuster und Schneider als Nebenbuhler. Lokalposse m. Gesang in 2 Akten. (In Frankfurter Mundart.) 0.50

A. Marahrens. Grammatik der plattdeutschen Sprache. 0.65

H. Mareta. Proben eines Wörterbuchs der österr. Volkssprache. 2. Versuch. 0.50

H. Meier. 200 plattdeutsche Räthsel aus dem Volksmunde der Ostfriesen. 0.20

—— Ostfriesische Kinder- u. Volksreime. 0.30

J. K. Meier. Gedichte in schweizerischer Mundart. 0.90

Joh. Meyer. Ditmarscher Gedichte. Plattdeutsche Poesien in ditmarscher Mundart. 2 Bde. 2.25.

Thr. Meyer-Merian. Us der Heimat. Ein neues Büscheli. Wintermayeli. 0.45

M. Mindermann. Plattdeutsche Gedichte in bremischer Mundart; nebst e. Sammlung Sprichwörter u. Redeweisen. 0.90

J. A. Minnich. Alpenblumen. Eine Lese schweizerischer Gedichte. (Aargauer Mundart.) 0.80

De Minsch. Aphorismen-Sammlung (v. Chr. Gilow; s. d.) 1.00

F. Molz. Gedichte in bielischer Mundart über bielische Zustände nebst einigen hochdeutschen Lückenbüßern ähnlichen Inhalts. M. eingedr. Holzschn. 0.30

J. C. Mörikofer. Die schweizerische Mundart im Verhältniß zur hochdeutschen Schriftsprache aus dem Gesichtspunkte der Landesbeschaffenheit, der Sprache, des Unterrichtes, der Nationalität u. der Literatur. 0.65

J. C. Moser. Das Wiener Volksleben, in komischen Scenen m. eingelegten Liedern. 1.—9. Heft. @ 0.50

—— Dasselbe. Neue Folge. 12 Hefte. M. je e. Titelbilde. @ 0 40

P. Motz. Gedichte in Henneberger Mundart. 0.30

—— Jokes-Aepfel. Gedichte in Henneberger Mundart. 0.30

A. Müller. Nicks füöär unguodd! oder Plattdeutscher Bettelmann zum Besten des Hagener Krankenhauses. Cart. m. Goldschn. 0.50

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN

H. Leidesdorf. Kinderlust, oder: Spiel- u. Lied für Kindergarten, Schule, Haus u. Spielplatz. Unter Mitwirkung mehrerer Pädagogen hrsg. 2 Abthn. 1. Abth.: 145 Spiele m. u. ohne Gesang, 100 Reime zu Spiel u. Scherz m. kleinen Kindern, 91 Räthsel u. 37 Abzählsprüche. 2. Abth.: 254 Lieder m. den Singweisen, sowie eine Sammlung Reime über des Kindes ersten Verkehr m. der Natur, Kindergebete, Sprüchlein, leichte Geburtstags- u. Neujahrswünsche. 1.20

W. Löhe. Von Kleinkinderschulen. Ein Dictat für die Diaconissenschülerinnen v. Neuendettelsau. cart. 0.25

R. Loewenstein's Kindergarten. M. zahlr. Illustr. u. eingedr. Holzschn. v. Th. Hosemann. 4. cart. 1.90

Mrs. Horace Mann, and **Elizabeth P. Peabody.** Kindergarten Guide, with Music for the Plays. cloth, 1.25

B. von Marenholtz-Bülow. Die Arbeit und die neue Erziehung nach Fröbel's Methode. 2.10

—— Das Kind und sein Wesen. Beiträge zum Verständniss der Fröbel'schen Erziehungslehre. 1. u. 2. Hft. @ 0.60

—— Le jardin d'enfants. Nouvelle méthode d'éducation de Frédéric Fröbel. 0.50

Marienwerther Kindergärtchen für die Bewahrschule. cart. 0.45

H. Meier. Das Kind in seinen ersten Lebensjahren. Skizzen über Leibes- u. Geisteserziehung. Deutschen Müttern gewidmet. 0.90; in Lwd. geb. 1.25

W. Middendorff. Ueber die Kindergärten. Durchgesehen u. theilweise verbessert v. Wich. Lange. 1.00

—— Die Kindergärten. Bedürfniss der Zeit, Grundlage einigender Volkserziehung. 0.50

Das erste Morgenroth, oder die erste Unterweisung im Christenthum. Ein Büchlein für Kinderstuben u. Kleinkinderschulen. 0.65

L. Morgenstern. Das Paradies der Kindheit nach Friedr. Fröbel's Grundsätzen. Practisches u. ausführliches Handbuch für den Selbstunterricht u. zur Benutzung in den Fröbel'schen Bildungsinstituten. M. Holzschn., 10 lith. Taf. u. Noten. 1.80; in Lwd. geb. 2.40

—— Die Storchstrasse. 100 Bilder aus der Kinderwelt in Erzählungen u. Liedern für erzählende Mütter, Kindergärtnerinnen u. kleine Leser. M. 8 bunten Illustr. v. L. Thalheim. geb. 1.60

—— Die kleinen Menschen. 101 Geschichten u. Lieder aus der Kinderwelt für kleine Leser, erzählende Mütter, Kindergärtnerinnen u. Erzieherinnen. Für das Alter von 6—11 Jahren. M. 8 bunten Illustr. v. L Thalheim. cart. 1.60

Die Mutter unter ihren Kindern, oder: wie Mama ihren Kindern schöne Märchen u. Geschichten erzählt, hübsche Liedchen lehrt u. sie zu schönen Spielen anleitet. Hunderte v. kleinen Geschichtchen, Märchen u. Fabeln etc. M. 7 lith. bunten Bildern nach I. B. Sonderland. Lex. 8. 1.20

Th. Naveau. Frau Rosa's Kinderstube. Ein practisches Handbuch für Mütter u. Lehrerinnen an Kleinkinderschulen. 1. Thl., enthaltend: bildende Beschäftigungen für Kinder v. 3—6 Jahren in 20 lith. Mustertaf. u. genauer Anleitung zur Ausführung jeder einzelnen Beschäftigung, Beispielen zur Besprechung m. kleinen Kindern, Erzählungen, Liedchen u. Räthseln. gr. 4. cart. 1.20

—— Dasselbe. 2. Thl., enthaltend: bildende Beschäftigungen für Kinder v. 5—8 Jahren, in 20 lith. Mustertaf. u. einer Anleitung zum unterrichtlichen Verkehr m. jüngern Kindern in Besprechung, Erzählung, Lied u. Gedicht. gr. 4. 1.80;
I. u. II. Thl., geb. in 1 Bd. 3.70

—— Aus des Kindes Heimath. gr. 4. M. 12 lith. Bildern, gez. v. Jul. Hoffmann. cart. 1.80; illum. 2.40

—— Neues Erzählbuch für Haus- und Kindergarten. M. 12 eingedr. Holzschn. v. Ed. Ade. 16. 0.50

—— Erzähl-Buch für Haus- u. Kindergarten. 1. Hft. gr. 16. M. eingedr. Holzschn. 0.30

—— Der Kindergarten u. seine Erziehungsmittel für Jedermann fasslich dargestellt. 0.15

—— u. **Marianne Naveau.** 200 Spiele u. Lieder für Kindergarten, Elementarklasse u. Familie. Gesammelt u. nach Musik u. Text überarbeitet u. geordnet. 0.50

—— u. **Fr. Janssen.** Zeichnenschule für die Kindergärten u. für die Familie. 1. Abth. 1. Hft. gr. 4. M. 5 Steintaf. 0.30

—— Dasselbe. 2. u. 3. Hft. M. 9 u. 12 Steintaf. @ 0.60

H. Nienhaus. Geistige Nahrung für Kinder von 4—7 Jahren. Ein Handbuch für Alle, welche m. Kindern umgehen, namentlich für Erzieherinnen u. Lehrer an Bildungsanstalten für die Jugend. Inhalt: 1. Abth. Sprachübungen. 2. Abth. Gedichtchen zum Auswendiglernen. 3. Abth. Spiele für Kinder. 4. Abth. Lieder. 5. Abth. Märchen, Fabeln, Erzählungen. 0.60

H. Piepenberger. Die Fröbel'schen Kindergärten. Drei pädagogische Vorträge, gehalten im pädagog. Vereine zu Schwerin i. M. 0.30

H. Pösche. Fr. Fröbel's entwickelnd-erziehende Menschenbildung (Kindergarten-Pädagogik) als System. Eine umfassende wortgetreue Zusammenstellung. 1.80

—— Die Ball- u. Turn-Spiele Fr. Fröbel's. Für Haus, Kindergarten u. Schule bearbeitet. M. 4 lith. Zeichn. in Tondr. nach W. Schäfer. M. eingedr. Holzschn. 0.95

J. Frdr. Ranke. Die Erziehung u. Beschäftigung kleiner Kinder in Kleinkinderschulen u. Familien. Anleitung, Kinder in den ersten Lebensjahren zu erziehen, durch Spielen, Arbeiten u. vorbereitenden Unterricht zu beschäftigen, m. besonderer Berücksichtigung der Kleinkinderschule nach der Erfahrung bearbeitet. 0.60

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8250

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

E. Steiger in New York.

F. Ravoth. Die mathematische Formenlehre der Fröbel'schen Spiel- u. Beschäftigungsmittel für Kindergärtnerinnen u. zum Verständniss der Fröbel'schen Pädagogik. M. in den Text gedr. Holzschn. 0.60

—— Ueber den Geist der Fröbel'schen Kinderspiele u. die Bedeutsamkeit der Kindergärten. M. eingedr. Holzschn. u. 9 Steintaf. 0.50

H. Reffelt. Das erste Buch für Schule u. Haus. geb. 0.25

—— Das zweite Buch für Schule u. Haus. geb. 0.45

R. Reichenau. Aus unsern vier Wänden. Bilder aus dem Jugend- u. Familienleben. 1. B. gr. 16. cart. 1.00

—— Dasselbe. Mit 66 Originalzeichnungen von Osc. Pletsch; in Holzschn. ausgeführt von H. Bürckner, 4. In Leinwd. geb. m. Goldschn. 5.40

J. u. B. Ronge. Practical Guide to the English Kinder-Garten. 4. 3.75

Scheibert. Des Kindes Spielen u. Spielzeug. Vortrag. cart. 0.30

Ed. Schulz. Die Welt im Kleinen. 12 Bilder aus dem Kinderleben. Ein Familienbuch mit Text v. E. Rittershaus. In Holz ausgef. v. R. Brend'amour & Co. Imp. 4., m. 12 Holzschntaf. u. cart. 2.50

J. Seele. Gedichte für das erste Kindesalter zum Gebrauch im Hause, für den Kindergarten u. die Kleinkinderschule. M. Vorwort v. H. Pösche. cart. 0.85

—— Erzählungen für Kinder von 2—7 Jahren zum Gebrauch im Hause, im Kindergarten u. in der Kleinkinderschule. M. Vorwort v. E. Pappenheim. M. 6 lith. u. illum. Zeichn. v. G. Bartsch. cart. 1.00

Fr. Seidel. Katechismus der praktischen Kindergärtnerei. M. 33 in den Text gedr. Abbild. 0.40

R. O. Seydler. Die Mittel der Kindergarten-Erziehung. Zweck, Bedeutung u. Anwendung derselben. 0.25

—— Das Wesen des Kindergartens. Vortrag. 0.25

G. Steinacker. Bilder, Studien u. Klänge aus dem Bereiche des Elternhauses u. Kindergartens, der Lehranstalt u. Volksschule; nach Frdr. Fröbel'schen Grundsätzen. 16. 1.20

L. Stiebritz. Allerlei Heimlichkeiten aus der Kinderstube. Bilder aus den ersten Lebensjahren. 16. 1.00

Tante Hedwig's Geschichten für kleine Kinder. Ein Buch für erzählende Mütter, Kindergärtnerinnen u. kleine Leser. Mit 6 bunten Bildern v. L. Thalheim. geb. 1.20

Tante Louisen's Märchengarten. Ein Büchlein für Mütter u. Kindergärtnerinnen, artigen Kindern v. 4—7 Jahren daraus vorzulesen u. zu erzählen. M. e. Vorwort von L. Morgenstern u. lith. u. color. Bildern. cart. 0.95

H. E. Wagner. Zeichenblättchen zur Selbstbeschäftigung für Kinder. 1.—6. Heft. qu. 4. à 0.25

L. Wehrenpfennig-Hertlein. Kommt, lasst uns den Kindern leben. Skizzen über weibliche Erziehung u. Friedr. Fröbel's Erziehungs-Idee. 0.85

J. Wellauer. Ueber Kleinkindererziehung. Mit besonderer Berücksichtigung auf die Fröbelschen Kindergärten u. ihre Anwendung im St. Gallischen Waisenhause. Eine Conferenzarbeit. 0.30

Frz. Wiedemann. Der Lehrer der Kleinen. Ein praktischer Rathgeber für junge Elementarlehrer. Ueberhaupt aber ein Buch für Alle, welche sich für die Erziehung der Kleinen interessiren. 1.00

G. Wiedemann. Kindergärten ein Bedürfniss der Gegenwart. 0.20

A. Winkel. Das Liederbuch der Mutter. Kinderlieder zum Gebrauch im Hause, im Kindergarten u. in der Kleinkinderschule. Gesammelt u. m. leichter Klavierbegleitung versehen. 0.65

Wiebe's Paradise of Childhood, a complete practical guide to Kinder Gartners. With about 80 large double column pages of Letter-Press and 74 fullpage Lithographed Plates. 3.00

Woman's educational mission; or Fröbel's system explained. 1.80

The Kindergarten.

A Manual for the Introduction of FROEBEL'S System of Primary Education into Public Schools;

and for the use of Mothers and Private Teachers.

By

Dr. ADOLF DOUAI.

With Songs set to Music, and with 16 lithographed Plates.

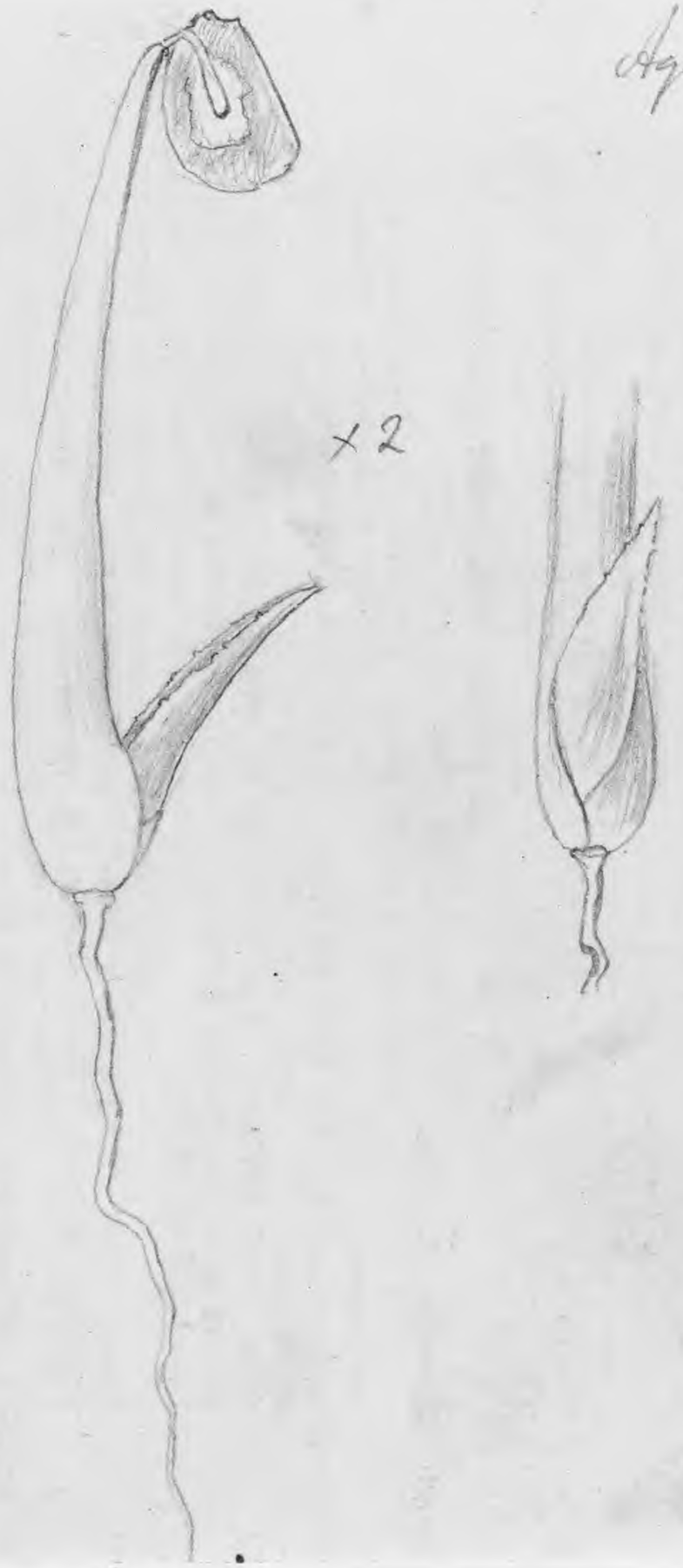
Cloth $1.00.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

June 27 1871

Agave Palmeri

Arizona Dr Palmer 1869



×2

seedling 6 weeks old

shrivelled albumen with the upper, shrivelled, part of radicule laid open; empty dry seed still adhering

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Leitch & Corlies

DRUGGISTS

SouthWest Corner Fifth and Market Streets

8251

0 cm 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

Agave maculata Eng.
Bot Mex Bound (1859)
pag 214

A. Poselgii p. 205 & p. 40
Bound Report p. 213
sub. Agave Lechequilla
n. sp. (Torr).

A. crenata ~~p. 229, 213~~
Jacobs 229 Bot Bound 213

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8252

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Cor 4th & Olive Sts. St. Louis.

APOTHECARY & CHEMIST,

Alex. Leitch,

copyright reserved
MISSOURI BOTANICAL GARDEN

GRAND CONCERT

For the Benefit of the Southern Sufferers,

Given by the

United Singing Societies of St. Louis,

Under the Direction of Prof. HANS BALATKA,

Tuesday, August 27th, 1878,

At Schnaidt's Garden.

Admission 25 Cents.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8253
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Agave Victoriae – Reginae
T. Moore
Gard Chron. n.s. 4. p. 485

Dracunculus vulgaris (Italy) foetens
Amorphophallus campanulatus India

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN
copyright reserved
cm 0 1 2 3 4 5 6 7 8 9 10

DR. GEO. ENGELMANN,

OFFICE: 201 South Fifth St.,

RESIDENCE: 3003 Locust St.

cm 0 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

C. K. JONES & CO.,

DISPENSING CHEMISTS,

2348 Olive Street and 2800 Washington Ave.,

ST. LOUIS.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

8254

Agave singuliflora

rootstock cylindric. tuberous rootfibres at its base sometimes over a foot long

scape slender, 5 feet high; flowering spike scarcely 6 inches long (of last year) leaves now withered and fallen (May)

Rootstock is Amole, also used for soap and sold in the markets.

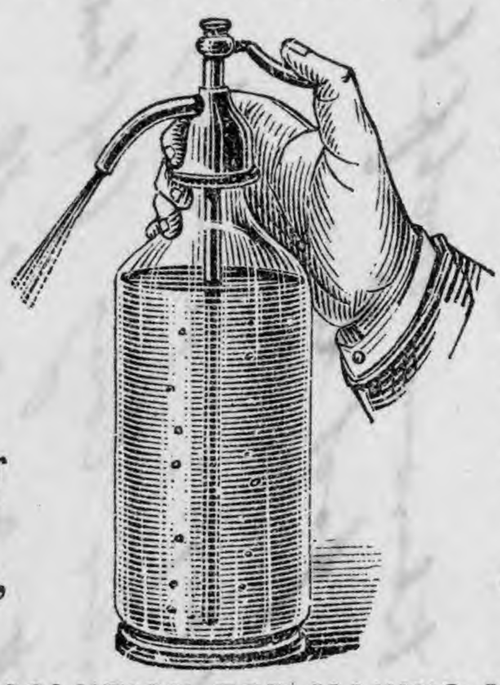
Dr Parry May 1878

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8255
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

MINERAL SPRING WA

Seltzer.
Kissingen.
Carlsbad.
Emser Kraehnchen.
Carbonic Acid Water



Vichy.
Vichy w
Lithia W
Bitter W
Iron Wa

IN SIPHONS,

JUGS &

CONCENTRATED SOLUTION FOR MAKING MINERAL

AROMATIC GINGER ALE

6 6 12 6
Apl. 3. 10. 17. 24. = 2,
6 9 9 9 6
May 1. 8. 15. 22. 29 = 3,
14 6 6 6
June 5. 12. 19. 26. = 2,

0 1 2 3 4 5 6 7 8 9 10 cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Kew Sept 1869

Bot Mag t. 5333

Agave glaucescens Hort Kew
Mexico Galeotti —
trunk 4' high — leaves 8' long
abruptly pungent towards the apex.
of the spike —
flowers in pairs or in 4's — short pedicels
greenish purple tinged.

A. Jacquiliana 5097 Bot Mag. much like
A. Americana but has a trunk —
flowers smaller

A. macrocarpa Bot Mag. 5122 (1859)
stem not longer than flowers — Texas

Agave ovatifolia Andeli, Rio del Monte, May
trunk short — leaves denticulate
scape 20 feet — spike oblong,
pedicel 6 — 9" long, flowers in pairs
stamens inserted down the tube
Bot Mag. 5213 (Vol 86) 1860)

Agave filamentosa going to bloom in succulent
house — long loose spike, flowers in
pairs.

82.83

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8256

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

at Guedeney's, Vesinet
April 5 1869

Agave dealbata

is the only Agave Mr Guedeney knows that does not die after flowering!

It has leaves 1 foot long, 3/4 – 1/2 inches wide, with a long linear point.

Agave Yucaefolia has flowered last year, and is now dying.

Agave "Ousselghemiana" is going to flower.

very glaucous; slender acumination and rather soft spined (though spine brown) finely and abundantly dentate on margin; no trunk;

Is going to flower scape now 2 feet high; lines subulate bracts imbricate bearing in their axils a pair of buds; fl. of course spiked

MISSOURI BOTANICAL GARDEN
copyright reserved
cm 0 1 2 3 4 5 6 7 8 9 10

Melocactus cephalenophus Lem.
Cactus cephalophorus gibbosus

Melocactus (N. III tab 1) ribs mostly 2 central spines 1 shorter upward
curved very short

E. Mocurla cylindrica ribs weak fasciculate mostly spread on upper edge of Areol

Ech goniodacanthus conical ribs, flank Rippel entwickelt

Ech. Brongniartii Clavicorn. Rippel abwärts

Ab. Corrientes Dompel.

= Cactus mirabilis HBK

Wright 207 C. cephalophorus
2623 C. pallidus Pf.
2624 C. Pringlei ribs valley Arch

Cp. Mexicanus ? Walla Walla Lyall leg

8257

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Agave Californica Hort Kew

in Jacobi Nachtraege 1869?

Jahresbericht der Schlesischen Gesellschaft f. Vaterl. Cultur p. 47

foliis e basi lata abrupte angustatis, linearibus apice ~~in~~ aculeum desinentibus, supra concavis subtus convexis, duris, margine albido scabris — varie flexis

perhaps Newberry's plant? no

or rather my Gregg's plant from Saltillo?

perhaps = my falcata

probably Yucca Whipplei

0 1 2 3 4 5 6 7 8 9 10
cm copyright reserved
MISSOURI BOTANICAL GARDEN

J. C. KIRKBRIDE
DRUGGIST
Nº 2600 OLIVE STREET, S.W. CORNER OF PRATTE AV.
ST. LOUIS, MO.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

82258

Dr. George Engelman, Office 3003 Locust St.

0 cm 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

Agavae inflorescentia dubiae

A. Newberryi Engl. ramuli erecto-patuli 2–5 flori

A. horizontalis Jacobi App. 33 2–8 flowers from one axil

A. Lophantha Schinde, Jacobi 202 oft 3 flowers, umbel congest.

A. Russelgheeniana Jacobi app. 41. flowers in 3's

A. pendula Schmidtsp. Jacobi 130 fl. 1 or 2

A. spiralis Cav. Jacobi 187. fl. 2 x 3

A. xylacantha Salm Jacob. 45 x 210 probably an evergreen

geminiflora (= my A. Virginica) 4–5 flowers,

A. horizontalis Jacobi, App p. 33. trunk 1' Scape 3½' spike 2', from each bract 3–8 flow on pedicels 2–3''' long ~ leaves 2' long ½ wide.

A. Lophantha Schinde, Jacobi 202 ~ flowers ± 3s on a pedicle 1–2 lines long — [two latent ones rarely 3] the middle pedicel 1/4 line longer than the latent ones. — It seems to be a genuine flower with a central flower! — Above and below the flowers are in pairs! Spike 5 feet long. Sept 12–73'

A. xylacantha Salm, Jacobi 45 ~ Salm's Original 191: flores saepe geminati

Jacobi 210 has seen a belgian specimen of the same? and describes it as pumila spiciformis ramis subconfertis umbellato-multifloris

branchlets 2½ lines long 1½ lin. ± diam. bearing 4–5 flowers probably a geminiflora!

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8259

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Agave Virginica in my Garden

	4 first flowers	5 next flowers	3 next flowers	3 following flowers	5 flowers	6 flo
first day		July 1st morning. anthers protruding above corolla evening stam. fully elongated anthers yet closed; style yet within corolla.	July 2d morning anthers protruding evening filaments fully developed anthers just opening	July 3d morn anthers just protruding. evening filaments elongated anthers yet closed	July 4th morn anthers protruding even anthers yet closed	July 5th not a hot morn. anthers fully protruded, but filaments yet bent even. filaments elongated anthers yet closed
second day		July 2d morning anthers shedding their pollen style not longer the corolla evening still some pollen on anthers style half as long as filaments	July 3d morn anthers shedding pollen style as long as corolla evening style not ½ as long as stamens	4th morn anthers fallen (after rain storm) evening style about ½ as long as filam.	July 5. morn anthers shedding pollen stigma protruding above corolla even style half as long as filaments	
third day		July 3d morning pollen mostly gone anthers shrivelled style ⅔ as long as filaments evening. style full length stigmas opening, but dry	July 4th m. style half as long as filaments stigmas begin to open evening. stigma getting moist.	5th morn anthers fallen style ⅔ length of filaments even. stigma moist.		
fourth day		July 4 morning stigma full of liquid evening same	July 5. morn stigma covered with liquid evening same			
	Style never reaches quite the length of the filaments	July 5 morning stigma withered				

2d ev. stigma open anthers fallen

3 mor stigma full of liquid

During the very hot weather July 10 – 21 etc. I notice that the bud opens in the Morning, mostly already in the night – and anthers protrude; in forenoon they have their full length

first evening as above

anthers open about 10 P.M (probably at same time above) and begins to shed pollen; style now slightly (say 1 line) protruding above perigon.

second day – Morning anthers mostly fallen, style half as long as anthers stigma closed

Evening anthers mostly fallen, style of full length, begins to be

third morning stigma open and glutinous,

stigma fully glutinous

whole flowering period in very hot weather: (2 days or) 2½ days one day less than in ordinary summer weather.

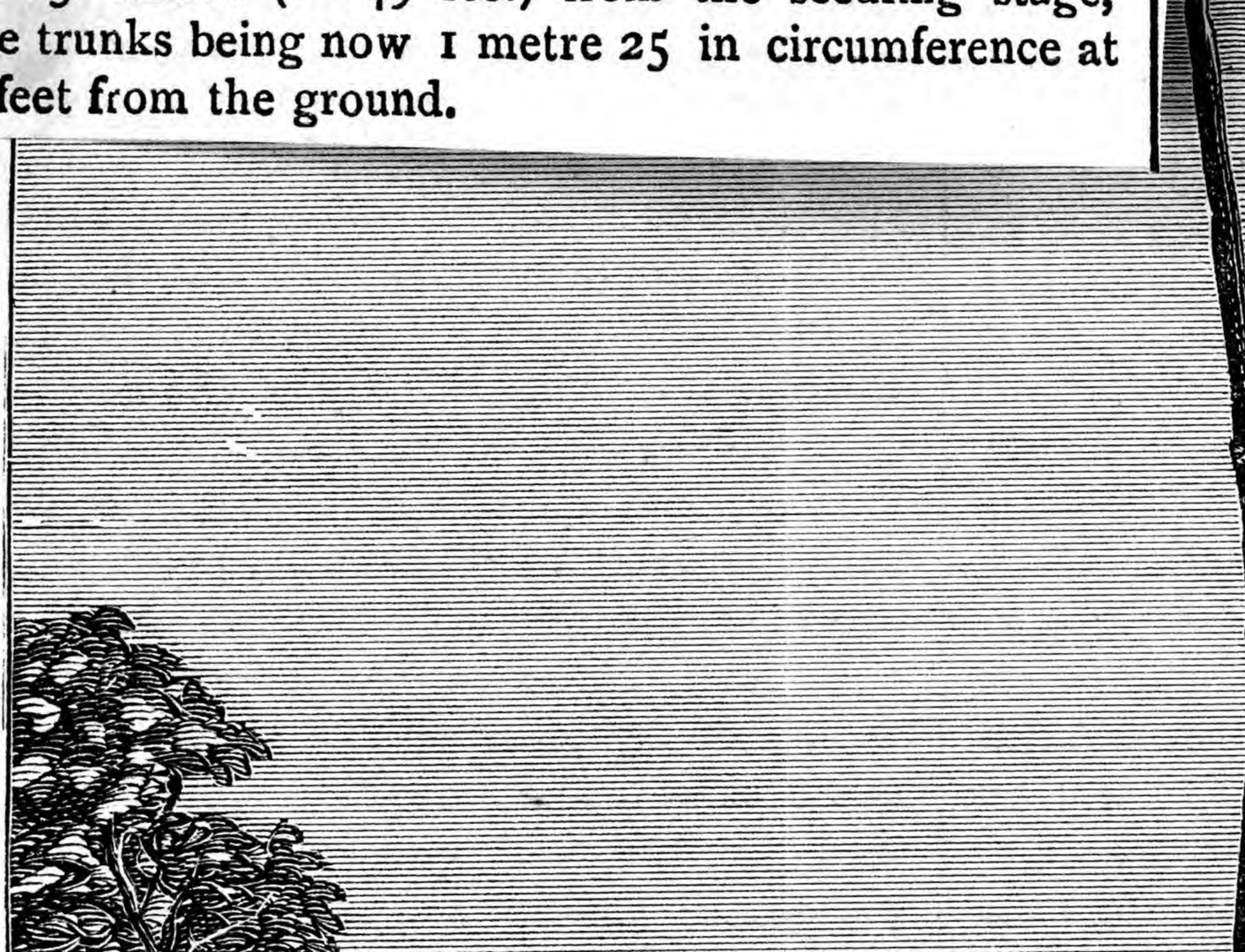
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

MISSOURI BOTANICAL GARDEN
copyright reserved

copyright reserved
MISSOURI BOTANICAL GARDEN

0 cm 1 2 3 4 5 6 7 8 9 10
Copyright reserved
MISSOURI BOTANICAL GARDEN

—— FOR the photograph from which our illustration (fig. 33), p. 177, was taken, we are indebted to Prince PIERRE TROUBETZKOY. The plant represented is AGAVE SALMIANA, which has flowered in the Prince's garden at Intra, on the shores of the Lago Maggiore, without any protection. The plant was planted out in 1871, when not more than 18 or 19 inches in height; its present dimensions are :—flower-stem, 6.10 metres (about 20 feet) in height; circumference of flower-stem, 64 centimetres (= 2 feet); length of leaves, 1.70 by 30 c.m. in width. The circumference of the entire plant measures 50 metres. The flowers were fertilised with the pollen of A. Celsiana, A. maculata, and A. xalapensis, and the woodcut shows the process—about the first time, we suppose, that the marriage ceremonial has been thus represented. The flower-bud was first noticed in the beginning of February, and on July 5 the flower-stem measured 6.10 metres (= 20 feet, about), and all the flowers were then expanded. In the same garden are now in flower Dasylirion gracilis, tenuifolia, Beaucarnei. Beschornera mexicana and californica are in flower, the flower-stems being of a coral-rose colour with green bell-shaped flowers. Twenty-five varieties of Eucalyptus are also grown, some of which, as E. amygdalinus, have in eight years attained a height of 15 metres (= 49 feet) from the seedling stage, the trunks being now 1 metre 25 in circumference at 3 feet from the ground.



growths to be entirely lo
more shade than the othe
have the moisture retainec
tions. Masdevallias must
of this house, and on no ac
As a rule these are very fr
tions being that the soil sh
supply of water abundant,
very little direct sunlight.
blocks in this house will
looking to, the young br
enclosed in them will be
blocks are dipped the wate
remain in the breaks, othe
very liable to damp off. *W*

1928

FLOWER GA

The beds are now well
their beauty. Where any
getting out of their places,
become too thick and crow
back or the points of the sh
ever cuttings can be had wi
ing with the appearance of
in at any time now. We ge
variegated Pelargoniums, as
than the scarlets and stronge
are struck in an open expe
get very little water until th
growing. Phloxes, Pentst
hardy plants may be prop
glasses on a shady border or
China Roses also do well t
Cloves and border Carnatio
without delay, in order to e

0 cm 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

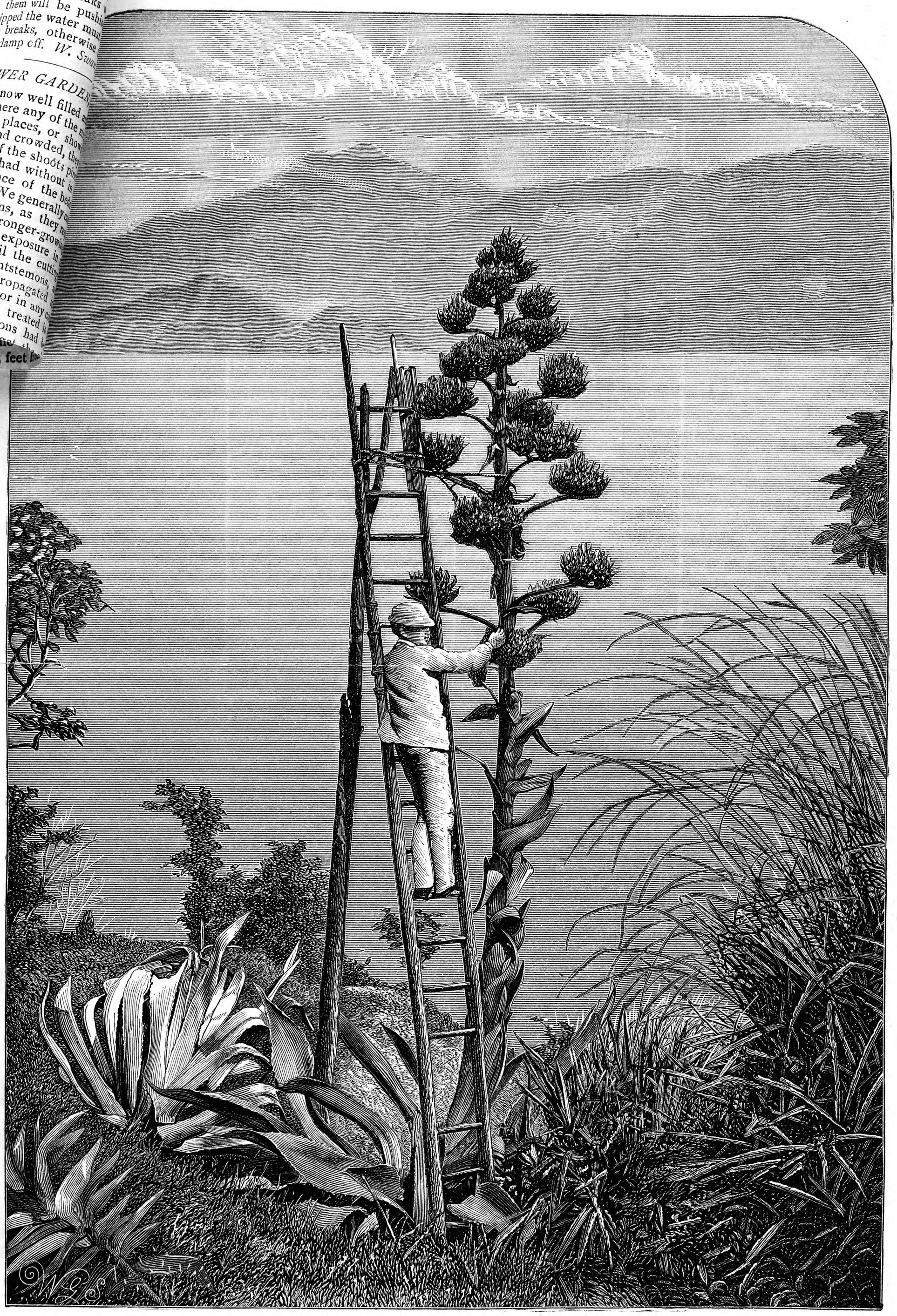


FIG. 33.—FLOWERING PLANT OF AGAVE SALMIANA IN THE GARDEN OF PRINCE TROUBETZKOY.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

remarkable; the leaves are large in size, and as healthy and clean as any one could well desire to see them; there is not a trace of mildew or insect pests of any kind. The few Vines that carried fruit last year ripened their bunches thoroughly, and Mr. A. PETTIGREW, the gardener at Cardiff Castle, who takes a great interest in the experiment, is very sanguine as to the crop of fruit likely to be harvested this season. The Marquis of BUTE is so much encouraged in the matter that a considerable portion of land has been planted during the past winter, and it is computed that the vineyard now comprises some 6000 Vines. Mons. CHAVENET, the proprietor of a large vintage at Côte d'Or, in the South of France, called at Bute Castle a few days ago, and expressed himself in sanguine terms as to the ultimate success of the experiment. He is sending a further supply of Vines for planting out at the proper season. The soil is kept gently hoed on the surface; it is so full of fibrous roots that it cannot be deeply moved without risk of injury. A good mulching of manure will be given in autumn, and each leading shoot will be cut back to three eyes at the proper time.

—— Our enterprising contemporary and for so long a time our associate—the *Agricultural Gazette*, will publish in its next number a coloured illustration of the COLORADO BEETLE in its various stages. In reference to this subject we may mention that there are now so many illustrations of the Colorado beetle that we trust our friends will not send us so many lady-birds! It is a great pity people do not know friend from foe.

—— The PELARGONIUM SOCIETY has just issued its report and balance-sheet for 1876-7, from which it appears that the annual subscriptions amounted to £88 12*s.*; that the amount of prize-money distributed amongst the various exhibitors on June 19 was £87 2*s.* 6*d.*; and the Society has a balance in hand of £42 6*s.* 8*d.* The annual meeting takes place at Chiswick on the 15th inst. at noon, when the arrangements for the ensuing year will be discussed.

—— On Monday last (Bank Holiday) no less than 58,000 persons visited the Royal Gardens, Kew, between 1 P.M. and sunset.

—— Judging of what we have seen in various places THE BALSAM does not prove ornamental in the open ground when grown on in pits and then turned out with balls of soil. The result would appear to be the undue development of side shoots and foliage that retard the production of flower and cover up the fine blooms that are first obtained on the centre stem. On the other hand, plants taken from the seed bed and dibbled out into the open ground soon produce flowers with but few side shoots, and the floral beauties of the plants are thus seen to the best advantage. Where seed is desired the soil should not be too rich; when necessary the plants should be stopped, and, if found needful, some of the side shoots should be taken out. Thus grown we have found the Balsam to be extremely beautiful in the open ground, and well worthy to be classed as a bedding plant.

—— Paragraphs have been going the round of the papers relating to the FLORAL DECORATIONS on the occasion of a grand reception on the part of Madame MACMAHON, and also on the costliness of modern entertainments in London. We are informed that at a ball in Belgrave Square on the 9th ult. Mr. WILLS supplied and arranged in one day 59 large Palms, Dracænas, &c., from 12 to 20 feet high, including many splendid specimens of Cocos flexuosa, 15 feet high; 60 Palms, from 6 to 15 feet high; 188 various Palms and foliage plants, from 4 to 10 feet high; 1 extra large Seaforthia elegans, 25 feet high; 292 foliage plants and Palms, from 3 to 6 feet high; 10 large Phormium tenax, 6 by 10 feet; 107 plants of WILLS' new hybrid Dracænas, from 3 to 5 feet; 72 large Ferns, from 3 to 7 feet high; 84 Cyperus, various, 683 Creeping Jenny (Lysimachia), 2880 Lycopodium denticulatum, 84 handsome foliaged Begonias, 209 Adiantum cuneatum, 109 A. farleyense, 50 Sedums, 50 Panicum variegatum, 60 large Ivies in pots, 10 feet high, 20 Cocos Weddelliana for centre of refreshment tables; 1416 choice flowering plants, 150 handsome Liliums (specimens), 72 Crassula coccinea (specimens), 48 choice Orchids, &c., 72 Isolepis gracilis, 72 Tradescantias, 150 various creeping and trailing plants; total, 7271 plants, 72 spikes Tuberoses, handsome; 6500 cut Roses, Stephanotis, cut Orchids, &c.; 22 tons of clear block ice, 5 tons of Derbyshire spar, 1 ton of virgin cork bark, 4 vanloads of green moss (equal to 1200 bunches). Large grottos were constructed, water for fountains, waterfalls, &c., laid on. The total cost of the above considerably exceeded £1000. Thus it will be seen that the cost of such entertainments has been much underrated by the general press. Of the taste and good sense that prompts such lavish expenditure we say nothing.

—— The twenty-second autumn exhibition of fruit and cut flowers at the Crystal Palace is announced to be held on September 21 and 22.

—— In reply to very numerous and still-continued enquiries, we beg to repeat that the ROSE SUPPLEMENT, with the coloured plate, presented to our subscribers with the number for July 7, is out of print, and will not be reprinted. We shall shortly issue a coloured plate of fruit, of which due notice will be given.

—— True DICHOTOMY, or forking of the growing point in flowering plants, is sufficiently uncommon to make it worth noticing that numerous specimens of the American Waterweed (Elodea canadensis) recently examined presented this peculiarity. Though rare in flowering plants, it is the common mode of division in Cryptogams.

—— Adverting to paragraphs in recent issues relating to certain alleged malpractices at ORCHID SALES we have received the following communication from Mr. STEVENS, who has also made known to us the facts of the cases alluded to by our correspondents so far as he knew them or was concerned with them as auctioneer. It is only just to Mr. STEVENS to state that not one of the correspondents who has addressed us on the subject has cast the slightest imputation on the good faith and upright conduct of Mr. STEVENS, which is indeed evidenced by his letter. Mr. STEVENS writes:—

"I have read the correspondence and your editorial note of last week, on the subject of Orchid sales, and need hardly say that it is not only my wish but that it is greatly to my interest that my sales should be conducted in a fair and honourable manner, and that buyers should be able to rely upon the correct description of the plants which come under my hammer. At the same time it would be quite impossible for me either personally to examine and guarantee the thousands of plants which annually pass through my hands. Orchid growers are aware of the great difficulty in describing many of the species, and that they pay a price at auctions commensurate with the risk. But I shall always be glad to assist purchasers in obtaining redress from the vendors where there is just cause for complaint, and shall feel grateful to any gentleman who will draw my attention, either publicly or privately at the time of sale, to any plants about which he may have reason to suppose there can be a doubt."

—— The Messrs. SUTTON are to be congratulated that whilst the Hollyhock fungus is working so much mischief in other places they are fortunate enough to have in their nursery a very fine plantation of this grand border flower, all the plants of which are in rude health and full of vigour. The varieties grown include all hues of colour found in the Hollyhock, and the flowers are of superb quality. Spring propagation, a deeply-worked soil, plenty of manure and room, seem to present the elements of successful culture.

A GARDEN LOUNGE.

THE figure we give of a garden lounge may be useful, as it is easily made, is inexpensive, and readily adapted to the varying requirements of young and old, short or tall. The back, as will be seen (fig. 34), can be raised or lowered at will, and the foot-board can, by an arrangement of pegs, be adapted to the comfort of the lounger. The back measures 30 by 19 inches, the length of the seat 19 inches, of the leg-rest 15 inches, of the movable foot-board 8 inches. The extreme measurements of the supporting framework are from the front of the seat to the end of the supports in front, 27 inches, and from the front of the seat to the end of the supports behind, 44 inches. We are indebted to Mr. W. Earley, Valentines, for the sketch and measurements of this very convenient garden seat.

FUNGOID DISEASES OF FOREST TREES.

BY M. C. COOKE, M.A., LL.D., &c.

EXPERIENCE has taught us that fungi may exercise an injurious influence in at least three different directions, viz. (1), either by permeating the soil, and injuring or destroying the roots, or (2), by establishing themselves in the tissues of the plant, and developing themselves outwards as true endophytes; or (3), by a kind of external parasitism, more or less covering the leaves and young branches, choking the stomata, checking growth, destroying the healthy functions, and ultimately causing death. These three modes of attack suggest the classing of our remarks under the heads of (1), root fungi, (2), Endophytes, and (3), Epiphytes.

ROOT FUNGI.—Horticulturists and foresters in Britain have long recognised the secret but deleterious influences of root fungi, as evidenced by the numerous and oft-repeated complaints which have appeared from time to time, over a period of many years, in the pages of the *Gardeners' Chronicle* and other journals devoted to horticulture. Vines have been described as suffering from attacks of root fungi. Shrubs withering and dying beneath the insiduous attacks of fungi at roots, and whole plantations of young trees being cut off by some unseen destroyer, which at length was discovered in the soil. Hundreds of instances are on record to substantiate the fact that conditions of fungi, mostly in the state of mycelium, or root-like threads and fibrils, can and do permeate the soil, and injure or destroy growing plants to a considerable extent. There is no external appearance of this enemy manifest, until the condition of the plant itself gives indication that something is going wrong. It is only by breaking and turning the soil that the cause is revealed, and it happens not unfrequently that the unaided eye is insufficient to detect its presence. Causes and cure are alike too little within the scape of human control.

Fungi of the Mushroom type are known to be developed from a mass of delicate fibrils which penetrate and interlace the soil, and to this filamentous material, which to fungologists is known by the name of mycelium, the common name of "spawn" is applied. It is just this kind of substance which accomplishes all the mischief comprised under the term of "root fungi." It is not a complete and perfect fungus, but the "mycelium" or "spawn" of some such fungus as an Agaric, a species of Polyporus or some Thelephora. This kind of mycelium, or incipient fungus, is almost certain of development from rotting wood, dying leaves, or vegetable matter of any kind during decomposition. Hence all soil containing vegetable substances in a state of decay contains the elements of root fungi. This may be illustrated by two or three recorded instances. Two Deodars were planted near the Director's house at the Royal Gardens at Kew, one grew, the other did not, and it was afterwards discovered that where the latter had been planted an old Cherry tree had been cut down; the inference was that the fungi on the dead wood left had attacked the living roots of the Deodar, causing the tree to fall into ill health. This was adduced as the true explanation why one tree often refuses to grow where another had stood before.*

A fine Wellingtonia gigantea, standing in the grounds of Portnall Park, was destroyed, and afterwards the cause of death investigated. A sickly hue spread over the branches, all that skill and intelligence could devise was done for it, but alas! its doom was fixed, and in a short time this much-cherished favourite was a dried stick. Fungous spawn had penetrated every part of its system, a white kind of network was found under the bark of all its roots, and it was believed that the enemy was some species of Polyporus or Thelephora, in the mycelioid condition. In commenting upon this incident the Rev. M. J. Berkeley remarks that he had a noble Cupressus macrocarpa affected in the same way. He recommended that in planting on the same spot it would be prudent to trench the ground deeply, and get out, if possible, every fibre of the deep roots, as each fragment might be affected, and would perhaps propagate the mischief, even if the new tree were planted at some distance.†

Shortly after the above was recorded another instance appeared in the same journal. The writer says that early in the year (1865) he had some hundreds

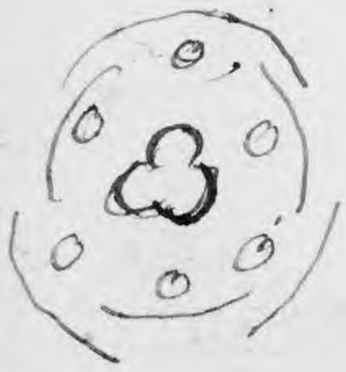
* *Gardeners' Chronicle*, 1865, p. 462. †*Ib.*, p. 1037.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

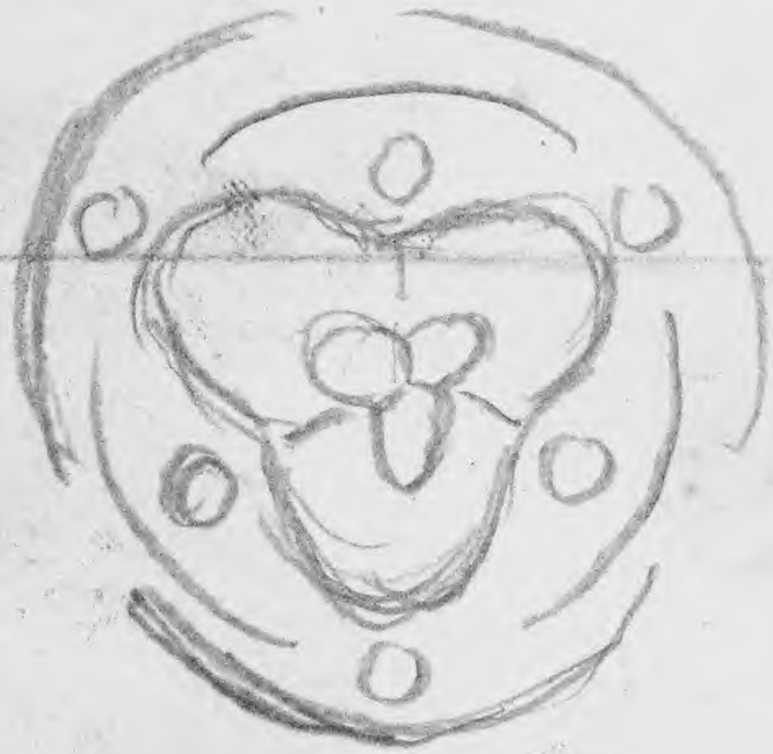
Feb 28. 1877

In Amaryllis the spreading
lobes of stigma correspond to
external lobes of perigon and to
the carpels.



Stigma carinal!

in Agave Commissural.



0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8263

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

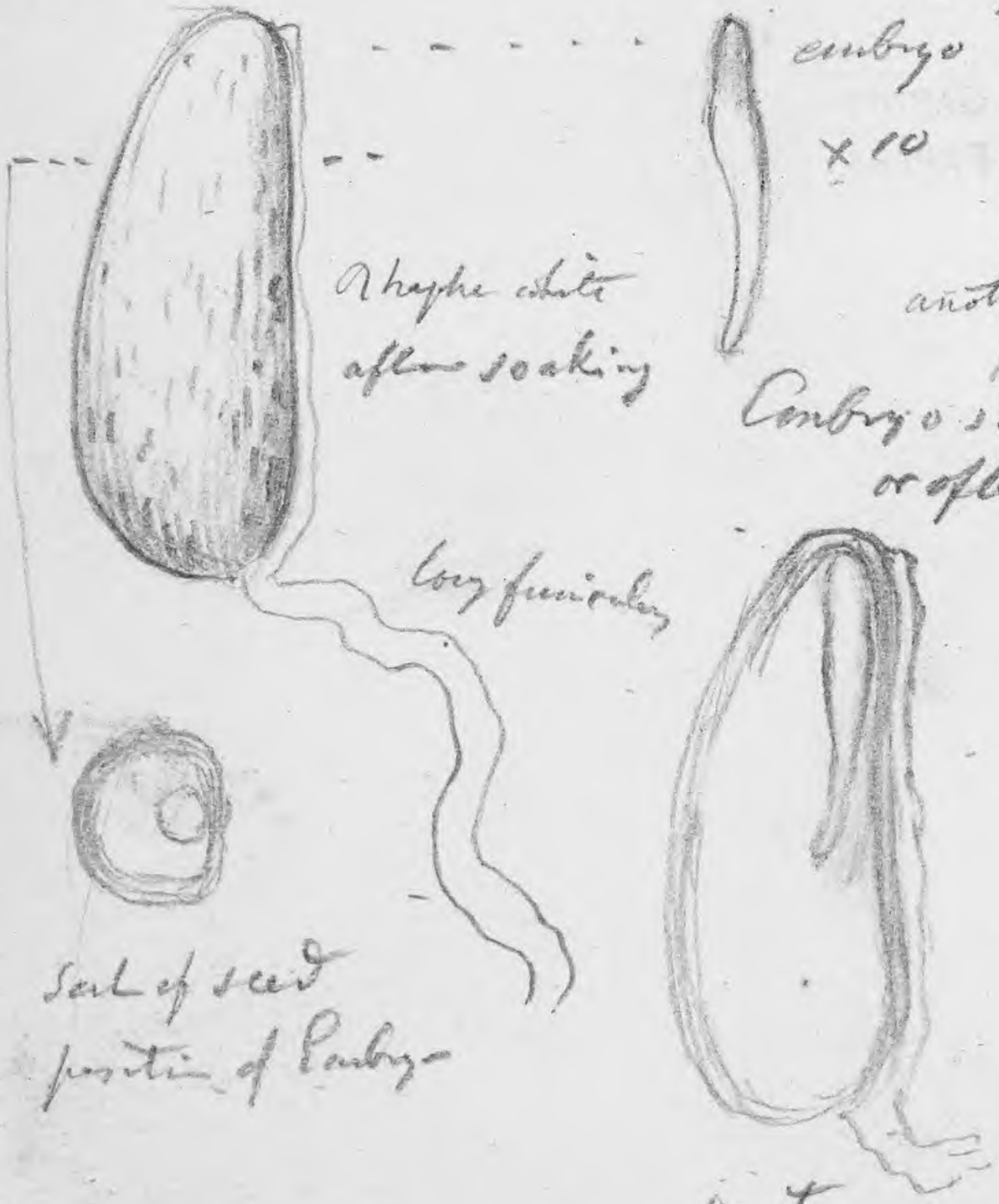
0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Billbergia

March 26 1867

Dr Gregg. No 1021, Magdalena

×10



on palmis pseudo-
parasitica
agavefolia, paniculata

ovula ex
apice carpelli
pendula ?
vel ex angulo interiore?

albumen amylaceous

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor 4th & Olive Sts. St. Louis.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

8264

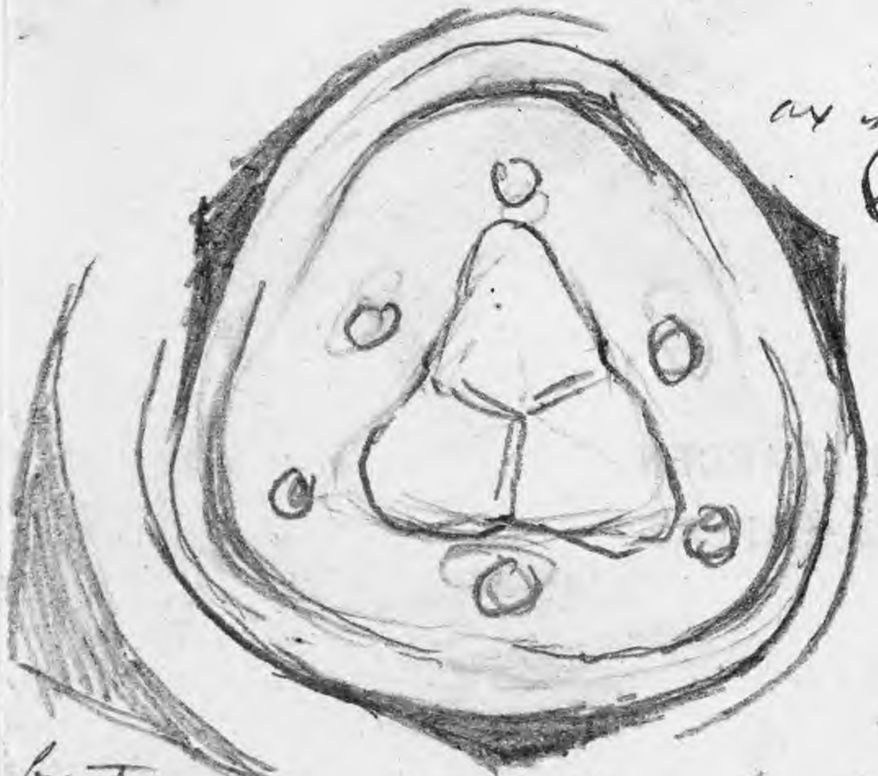
cm 0 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

Billbergia

March 22 1867

Dr. Gregg 1021

Zepin M. x.50



ovarium inferius

bract.

perigonii phylla 3 persistentia conico convoluta

petala 3 elongata alternatia, exserta

dense contorta – convoluta

stamina 6; filamenta subulata, persistentia

carpella 3 ovarium 3 – loculare constituentes

ovula multa; stylus rectus, apice 3 angulatus

semen cylindrico – curvata, ~~erecta~~

sepala ante et post anthesin regulariter convoluta

0 1 2 3 4 5 6 7 8 9 10
cm copyright reserved
MISSOURI BOTANICAL GARDEN

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor 4th & Olive Sts. St. Louis.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

8265

cm 0 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

In Polyanthes the 3 stigmata are formed
by halves of two carpels, and alternate with
the carpels, and are grooved on the back

Agave no doubt the same

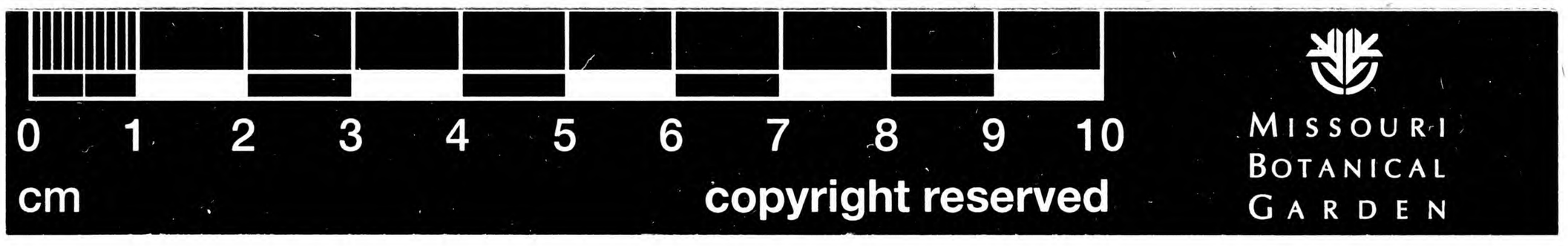
All Amaryllideae ?? Aug 1873

Stigmata
3 lobes correspond with inner lobes of perianth

(no! Amaryllideae proper have
3 stigmas corresponding to carpels!

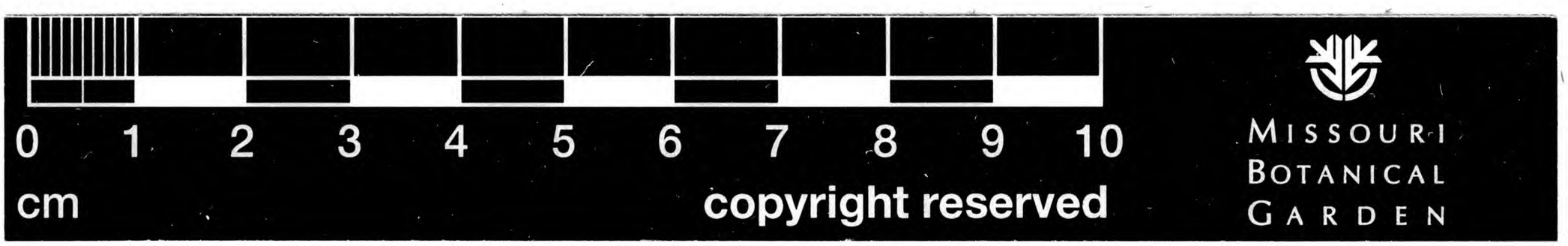
Aug 1875

The genus Agave was instituted from ~~the~~ by
Linnaeus in Hort Upsal. p. 87 (1748)
and the name given "dixi Agave
a gurus plantam admirabilem"



8266

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



Silliman Journ
1876

for the most part into serpentine; the garnet into minerals of the chlorite group; while the hornblende has generally withstood alteration. The paper of Mr. Lemberg contains a considerable number of analyses showing the composition of the original minerals, as well as of the products of decomposition.—(*Zeitschrift d. Deutsch. geol. Gesellschaft*, 1875, 531.) E. S. D.

15. *Selwynite, Noumeïte, Garnierite.*—Mr. G. H. F. Ulrich, in a letter dated Melbourne, Nov. 3d, 1875, states that the new species Selwynite, described by him, is not a homogeneous mineral. A microscopic examination shows it to consist of a felsite-like base, through which hydrous chromic oxide is disseminated, with occasionally a small octahedron of chromite. A similar method of examination has shown that the new nickel minerals (noumeite, garnierite), described by Professor Liversidge, are not homogeneous. There is here a soapstone-like base, composed of hydrous silicate of magnesia through which either hydrous oxide of nickel, or hydrous silicate of nickel is densely distributed in small veins and roundish patches. Some of the ore gave an assay up to twenty per cent of nickel, and others as low as two per cent.

16. *Manual of Geology of J. D. Dana.*—The following changes and corrections (besides some others merely typographical) have been made in the stereotype plates of the work since its first publication in 1874, and are needed by the copies of the earlier issues.

Page xv, 17 l. from top, P. C. Carpenter for J. G. Cooper. Page 3, 8 l. fr. top, 1–1,200,000 for 1-200,000. P. 82, fig. 61f has been inverted; and the same on p. 546. P. 147, 4 l. fr. foot, C. for F. P. 166, under fig., 4a Trenton *for* "4 Trenton." P. 338, 2 l. fr. top, fig. 521, *for* "p. 521." P. 344, in map, 9, 9, 9, *for* "8," "8," "8," and 8 for "9." P. 345, 18 l. fr. top, east *for* "west." P. 419, 4 l. fr. foot, southeast *for* "southwest." P. 427, 3 l. and 4 l. fr. top, over two *for* "three or four." P. 538, paragraph beginning with "The absence" has been changed so as to make it state that between the meridian of 100° in Dakota and the eastern boundary of Oregon and California the mean annual precipitation is not, with small exceptions about the higher mountains, over 16 inches. P. 675, 15 l. and 14 l. fr. foot, former *for* "latter," and latter *for* "former." P. 699, 16 l. fr. foot, yards *for* "feet." P. 743, 18 l. fr. top, along the strike *for* "transverse to the strike;" and for the closing part of the paragraph has been substituted:—an effect due to compression by the pressure to which the rocks had been subjected and a consequent expanding in a transverse direction. P. 756. To the first paragraph has been added the remark [a suggestion to the author by Prof. Verrill] that the retaining of the warm Gulf Stream waters in the Atlantic would give the ocean a higher temperature than it now has, and that this higher temperature would be the occasion of an unusual amount of evaporation, and, therefore, of an extraordinary amount of precipitation and frequency of storms along the cold borders of the continent in the Glacial latitudes; so that the theory adopted for the origin of the cold of the Glacial period accounts for both the cold and the abundant precipitation. P. 589, Cetacean area removed from Cretaceous column. D.

III. Botany.

1. *Notes on Agave;* by Geo. Engelmann, M.D.—This is a modest title of a paper in the Transactions of the Academy of Science of St. Louis, Missouri, vol. iii, December, 1875. Separately issued it forms a pamphlet of 35 pages, 8vo. If we mistake not it begins that volume; so that the pages of the pamphlet

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
Missouri Botanical Garden

8267

are those of the volume, as ought always to be the case, for convenience and uniformity of reference.

Dr. Engelmann deserves high praise and many thanks for taking in hand, one after the other, our difficult botanical subjects, concentrating his attention upon them for a while, elucidating them to the full extent of his opportunity, and leaving them in such a state that they can be easily understood, or readily followed up as occasion serves, by ordinary observers and collectors. His latest essay of this sort was upon *Yucca*. He passes from that to the analogous American genus, *Agave*, the "American Aloe," first distinguished from the old-world *Aloe* genus by Linnæus, who gave them the present name, *Agave*, "because that word indicates something grand and admirable." The headquarters of the genus are in Mexico, but a considerable number inhabit our southwestern borders, and one reaches well into the northern States. There are "perhaps 100 species,"—possibly a high estimate, but the catalogues of cultivators give twice that number of names. Most of them are nearly unrepresentable in the herbarium, while in cultivation they seldom blossom. The century plant, *A. Americana*, may sometimes in our cool regions literally answer to its popular name: semi-centennial specimens at least are not uncommon.

Dr. Engelmann first devotes a few important pages to the general structure and conformation of the trunk, foliage, inflorescence and fructification in the genus, and passes to a systematic arrangement and description of the N. American species as now known to him, and of a few extra-limital species upon which he is able to throw some light. They fall into three groups. 1. *Singuliflorœ*, with flowers in a simple spike, a single one to each bract. Our northern *Agave Virginica* is the familiar representative: there are also *A. maculosa* of Texas, and *A. variegata* from just over the border, both in cultivation. 2. *Geminiflorœ*, with a denser spike, a pair of flowers to each bract. Our species are arranged by obvious characters of the margin of the leaves, viz: with rough serrulate margins, *A. falcata*, n. sp.; with filamentose margins, *A. Schotti*, n. sp., and *A. parviflora*, Torr.; with aculeate-toothed margins, *A. hetearcantha*, Zucc. (which is Torrey's *A. Lechuquilla*), and *A. Utahensis*, Engelm. 3. *Paniculatæ*, the typical Agaves or Century-plants, with paniculate inflorescence. There is a division with tube of the perianth much shorter than its lobes. Under this *A. Newberryi*, n. sp., is marked by the insertion of the stamens on the base of the tube. The others, with stamens borne in the throat, are *A. deserti*, n. sp., *A. Parryi*, n. sp. (doubtfully regarded by Dr. Torrey as a variety, *latifolia*, of *A. Americana*), and *A. Antillarum* Desc., with orange-yellow flowers, now elucidated from materials brought from San Domingo by Parry and Wright in 1871. The division with tube of the perianth shorter than its lobes, and bearing the stamens about its middle, contains a very striking species, *A. Shawii*, from the southwestern corner of California, which, having broad and deep-green leaves with a

brown horny margin, set off by the large light red-brown spines, is thought to be one of the finest of the genus for ornamental cultivation. It was discovered by Dr. Parry in 1850, but good specimens only now obtained, and it is appropriately dedicated to the founder of the Missouri Botanic Garden, from which much is confidently expected. Finally, there is a division known by the tube of the perianth equaling the lobes or hardly shorter, and bearing the stamens: to this belong *A. rigida* Miller, with the Yucatan doubtful variety, *Sisalana*, introduced nearly forty years ago into S. Florida by the unfortunate Dr. Perrine; *A. Palmeri*, n. sp., from S. Arizona; and *A. Wislizeni*, n. sp. (which has had the utterly false name of *A. scabra* in Germany) in Northern Mexico. A reference to one or two very imperfectly known species is appended. Of *A. Americana*, there is a mere mention that it has a stipitate capsule.

In all species, so far as known to Dr. Engelmann, the anthers discharge their pollen about forty-eight hours before the style matures and the stigma can receive pollen. After the expansion of the lobes of the latter, at least in *A. Virginica*, a viscid liquid fills the cavity of the apex of the style, "whether stigmatic, or on y intended to allure insects, has not been ascertained." The figures which so commonly represent bursting anthers and a fully elongated style in the same blossom are probably factitious, as they certainly are in many otherwise excellent plates of various kinds of flowers. In conclusion, those who have the opportunity to examine species of *Agave* in flower are particularly requested to note at what hour of the day the anthers begin to shed their pollen, and at what time they become effete, and in what state the style is at these periods. The anthesis, so far as Dr. Engelmann has observed, is vespertine or nocturnal, as well as proterandrous. The time and nature of the nectariferous secretion in the lower part of the flower should also be recorded. A. G.

2. *Structure of the Leaves of Grasses: Histotaxie des feuilles de Graminees;* par J. Duval-Jouve.—An elaborate article in Ann. Sci. Nat., tome i, of Ser. 6, 1875, with four admirable plates of anatomical details. It appears to be an excellent piece of work, upon an almost neglected subject. Many of the text-books still say of the leaves of grasses, and indeed of Monocotyledons generally, that their veins or nerves are simple and unconnected by anastomosis; although what was meant must have been that the only anastomosis was by ultimate transverse veinlets. Duval-Jouve cites a long list of grasses in which these are conspicuous; and there are many in which the reticulating veinlets are of different orders. The stomata of grasses are in some confined to the lower surface of the leaf; in others divided between the two faces; in several they are restricted to the upper face, but in these the blade makes a turn or twist, so as for the most part to present this upper surface to the ground. *Triticum junceum*, *Calamrogastis* (*Psamma*) *arenaria*, and *Gynerium argenteum* (Pampas Grass) are cited as instances. Many grasses have under the epidermis of their upper

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
Missouri Botanical Garden

8268

face, and sometimes of the lower also, rows or bands of large thin-walled cells, which our author names *bulliform* cells. These in their presence, absence, number, and arrangement, are uniform in each species, but often quite different in the same genus, so that they may be used for critical specific characters; and they are, moreover, connected invariably with the vernation of the leaf, and with the opening and closing (either by conduplication or convolution, according to the vernation of the species) which are so prompt in many grasses. That this movement takes place in virtue of the hygrometric expansion of these cells under moisture and their contraction in dryness, was made plain by the behavior of sections of the leaf under the microscope, the closed conduplicate leaf of *Sesleria* opening instantly upon the application of a drop of water, when these cells in a band on each side of the midrib, before flattened or collapsed, became turgid and prominent. The leaves of *Leersia oryzoides* are described as rolling up instantly upon being bruised or roughly handled, as if endowed with real irritability. We trust some of our young botanists will look to this, next summer.

The split sheath of the leaves is one of the diagnostic characters of the *Gramineæ*. Exceptions in *Glyceria*, &c., were familiar. M. Duval-Jouve states that about a fifth part of the species have entire sheaths. Also that various grasses bear two, three, and even four leaves on one node! A. G.

3. *Botryopteris Forensis*, an interesting fossil fern, which occurs with fructification preserved in a silicified state in the rich deposits of Autun and Saint Étienne, France, has recently been investigated microscopically by B. Renault (Ann. Sci. Nat., 6 ser., i, 1875). In one plate he has illustrated the anatomy of the stem; in four others its fructification, and the anatomy, developing fructification, &c., of a *Trichomanes*, a *Helminthostachys*, and a *Botrychium*, for comparison. He concludes that in this fossil genus we have a type intermediate between true *Filices* and the *Ophioglosseæ*. A. G.

4. *Silicified fossil Fruits or Seeds*, from the coal beds of St. Étienne, are discussed by Brongniart in a preceding volume of the Ann. Sci. Nat. (with figures), and classified by the form of their transverse section. They are thought to be gymnospermous. Among those with binary symmetry, *Cardiocarpus* in its affinity is thought to answer to *Salisburia*; *Rhabdocarpus*, a new genus to *Torreya*; *Diplotesta* and *Sarcotaxus* (new genera), to *Cephalotaxus*; *Taxospermum* and *Leptocaryon* to *Taxus*. Those of radiate symmetry of three, six, or eight divisions or a circular section of various kinds, including *Trigonocarpus*, are conjectured to be the fruit of *Sigillaria*, *Calamodendron*, and the like, which Brongniart takes to be an extinct type of Gymnosperms. A. G.

5. *Respiration of Plants; some Researches by* MAYER and WOLKOFF: a paper in Ann. Sci. Nat., in the volume above cited, apparently translated from a prior publication in German, to which there is no direct reference. That plants have a true re-

piration like that of animals, correlative with decomposition, is so well made out of late years, (and besides is understood to be inevitable if the plant is to do any work), that it was hardly necessary to refer back to a work of Liebig fourteen years old, and even then a little antiquated, for an enunciation of the opposite doctrine. Then the process answering to respiration was overlooked or thought unessential, being overshadowed by the vaster, larger and more important counterpart process of assimilation. The researches of which the results are given in this paper were made to ascertain the relations between vegetable respiration, i. e., the expiration of carbonic acid, and light, temperature, growth, &c. The results, on the whole, were, that changes of temperature within normal limits were of little effect and transient when the change was sudden; that the influence of light, although generally appreciable, was feeble, and probably indirect. This action, as is well known, goes on both in light and darkness, but under the latter it is not masked by the assimilative process. Growth also proceeds indifferently under either, or, it would appear prefers darkness. But Mayer and Wolkoff conclude (contrary to some of their predecessors) that there is no direct relation between growth in length and respiration, so that one should in any sense serve as the measure of the other. A. G.

6. *Classification of Nostochineæ.*—Dr. Bornet, in a recent number of the Annales des Sciences Naturelles, has published a most useful key to the genera of the *Nostoc* tribe, which was drawn up by the lamented Thuret, shortly before his death. Although it was not intended for publication in its present state, it cannot but be useful. The appended enumeration mentions most of the species, with leading synonyms. A. G.

7. *Gymocladus in China.*—If M. Baillon is right in his identification by means of pods and loose flowers, there is a second species of *Gymocladus*, our Kentucky Coffee-tree, indigenous to China, in the vicinity of Shanghai, where the gummy substance in the legume is used as a substitute for soap. This is an additional instance of a supposed monotypic genus of Atlantic North America being represented in the corresponding part of N. E. Asia. Baillon's notice of it is in Bull. Soc. Linn., Paris, Jan., 1875. A. G.

8. *Flora Brasiliensis*, fasc. 68, issued in March, 1875, has just come to hand. It contains the *Amarantaceæ*, by Prof. M. Seubert of Carlsruhe, with 26 plates; and this fascicle completes vol. v, part 1. There are 13 Brazilian genera; of which much the largest is *Gomphrena*, with 66 species. The species figured which concern the North American flora are *Alternanthera achyrantha* and *Amarantus hypochondriacus.*

9. *Das Haustorium der Loranthaceen und der Thallus der Rafflesiaceen und Balanophoreen;* von H. Grafen zu Solms-Laubach. Halle, 1875. 4to. The present paper is supplementary to an article on the vegetative organs of phanerogamic parasites which appeared in Pringsheim's Jahrbücher, Bd. vi. The writer divides his subject into three parts. The first is

8269

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

devoted to a consideration of the modes of attachment of different species of *Loranthaceæ* to the foster plant. This is accomplished by the growth inward of suckers (*Saugfortsütze*) which penetrate through the bark to the wood. The shape which any sucker assumes depends on the relative activity of the growth of the sucker itself and of the cambium. In some cases, as *Loranthus Europœus* and *L. Sternbergianus*, the sucker sends out processes which penetrate into the wood itself. The writer confirms the suggestion made by John Scott that the vascular bundles of the parasites communicate with those of the plants on which they are growing.

Part II is devoted to the vegetative organs of the *Rafflesiaceæ*, which had previously been studied only in *Pilostyles Haussknechtii* Boiss. and *Cytinus Hypocistus* L. The writer gives the results of his examinations of *Pilostyles Æthiopica* Hook., *P. Blanchetii* Gardn., and *P. Caulotreti* Karst., which closely resemble one another. The vegetable organs of these species consists of threads or, at times, flat expansions which are found in the last and from which suckers are given off which penetrate into the wood. The name given to the thread-like expansions is thallus, from its resemblance to the structures of the same name in cryptogams. The flower buds are produced as adventitious offshoots from the threads of the thallus, and finally burst through the bark of the foster-plant. *Pilostyles Thurberi* A. Gray, a plant of our own country which is parasitic on species of *Dalea*, differs somewhat from other species of the genus. Its thallus, which is found in the inner bark, is not composed of threads but of flat expansions of considerable size. They are at first destitute of vessels, which, however, make their appearance about the time of the formation of the flower buds. Part III is devoted to the vegetative organs of the *Balanophoreæ*, and the writer concludes as follows: "It is the object of the present essay to call attention to the fundamental uniformity of the development and conformation of the assimilating organs of the phanerogamic parasites. This object has been attained if we have been successful in showing that they all have a common characteristic in the absence of any sort of differentiation of organs of vegetation such as we find in the *Cormophytes*, that their organs can be neither roots nor stems, but that we are compelled to recognize them as thalline structures equivalent and completely analogous to those of the Thallophytes. This would have pleased Lindley, as indicating a structural foundation for his class of *Rhizogens*." W. G. F.

10. *The Movements and Habits of Climbing Plants*; by CHARLES DARWIN, M.A, F.R.S., etc. 2d ed., revised, with illustrations. 208 pp. 8vo.—This work by Darwin, noticed at page 69 of this volume, has recently been republished by D. Appleton & Co., New York.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Chs Martins (Montpellier) found that Dasylirion gracile grew from 6 PM to 6 AM much more than in the 12 hours of the day proportion 100 : 63, and another specimen 100 : 81 Phormium tenax 100 : 88.

But Agave Americana grew in daytime much more than at night = 66 : 100.
night day

see Bot Zeitung 29 May 1867.
(from Compt. rend. 1866. p. 210.)

0 1 2 3 4 5 6 7 8 9 10
cm copyright reserved
MISSOURI BOTANICAL GARDEN

8270

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

SUBJECTS FOR CONSIDERATION.

1st. Railway connections of the cities of Virginia with the Great West. Postponed from the Cincinnati Convention.

2d. Education. Postponed from the Cincinnati Convention.

3d. Central line water communications between the North and South. Postponed from the Cincinnati Convention.

4th. Development of the Gold and Silver mines in the Pacific States and Territories. Postponed from the Cincinnati Convention.

5th. The enlargement of the more important lines of canals in the United States, so as to render them navigable for vessels propelled by steam. Postponed from the Cincinnati Convention.

6th. Encouragement of a reciprocal trade between the United States and Brazil, and the other South American States. Postponed from the Cincinnati Convention.

7th. Continuous inland water line communication west from the Mississippi River along the Gulf coast to Rio Grande. Postponed from the Cincinnati Convention.

8th. Settled policy in the public interest in regard to the disposition of the Government Lands. Postponed from the Cincinnati Convention.

9th. Continuous water line communication from the Mississippi River to the Atlantic Ocean. Postponed from the Cincinnati Convention.

10th. Rail Roads generally.

11th. Department of Commerce.

12th. American Navigation interests.

13th. Revenue Reform.

14th. Immunity of private property at sea in time of war.

15th. Direct trade between Southern Atlantic cities and Europe.

16th. River Navigation.

17th. Construction of permanent levees on, and removal of obstructions from the mouth of the Mississippi River.

18th. Finance and Taxation including civil service reform.

19th. Charges on passenger and freight traffic by rail and water lines.

20th To abolish throughout the whole country all licenses imposed on commercial travellers

21st. Improvement of sea coast harbors.

22d. Ample railroad facilities from the Ohio River to the Central South.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

R. A. Salisbury, The Genera of Plants. edited by J. E. Gray 1866

pag 62 Class 4 Sarmentaceae (monocotyl with jointed pedicels)

p. 77. Order 12 Agaveae horizontal 2 rowed seeds

1. pericarpium superum.

Yucca

p. 78

2 pericarpium inferum.

Fourcroya

Littea

Polianthes

Manfreda Salisb

Agave

Our Agave is divided into Littea (geminiflora) single species

Manfreda (virginica) single species

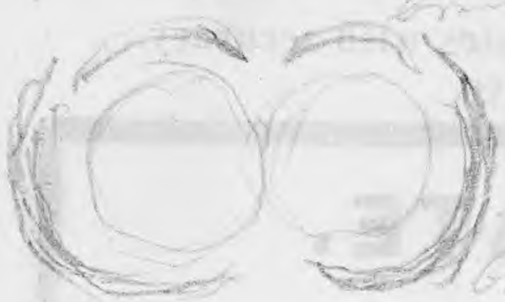
Agave (American etc) 5 species.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

1228

0 1 2 3 4 5 6 7 8 9 10
cm copyright reserved
MISSOURI BOTANICAL GARDEN

filifer



copyright reserved

8272
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Physicians are reminded of the importance of filling out these Certificates with accuracy.
They are the Basis of the Mortuary Statistics of the City.

CEMETERY CERTIFICATE.

(This Certificate must be fully and accurately filled out.)

Name of Deceased,..... (White.) (Colored.)

Date of Death,.....

Place of Birth,.....

Place of Death, No...... *Street,*

ST. LOUIS, MO.

Age,.....*years,*.....*months,*..... *days,*

(SINGLE.) **(MARRIED.)** **(WIDOWER.)** **(WIDOW.)** Cross out the words not required.

Cause of Death,.....

I CERTIFY that I attended the person above named, in..... *last illness, who died of the disease stated, on the date above named.*

..... *M. D.*

(*Address,*).....

Place of Burial,.....

..... *Undertaker.*

Office Health Department,

St. Louis, Mo.,.....*187*

I CERTIFY that I have examined this Certificate, and find it to accord with the

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

MISSOURI BOTANICAL GARDEN
copyright reserved
0 1 2 3 4 5 6 7 8 9 10
cm

flowers collected near Tucson on the way to Fort Yuma, on the broken rocky foothills of southern Arizona. Plants small, compact, spines short, leaves thinner, drier than the northern Plant (A. Parryi). Dr Palmer in litt 1871

GEORGE ENGELMANN PAPERS
MISSOURI BOTANI

ELC8

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Agave Bot. Mex. July 1871.

Gen.
Corpuliflore

foliis acutis dentatis

1. A. Mexicana Lam. (Wright 1906) vicinior
2 A. Parryi Eng — seed only known & Photograph
3 A. Palmeri Eng. seed & flowers known

4 foliis carilagineis dentatis integerrimis vel repandis carinis
(4 A. Sisalana Perrine)

foliis integris acutis

5 A. Kerchovei Lem
foliis ignotis
6 A. Consetii Eng, = N. 5 ??
A. cupuphylla Eng. mth of San Diego

Gamiaeflorae

foliis acutis dentatis pl. m. carinosis

7. A heteracantha Zucc.
8 A. Utahensis Engl

foliis semiteretibus acutis
(9. A. filifera Eng. Schiede)

foliis margine filamentosis integris

10 A. Schottii Eng (geminiflora Torr)
11 A. parviflora Torr.

Sisaliflorae

12. A. Virginica L.
S. A. Virginica
13. A. Greggii " "
14 A. Americana Hook

what is A. Californica Hort Kew?

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

.8274

Rhonethal — Gruse
——— — Gotthardt = Lugan
——— Gemmi = Chur — Finstr — Chur
———
Chur Julier Oberengadin Maloja Chiavenna
Bernina Veltlin (Adda)
Innsbruck
Bodensee, Feldkirch Landeck, Innsbruck

Como Bellagio — Borlezza — Lugano — Locarno

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

St Louis Jan 7. 1861

A. T. Douglas

Chairm. Com. Arrangements

Dear Sir

I have the honor to
acknowledge the reception of your
invitation to join the Mercantile

8275

Figures in

Mexican Boundary Rep. vol I

Agave geminiflora Jacq. pl. 34. 39.
Scheelii Torr Bot Bound. 214

var. Torry Bot Bnd p. 213
Agave Americana fide Scholt, probably A. Parryi
or A. Utahensis

pl. 35. 36 58

Agave parviflora Torr. pl. 38
Bot Bound. 214

fide A Scholt, the draftsman

pl. 35 x 36 represent the Sierra del Pajarito
in Southern Arizona, on the Boundary

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Agaves et autres plantes nouvelles.

1874

Je crois inutile de faire des éloges de ma riche collection de ce noble genre de plantes, vu que mon établissement est renommé comme en étant fourni des espèces les plus belles et les plus rares.

Sans me flatter, ma splendide culture de ces plantes est également admirée par tous les amateurs; et quoique tenues en pots relativement petits, il serait difficile d'en trouver de plus belles et de plus vigoureuses.

En relations avec l'intérieur du Mexique, je reçois presque tous les ans un envoi de nouvelles ou rares Agaves. C'est grâce à une heureuse importation récente, que j'ai le plaisir d'offrir les superbes nouveautés suivantes à des prix excessivement bas.

Agave Corderoyi brevifolia.

De grand mérite!! Feuilles d'un beau vert d'émeraude, garnies de jolies épines noir d'ébène et surmontées d'un très fort dard de la même couleur. Port du très favorablement connu *Agave Bessereriana candida,* cette plante distinguée ne pourrait manquer dans aucune collection d'Agaves ni même de plantes succulentes . . . . . fr. **15** à **25** »

Agave Ficquelmonti.

Très distinguée par ses belles et larges feuilles blanchâtres profondément crénelées. Plante indispensable pour toute belle collection d'Agave. Je l'ai dédiée à M. le comte de Ficquelmont, grand amateur de ce beau genre de plantes. Il ne me reste que deux forts exemplaires disponibles.

fr. **100** »

Agave Gilbey.

De tout premier ordre. Espèce à feuilles très courtes et épaisses, largement rubannées de blanc au milieu . . . . . fr. **15** à **25** »

Agave Kerchovei macrodontha.

Pas entièrement nouvelle, mais très rare. Espèce à épines énormes. Magnifique . . . . . fr. **25** »

LAURUS NOBILIS.

LORBEEREN. — SWEET BAYS.

Von Lorbeerbaüme, Kronen und Pyramiden, sind mehrere hundert Paaren in alle stärke vorräthig. Die Preise und alle gewunschte Erkundigungen theile ich auf verlangen.

J'engage vivement tous les amateurs et horticulteurs à visiter mon établissement l'été, pour se faire une idée de la beauté et de l'importance

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8276

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Agave hystrix (vrai) (BONAPARTEA).
— — **glaucescens.**
— — **gracilis.**

Could this be my A. falcata?

Belles plantes	**15**	fr. la pièce ou	**40**	fr. les trois sortes.
Très beaux exemplaires . .	**25**	—	**60**	— —
Extra forts et beaux exempl.	**40**	—	**100**	— —

Ces admirables plantes, toujours très rares et très recherchées, se vendent encore de 100 à 200 francs pièce. Nul doute, ou maintenant aucune collection, soit d'amateur ou d'horticulteur, ne voudra plus se priver de ces plantes si extraordinaires.

Comme en témoigne la planche ci-contre, les *Agave hystrix* sont des plantes de port trapu et compacte à feuilles hérissées, courtes, nombreuses, dont l'ensemble simule un véritable porc-épic. L'épine terminale de chacune d'elles étant noire ou orange foncé, leur grand nombre contraste agréablement sur la couleur bleue ou verte du reste des feuilles. Ce sont de véritables bijoux ayant la faculté de plaire à tous.

Agave Leopoldi.

Même section que l'*Agave streptacantha,* mais plus remarquable et plus brillante sous tous les rapports. Les belles épines larges ou étroites, quelquefois en tire-bouchon, d'autrefois crochues et de couleur variant du jaune paille et orange au rouge et au noir foncé, sont d'un effet splendide sur la couleur blanchâtre ou bleue des feuilles. Superbe acquisition

fr. **20** à **30** »

Agave Ousselghemiana alba picta.

(MICRACANTHA ALBA PICTA).

Nouveauté hors ligne, dépassant en beauté tout ce qui a paru jusqu'à ce jour en Agaves. Le centre de chaque feuille est orné d'un large ruban blanc d'ivoire, mesurant souvent 4 à 5 centimètres de largeur, ce qui produit un effet admirable sur le fond bleu de ciel, couleur naturelle des feuilles . . . . . fr. **50** à **80** »

Exemplaire fort et superbe. . fr. **300** »

Agave Roezli.

Noble espèce à feuilles très distinguées, bordées de belles et larges épines serrées et surmontées d'un énorme dard couleur marron foncé. Plus remarquable encore l'été par sa coloration rose brillant.

fr. **15** à **25** »

Agave Troubetzkoyana.

Plante extraordinaire. Aucune description ne saurait rendre justice à cette superbe espèce qui ne ressemble à aucune de ses congénères. Je l'ai dédiée à Son Altesse le prince Pierre Troubetzkoy, amateur zélé d'horticulture.

Forte plante . . . fr. **65** »
Un peu moins forte. . » **50** »

N. B. — Toutes ces plantes, bien établies en pots et fortement enracinées, sont magnifiques. Les prix ci-dessus se rapportant à de beaux exemplaires, sont établis de telle sorte que tout amateur et horticulteur puisse jouir de ces merveilles végétales de l'intérieur du Mexique.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

country. *P. P. C.*

Agaves in Jean Verschaffelt's Nursery.—The following is a list of Agaves that flowered in this nursery during the past summer (1877), viz.:—1. Agave filifera elegans, a fine variety, imported a few years ago from Mexico; a very compact plant, dwarf, with numerous short leaves, more abundantly thready (filamented) than in the usual species or varieties, each leaf broadly marked with pure white bands; about 1 foot high by 18 inches in diameter. The flower-stem is about 5 feet high, covered with seed-pods. 2. Filifera, a most noble specimen, about 40 inches in diameter; the flower-stems nearly 15 feet high, covered with hundreds of flowers, a great many of which have been fertilised, and bearing numerous seed-pods. 3. Xalapensis, a really fine plant, about 2 feet high by 3 feet in diameter; flower-stems 3½ feet high. This species seeds very freely, for every flower has become a seed-pod. It is one of the finest green-leaved specimens of the Agave tribe. 4. Agave lophanta, one of the very finest and most esteemed species, but not common in the trade. The specimen in question was perhaps the finest known in commerce. The flower-stem measures quite 20 feet, and it has continued in flower for ten weeks. This does not set so freely, but yet, owing to the immense quantity of flowers, a certain quantity of good seeds may be reasonably expected. 5. Schidigera, an imported plant, 18 inches high by 16 inches diameter; flower-stems 3 feet high; very few seed-pods. 6. Xylinacantha: a fine specimen of this species threw up flower-stems quite 7 feet high, and has now a great number of seed-pods. Beside the above Agaves two or three imported plants (trunks) of the very rare Dasylirion Hartwegianum (true) have flowered during the past season, but none of them have seeded. Several rare species of Agaves in my collection may be expected to flower next year. *Jean N. Verschaffelt, Ghent, Belgium, October* 20.

Gard. Chron. Oct 27 1877

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8277
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

A Cure for Root-eating Grubs.—In January last you were kind enough to write to me in answer to my inquiry for a cure for the "grub" that was eating up my Strawberry plants. I tried "sulphur," recommended by a correspondent of the *Gardeners' Chronicle*, without any success, as we found the vermin alive and well in the middle of the sulphured earth. As you requested me to write to you on the subject, I have now much pleasure in recommending a perfect cure—viz., the copious application of quicklime—small doses are useless. I feared at first I had burned up my plants, but they recovered, and bore an abundant crop, and the grub seems annihilated. Messrs. Sutton & Sons, of Reading, suggested the remedy. *A. F.*

Eriopsis biloba.—I suppose that Eriopsis biloba is not an easy plant to grow; I have not often seen it in really good health. I have had two or three plants, which I bought as they were imported; they all grew vigorously, and one or two flowered, but I lost one or two of them, and have now only one, which appears to be very healthy and to be growing stronger and more vigorous every year. The pseudobulbs of this plant seem to be very slow in forming and maturing, and in the plant that died the leaves spotted and the bulbs shrivelled and rotted in the winter. The roots do not seem so liable to rot as those of many Orchids. The plant which is thriving is grown in a shallow cork basket, which it has filled with roots, hung up close to the glass in a Cattleya-house, and without having much water given it at any time. It certainly, as Mr. Williams says,

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Journal Chronicle

~~Six months~~

an Agave will yield from 1 to 10 litres daily. The wound is kept continually open, and the juice is exhausted by means of a calabash called *cocote*. When fermented the juice is called *pulque*, and it contains about as much alcohol as good cider. Boussingault found in a litre of it 74 c.c. = 58.1 grams of absolute alcohol, and 308 c.c. of carbonic acid, besides 1.90 gram of nitrogenous substances; the sugar was completely fermented. He calculated that in Mexico a hectare planted with Agaves, containing about 4000 plants, would yield 25 to 56 hectolitres of absolute alcohol in the form of *pulque*, and this would place the plant in the first rank among those cultivated for alcohol. So much carbohydrate on the same surface of soil is not produced by corn, the Potato, the Sugar-cane, the Beet, or the Vine, as by the Maguey. This enormous produce is, of course, in reality much diminished by the fact that the plant only forms sugar in such quantity immediately before the flowering, and that this does not take place until its fifth to its eighteenth year, after which the plant perishes. But the propagation of the Agave by shoots from the root as well as by adventitious buds, is easy both in Mexico and Italy. The later the plant is in flowering the more imposing dimensions does it attain, so that even in Italy Agaves with leaves 1½ metre long are not unfrequent.

The *pulque* is turbid, and possesses an after-odour, not agreeable to everybody, which appears to have its origin in butyric and valerianic acids; the beverage resembles *kumiss* (fermented milk). It is, therefore, scarcely to be expected that this liquor would be relished by the Italian population in the presence of their capital wines. Nevertheless the experiment might be worth making, whether in Italy, where the Agave grows so luxuriantly, it could be worked indus-

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8278
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

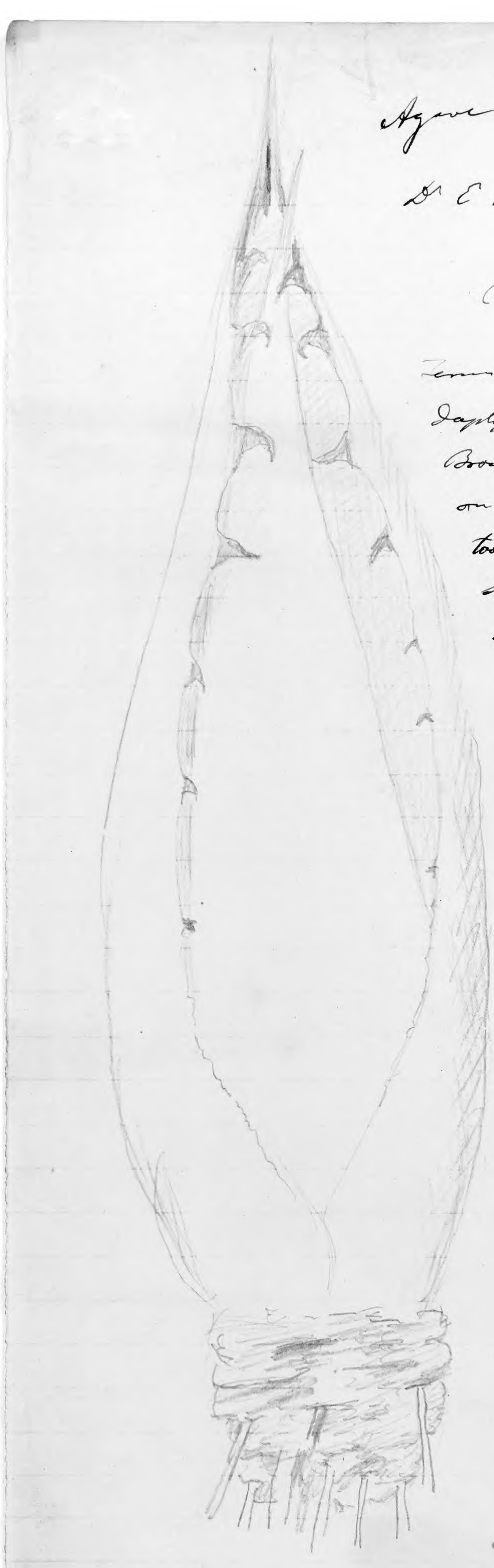
without bringing together all the available strength possible, so as to get the former crop in, as more time will be allowed for perfecting not only the development but also the ripening of the bulbs. For growing large ones the drills should be about 15 inches apart, and for general ends 12 inches will suffice. It is almost needless to add that the richest and best ground should be chosen for this crop. The same distances between the rows will also be applicable in the case of Parsnips and Carrots, and these crops should also be put in whenever the state of the soil will admit of its being performed in a satisfactory manner. Parsley should be sown in drills or broadcast for transplanting; in our opinion this subject is improved by means of transplanting. Shallots and Onions for seeding may also be planted at the beginning of the next month. Amongst small seeds it will be well to make a sowing outside of Cauliflower, Cabbage, and the different varieties of winter Greens, also of Broccoli which are intended for elevated spots and poor ground; for highly enriched gardens towards [illegible] will be soon enough for the spring garden and flower very early. The stock of scarlet and zonal Pelargoniums should be looked over, and if likely to be deficient in the number required to furnish the beds, propagation may now be carried on with great facility in heated structures. The old plants will be considerably benefited at this season by being cut back in order to make them more bushy, and the best of the cuttings, which are not too soft or full of sap, should be selected and inserted singly in 2-inch pots in the usual manner. Let the soil be tolerably moist, so as to avoid the necessity for watering, and place them on the shelf. The stored roots of Dahlias should be looked over soon for the removal of decayed matter. Small roots giving signs of shrivelling should be potted at once and placed in a gentle heat. Any sorts, also, of which it may be required to increase the stock should be plunged in gentle heat and the cuttings slipped off as soon as they are 2 inches long and inserted singly in small pots and plunged in bottom-heat. The bulk of the

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Agave

Dr C Palmer mis Nov 1878

(now in Shaw's Garden)



terminal spine long slender, deep brown
deeply channeled one half feet length.
Brown ligneous margin evenly downward
on the leaf edge about 1 inch to the first
tooth, lower down the margin is green
somewhat sinuate toothed, bony
broad brown strongly hooked or
almost straight spines

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8279

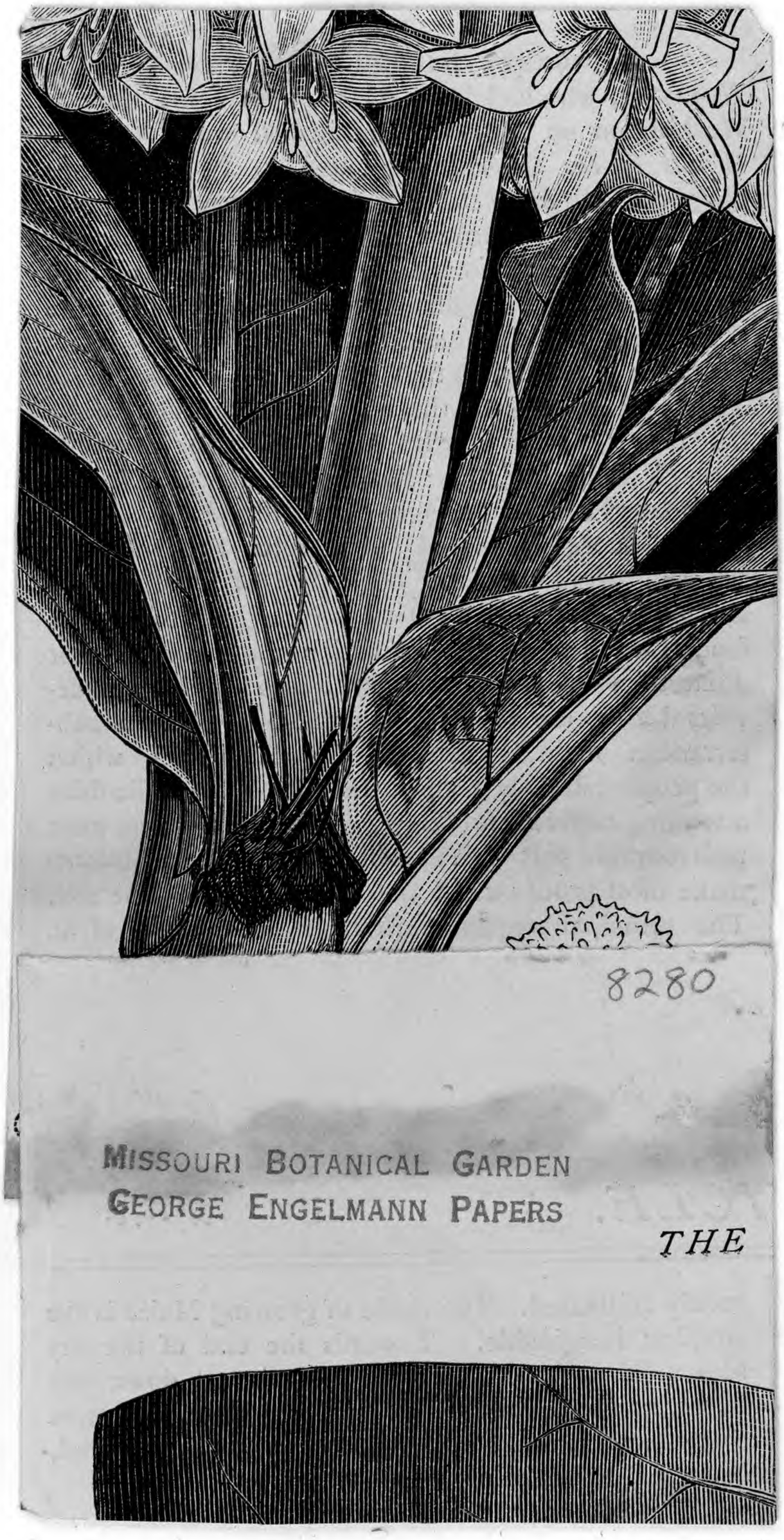
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

—— A JOURNEY THROUGH YUCATAN.—Mr. A. WOEIKOF, who had been engaged for some time at Washington on COFFIN'S unfinished work, entitled *Winds of the Globe*, contributes to PETERMANN'S *Geographische Mittheilungen* for June, a narrative of a journey through Yucatan and the south-eastern provinces of Mexico, accompanied by a map of the country traversed and the neighbouring regions. Contrary to a statement in GRISEBACH'S *Vegetation der Erde*, Mr. WOEIKOF asserts that the scanty vegetation of Yucatan is not due to the absence of summer rains, but rather to the porous nature of the limestone through which the water rapidly filters away. Rivers and springs are exceedingly rare, and wealth consists in water more than land. The rains that fall from the end of May to the beginning of October are sufficient for the cultivation of the soil to furnish food for the sparse population; but water for domestic purposes is conducted into artificial reservoirs during the rains. Water also collects in subterranean natural caves, in the vicinity of which the people build their huts. In spite of the difficulties attending cultivation of any sort, it is just in the most unfavourable part of Yucatan where the inhabitants make most profit out of the productions of the soil. The principal vegetable product is the fibre of an Agave, A. sisalana. At the present time there are upwards of one hundred steam engines employed in the preparation of this fibre, which makes excellent cordage, though inferior to Hemp. It is largely exported to the United States, and, in fact, it is almost the only article of export. It is very cheap. Indian Corn and Sugar-cane are the only other plants com-

monly cultivated. The mode of growing Maize is the simplest imaginable. Towards the end of the dry season (March and April) the bush is cut down and burnt, and the Maize sown in the ashes. No more Sugar-cane is cultivated than is actually required, because it needs irrigation.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN



8280

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

THE

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

parasites of conifers ~~herbs~~, with scalelike leaves, the pairs connate into a cup-like sheath quadrangular branches and ~~angular branches~~ flowers axillary and terminal, ~~solitary, or clustered by shortening of the branchlets or strictly spicate~~. Single or several from the same axil, often crowded into apparent spikes or panicles. ~~The seeds are ejected at maturity~~

[illegible] suddenly and forcibly

8281
GEORGE ENGELMANN PAPERS
BOTANICAL GARDEN

John Hoey, Long Branch
west end
has best Agave collection
(Dr Kunze Sept 1879 New York)

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Gard. Chron. 18 1880

Mutations of Imported Agaves.—When these plants are first imported they are very various in the development of their foliage and spines—some being short in the leaf, with strong spines; others longer, and with much less spine development. Some have very flat and others concave foliage, with a very thick base. Thus in A. horrida we get the large flat-foliaged varieties called A. Regelii; small concave plants, A. De Smetiana; A. horrida, the moderate sized plants, with broad concave foliage; and some pigmy forms. In about four or five years, if they get liberal treatment, these gradually change their characters, and take up the ordinary form of A. horrida. In the varieties called A. Roezlii, A. Gilbeyi, &c., we get, in the first-named, a very strong thick-leaved plant, about 2 feet 6 inches through; A. Gilbeyi, 1 foot, very sturdy; but the short one has grown long, and the large plants (especially some) have narrowed and elongated, until I can see the characters of the old species, A. univittata—of which I have no doubt they are forms—peeping out. The same thing is going on in the forms of Agave called Kerchovei and Beaucarnei — gradually the foliage lengthens, and the spines grow less vigorous, until the old A. heteracantha is shown. A few years ago I thought we were getting a quantity of new species of the noble plants, but now I look upon such plants as A. Verschaffeltii, Leopoldii, Saundersii, Scolymus, cochleata, &c., as seedling forms of A. amœna. The same is true of forms of which univittata is the type, others as of heteracantha. The only plants that I look upon as new are A. Victoriæ Reginæ, A. Bessereriana, A. utahensis, A. Peacockii, and A. Seemanni. A. Parreyi is so much like a compact applanata that I suspect it. There are some good distinct varieties in each section, but with time we shall find that these will grow out on flowering. We shall never see the like again, except they be reimported. Many of the plants may be kept dwarf, and so retain their peculiarities by exposure and the Banting system, but give them ordinay treatment and they will follow their parents. Peculiar climatic conditions have produced them, but give them the conditions of the original parent and we shall get reversion. This I have found to be the case with Agaves, and especially with Cacti, more than any other set of plants. *J. Croucher, Sudbury House.*

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

be for the sub-tropical garden? In a well-drained soil in the South of England, with a slight protection of litter over the surface in winter, there is no doubt that this plant would succeed perfectly in sheltered situations, if not in the open garden. It would make a charming associate with Hydrangea paniculata grandiflora, which comes into flower about the same time, and the rich green leaves and profuse inflorescence of both would produce a very telling and agreeable contrast. *W. Hinds.*

The Gibraltar Mint.—A rather singular case of mealy-bug attacking Mentha Pulegium gibraltaricum is now to be seen in one of the carpet-beds at Hampton Court. This pest is quite bad enough with us on certain plants under glass, but its appearance in the flower garden is rather a surprise. I confess I could hardly believe Mr. Graham's word that such a thing existed until I was convinced by the evidence of my own eyes that the mealy-bug will not only live upon the Mentha, but also that it seems to enjoy a degree of vitality and activity there which is hardly equalled in a warmer temperature. The patch of Mentha to which my attention was drawn was literally overrun with the pest, giving one the idea at first sight that the plant was damping off. Upon closer inspection, however, the white woolly covering of the insect was seen there in quantity, and the insects themselves upon being touched moved about as jauntily as if they enjoyed a temperature of 80°. The hot summer has no doubt been favourable to them, but the singular thing is that they attack a plant that is nearly, if not quite, hardy. Mr. Graham suspects the bugs were taken out-of-doors upon some plants of Alternanthera, and from them transmitted to the Mentha. *Visitor.*

Tuberoses Out-of-Doors.—I can fully endorse "Visitor's" remarks (see p. 342) respecting the successful growing of these in the open air. The plants now flowering in Mr. Ware's nursery were started in a little warmth in pots in early spring, and transferred to their present position in May last, and are now flowering profusely. Those who must have single and double white sweet-scented flowers at this season of the year cannot do better than grow these in quantity, as for purity and fragrance they cannot be surpassed. I may add that some tubers of these stood out in an open bed through the winter of 1878 and [illegible] many were killed complete and the remainder

8282
MISSOURI BOTANICAL GARDEN
ENGELMANN HERBARIUM
0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Unger, Beitr. z. Physiologie der
Pflanzen, July 1857. p. 466
states that the following flowers
secrete Nectar [in the flowers?]

	Spec gravity	per centage of Cane Sugar
A. Americana	1.05	10. p.C.
A. Geminiflora	1.09	18.
A. Lunida	1.20	41.6

supposing that the solid substance in these
nectars is Cane sugar.

(from W.O. Wilson On the cause of the secretion of
water on the Nectaries, Tübing 1858
p. 9.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8283
BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

ENNO SANDER ~~& MAASS~~,

MANUFACTURERS OF

MINERAL WATERS,

129 South Eleventh Street.

St. Louis, Mo. Feby 21 1882.

Lieber Herr Doctor,

Bei dem wetter haben Sie mich wohl gestern abend nicht erwartet; wenigstens glaubte ich, dass die nässe mehr schaden thun als eine injection nützen könnte. Während der vorhergehenden nacht (2 a.m.) war ich genöthigt Ihnen noch das morphium zu nehmen, ohne jedoch eine wirkung zu verspüren; während des tages verschwand der schmerz allmählig, und der gang wurde so gut, dass ich ohne schmerz und ohne zu hinken im zimmer auf und abgehen konnte. Um 1/4 Uhr fing die pein wieder an, dauerte bis

Foreign Correspondence.

ANTIBES.—It may be interesting to you to receive some information concerning the Villa Thuret and the neighbouring localities. The first thing to mention, and which will certainly not surprise you, is that for nearly two months we have experienced an absolutely tropical temperature. In June the Centigrade thermometer registered a temperature of 32° to 35° (89°—95° F.). Since July 2 it has risen nearly every day to 35°, 36°, and 37° (95°—98°), and on one occasion to 39°.5, but the heat has been much more excessive at Cannes, Nice, and Mentone, which are situated at the foot of the Maritime Alps, which arrest the course of the north wind, and there the heat has been hardly bearable. This would not be a misfortune for horticulture if it were possible to give water in proportion to this Saharan temperature, or if the storms would bring us rain; unhappily, since June 8, that is, for forty-seven days, not a drop of rain has fallen. You will have no difficulty in imagining the melancholy appearance of all the small plants and the young insufficiently-rooted shrubs under this implacable sun. Where watering cannot be effected all vegetation is arrested, it sleeps as in winter, but only awaits the first rains to awaken energetically. Meanwhile, many Agaves of different species have flowered, and are still in flower. The most notable is an enormous specimen of Agave applanata, the candelabra-shaped inflorescence of which is as thick as a man's thigh, and nearly 10 mètres in height. The flowers are innumerable, and of a greenish-yellow colour. Some of them will certainly yield seeds.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8284

here, but it was killed the winter before last. *H. Harpur Crewe, Drayton-Beauchamp Rectory, Tring, August* 8. [It is certainly not the N. undulata of the *Bot. Mag.*; nor is that the same as N. longiflora, if Sweet's figure of the latter, referred to at p. 141, is to be trusted; but the latter figure, as we have said, comes nearest to N. affinis of any we have been able to consult. EDS.]

Gardeners' Royal Benevolent Institution.—I beg to inform you that up to and including this morning, the number of responses to the appeal on behalf of the Pension Augmentation Fund is 301, and the amount contributed is £364 9*s.* 4*d.*, being an average of a trifle over £1 4*s.* for each response. I take this opportunity of stating that I purpose attending the Great Show at Manchester, on the 24th inst., and through the kindness of the managers of the *Gardeners' Chronicle* I shall have an office there, and I shall be happy to receive subscriptions, collecting cards, &c., to enrol new members, and to afford any information that may be required. *Edw. R. Cutler, Secretary*, 14, *Tavistock Row, Covent Garden, London, W.C.*

Philesia buxifolia.—This is quite hardy in Dublin, and flowers freely. By far the finest plants of it I have ever seen are in the fine collection of plants at Mr. Crawford's, Lakelands, Cork. At each side of the front door are two large tubs, about 4 feet in diameter, completely filled with Philesia. It has grown so vigorously that it hangs over the edges, hiding the upper part of the tub, and every season each tub has hundreds of fully expanded blooms. In the same locality Desfontainea spinosa attains the proportions of a shrub 6 feet high and 4 feet through, clothed with foliage to the ground, and just now blooming profusely. In the nice collection of rare shrubs and trees got together by Mr. Gumbleton, also at Cork, is a grand plant of Embothrium coccineum, growing in the open air entirely unprotected.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

PLANT NOTES.

AGAVES.—Some Agaves in the Zoological Gardens at Rotterdam indulge in curious freaks. An A.. Haseloffi of Jacobi sends out a lateral scape, an A. Bouchei does the same, having apparently formed a new heart before throwing up a scape, instead of doing so after flowering. About a year ago an A. utahensis, with a short bare stem, threw up two minute ramified scapes from below the leaves, one of which bore several well-formed flowers. Amongst others that behaved in an orderly way was an A. splendens of Jacobi, the only specimen in the country, which flowered last year and seeded well, more than 300 young plants having been raised. *W.*

cm 0 1 2 3 4 5 6 7 8 9 10
copyright reserved
MISSOURI BOTANICAL GARDEN

8285
MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

THE ASCENT OF THE VOLCAN DE COLIMA.

THE name of Benedict Roezl is familiar to most readers of the *Gardeners' Chronicle* as belonging to one of the most intrepid, and, in some respects, one of the most successful of plant collectors. We say "in some respects," because a man who has been "robbed of all his possessions seventeen times" cannot be called successful without some qualificatory explanation. He certainly was successful in his discoveries, and in many of his importations of plants, which were collected over a vast stretch of country, from California to Peru. Some particulars of his life and travels will be found at p. 73, vol. ii. of the new

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

FLOWERING OF AGAVES AT LA MORTOLA.—An unusually wet spring has tended to produce a greater flowering of these noble plants than I have ever had in any previous sesason. At present there are no fewer than twenty-three in blossom, as follows :—Six Agave americana, four A. mexicana picta, three A. yuccæfolia, two A. Rumphii ; also single specimens of A. glaucescens, A. angustifolia, A. mitis, A. densiflora, A chiapensis, A. scolymus, A. applanata, and A. ferox. The little Agave glaucescens, considering its size, has made the most extraordinary effort of any. The leaves of this plant are only 28 inches in length by $3\frac{1}{4}$ in breadth, yet it has sent out a flowerstalk $14\frac{1}{2}$ feet in length, which is twisted, and looks like a gigantic serpent ; it is not branched, but thickly covered with yellowish-green flowers, the number of which on a careful estimate I find exceeds 3000. *Thomas Hanbury, La Mortola, near Mentone, July* 3.

Gard Chron
July 14 1883

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

nearly two inches wide, lanceolate, very faintly crenate (the blotches being hardly visible, and apparently "blind"), and in fact they closely resemble two-edged daggers. The margins are as sharp as (*hibernicè*) a blunt knife; and I have purposely called them leaves from their being apparently incapable of throwing out flower or shoot. Yet the plant bore, a fortnight since, a grand blossom nearly as big as itself. The bud came from the collar or ground line, grew rapidly, and before opening stood 9 inches high, of a rich brown-orange and cream colour. The flower was 6 inches across, white, richly scented, and very handsome. It remained open three days. My friend could not tell me the name of it, but it came, I understood, from Mr. Grey, of Hagley. *H. B. Biden, Sale, Cheshire.*

Hardy Shrubs in the County Wicklow.—The suitability of the south-east coast of Ireland for

---

* ἀκρωτήριον — translated in a well-known passage the "chief corner stone," but more closely rendered as the "crown or capping of the pediment."

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS
9828

Monday Sept. 9 first noticed all central
lóbs to stand upright in cluster
Sept 16. blooms 2 in abov heart of plant but
still enclosed

Date	Increase	Time	above heart of plant.
Sept 23			6 in
30			9 in
Oct 1	2 5/8 in	In 24 hours.	11 5/8
" 1	2 3/8	Morning to Night	14 in
" 2 —	3 —	N. to M. —	17 in
" 2 —	3 —	M to N —	20
" 3 —	3 —	N to M —	23
" 3 —	3 —	M - N	26
" 4 —	3	N M —	29
4	1½	M N —	30½

On Flower stem east side 1 row of bracts upright. From West on each side the bracts divide all inclining to East. Points on North & South side recurved. The row on the East incurved

Took 3 measurements of 6 in. each up Stem. Highest measurement 7 in. from top & 4 in from plant.

Dr Engelmann Saw it first on Oct 3.

Oct 5	2 in —	N - M —	32½ in	
	First measurement in 24 hours	of Stem Same.	4 in above plant 2d measurs	grown ½ in
Oct 5 —	3d measurs 1 in	grown From	1 3/4 in. in 24 hours. Morn & Night.	33½

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8287

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Date	Increase	Time	Above head of plant.
Oct. 6	2	N – M.	35½
	1st Measurm of Stem same as morn of Oct. 5		
	2d " " " " " " " "		
	3d " " " 1¼ in.		
	Third measurment 3 in. in 48 hours.		
Oct. 6 –	1¼ —	M. – N. —	36 3/4
7 –	2¼ –	N – M	39
7	2	M – N —	41 in
8	2½ —	N – M	43½
8	1¾	M. N	45¼
	Commencing to show branchlets		
9 –	2 –	N. M	47¼
10 –	4¼ –	Morn to morn 24 hours -	51½
	1st Measurm of Stem (6 in) is the same as when first measured.		Second measurments is 6½ in. 3d Measurm of Stem from 6 in to 9½ in
Oct 10	The Stem bracts at this age incline neither one way or the other but stand regularly round.		
10th —	1¾ —	M. N —	53¼
11	1¾	N M	55
11	1¾	M. N —	56¼
	Bracts up blooming Stem black at points		
	The base of bracts from base of Stem to 1 ft. up yellowish green gradually becoming darker until they become black at base & points		
	Bracts at base of Stem 2¼ in. long gradually		
	reducing in length to 1¼ in. The central part of		
	the convolute bracts margined black.		
	Base of bracts on North Stem standing obliquely.		South & rear sides of the row on East side
	Horizontal all bracts		quite flimsy - only.

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8288

5

GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

Stiff enough to hold themselves in position.

Date	Increase	Times		Above heart of plant.	
Oct 12	1 3/4	N	M	58 in	
12	1 1/2	M	N	59 in	
13	1	N	M	5 ft. 0 1/2	
Morn of		13th to morn		of 14th 2 3/4 in	in all 5 ft. 3 1/4 in
14	2 1/4	M	N	5 ft. 5 1/2	
15	2 1/4	N	M	5 - 7 3/4	
15	2	M	N	5 - 9 3/4	
16	2 1/4	N	M	6 ft.	
16	3 1/4	Morn. to	Morn	of 17th 6 - 3 1/4 in	
17	1 1/2	M - N		6 ft. 4 3/4	
17	1 3/4	N	M	of 18th ~~1 3/4~~ 6 ft. 6 1/2	
18	3/4	M	N	— 6 ft. 7 1/4 in	
Eve of 18th to Eve of 19th 2 in = 6 ft. 9 1/4					
Eve of 19 to Morn of 21st 4 in = 7 ft 1 1/4					
Morn of 21 to Morn of 22d 2 1/2 = 7 ft 3 3/4					
Morn of 22 to Morn of 23d - 2 3/4 = 7 ft. 6 1/2					
Morn of 23d to Morn of 24 - 2 1/4 = 7 ft. 8 3/4 in					
Morn of 24 " " " 25th = 2 1/2 in = 7 ft. 11 1/4					
Morn of 25th " " " 26th - 2 1/4 in = 8 ft 1 1/2					
Morn of 26th " " " 27th - 2 1/4 = 8 " 3 3/4 in					
Morn of 27 " " " 28th - 2 1/2 = 8 " 6 1/4 in					
Morn of 28th " " " 29th 2 1/4					8 " 8 1/2 "
Morn " 29th " " " 30th - 2 in					8 ft 10 1/2
Morn " 30 " " " " 31 = 2 1/4					— 9 ft. 0 3/4 in
Morn " 31 " " " " 1st = 2 in					— 9 ft. 2 3/4 in
Morn of Nov 1st " " " " 2d = 2 1/4					— 9 " 5 in
Morn " 2d " " " " 3d = 2					— 9 " 7

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8289

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

observation that the plants are visited by ~~[illegible]~~ Honey in Nectaria
Questions Cavity
Position of Pedicelli ? flowers all erect
time of flowers (age of parts)
of carpels of style
Description
Development of inflorescence & Panniculate
February 1-3-98 A longitudinis Fiorbi app. 33
odour ? wood — petal
Style — ovary, honey
Larobe Arg 310 A Goeppert (genuine) style pollen bulging
A. Arnoldiana 24-36' high. 10 ~~after~~ staining anthers wall

Additional Remarks

Highest trunks of Agave in cultivation that I can find a notion of
are 3-4 feet high & 3-4 feet in diameter, the largest are
1½ inch in diameter, but 6 inch — I can find no account of
the species they may attain in their native country.
The scapes of the Arnoldiana are said to have
measured 36 feet
The flowers of Agave are always more or less erect
and of a ~~fine~~ coarse waxy texture, white flowers of Yucca
are pendulous and petaloid.

I want to direct the attention of botanists who have an opportunity to
more closely observe these plants and their development to the following points
At what hour of the day do the anthers of the different species open and
begin to shed their pollen and ~~how long~~ how long before they have entirely effete ?
~~How long after the~~ When do the stigmas of the same species ~~reach~~ flowers attain their full development
and when ? How much. Do the stigmatic lobes open & spread
and when does stigmatic fluid fill the teeth of the style &
cover the lobes ~~of the stigma~~. ~~Flies observed~~ Kind of fly to ~~frequent~~ frequently the
to observe A. Virginica (see page ...) ~~and~~ the only reference to the
flowering of flowers such I can find is Clinton in ~~1866~~ 1867 Larobe
Agave p. 310 Also 1 in 2 and 1 A. Goeppert Larobe, the fruit
developed & the style & ~~the~~ opening or separation of the stigma ~~fail~~ and the seeds on
the ~~wings~~ margin of carpels take place after the flowers have faded. The fruit ~~is~~

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN

8290

Agave

Pr Salm's last publication was abot Agaves
Bonplandia vol VII. 1859

K. Koch Wochenschrift
1860 nn 1–8
Agaven
1865
Agavenstudien

Notes from Jacobi

Ag. attenuata Hort Berl. Salm. Jacobi 176 has the highest trunk of any
trunk
A. glaucescens Hook 3 – 3½ foot high, 2 – 2½ inches diam. p. 304 A. Mexico = Bonpl trunk 19 inch high 14 diam
4 4
which is syn.
p. 3 some Agaves with nutant spike: brasiflora, Celsii, still more in
A. glaucescens – flagelliformis = A. dasyliriodes suspendula p. 130
" A. dasyliriodes bears branches, does not die
A horrida p. 43. & 207 & A. grandidentata, p. 207 seem
to approach A. Shawii
27 Sect 9, integerrimae (only A. glaucescens Hook = attenuata belongs here – see p. 129. 253
have pendulous or ev flagelliform spikes
which bear capsules as well as plantlets – growing bulblets
61 Agave asperrima Jacobi
63 A. Americana 1561 introduced
, Martius Entdeckungs Reisen = Del Libano Gebirgsketten
der Agave = Mexicanus Galeottian Agave jam 855
311 A. Josephiana Jacobi has stamens straight = [very doubtful]
not geniculate, inserted at base of lobes, 2 inches long
½ inch longer than lobes – very doubtfull, especially
as a glaring error is added! That in all others the anthers are
reversed!

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
copyright reserved
MISSOURI BOTANICAL GARDEN