

Introduction to Herbarium Collection and Management



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What is an herbarium?

- A book about medicinal plants
- A museum/library of dried plants

- Other types of collections
 - Liquid-preserved collections
 - Collections for molecular studies
 - Living collections



Why an herbarium?



100 Uses For a Herbarium (well at least 72)

by Vicki Funk
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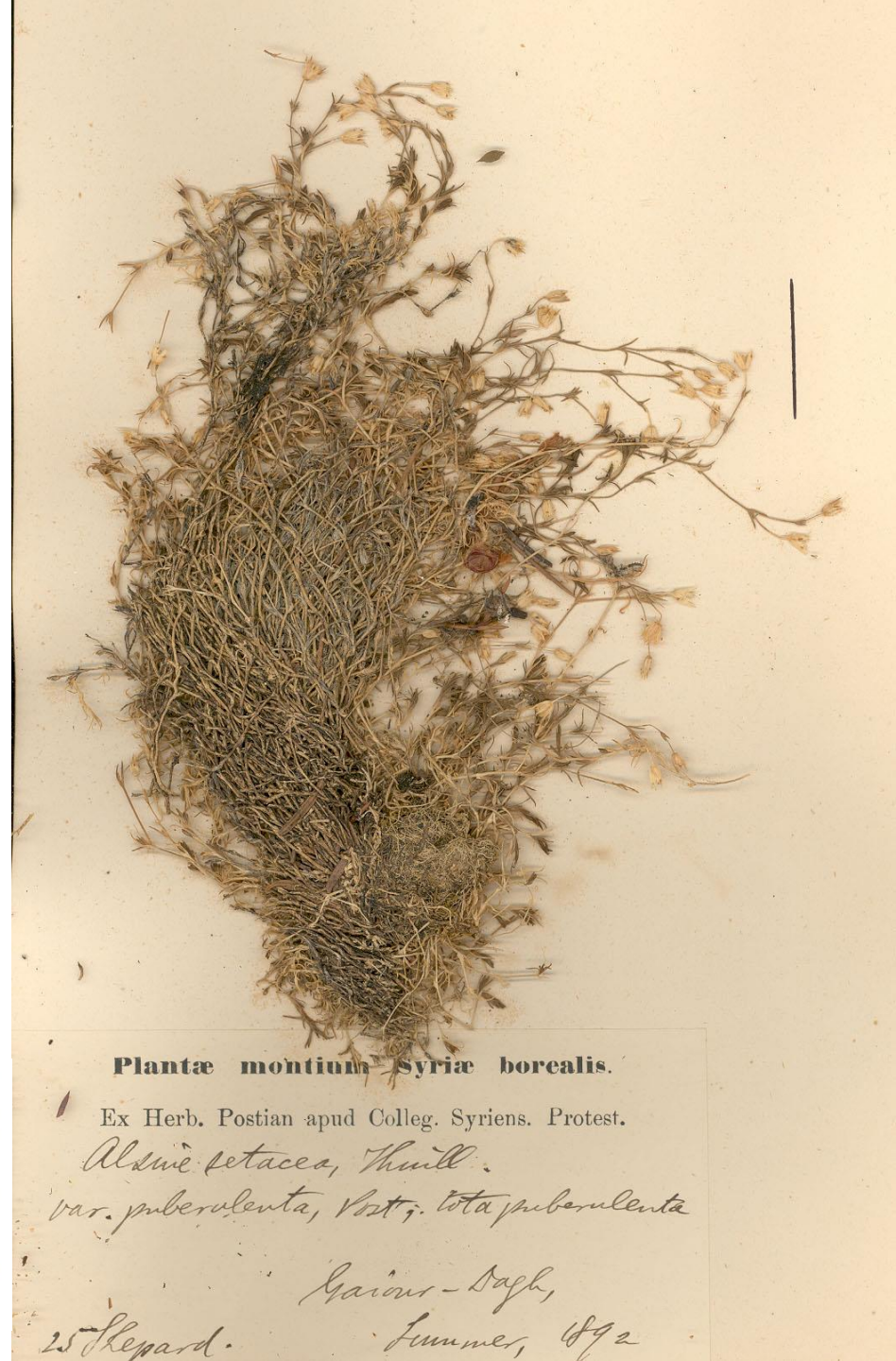
Basic functions and research – 19
Related research – 27
Education and training – 7
Outreach – 17
Money-making ventures – 2

Why a herbarium?

- Resource material for systematics research
 - naming, classification and evolutionary history
- Reference material for named taxa
 - Voucher specimen
 - Type specimen

Alsine setacea Thuill var. *puberulenta* Post, *Bull. Herb. Boiss.* 3 (4): 5, 1895 (PP VII:154). Turkey, Gaiour-Dagh, summer 1892, Shepard (BEI) [previously reported missing in BEI, Musselman & Sinno-Saoud, 2004].

[= *Minuartia anatolica* (Boiss.) Woron. in Woronow & Schelk., *Sched. Herb. Fl. Cauc.* 4: 92, 1914.]



Plantae montium Syriae borealis.

Ex Herb. Postian apud Colleg. Syriens. Protest.

Alsine setacea, Thuill.

var. puberulenta, Post, tota puberulenta

25 Shepard. Gaiour-Dagh,

Summer, 1892

Why an herbarium?

- Jostelle's mysterious *Medicago*



Medicago syriaca, a new species

Medicago syriaca E. Small sp.nov.

Figs. 1, 2, 3

TYPE: *E. Small M1348(2)*, grown in Ottawa greenhouse,
July 26 to Nov 11, 1988 (HOLOTYPE: DAO).

Documenting vegetation

- Collecting
- Pressing
- Drying
- Mounting
- Curating



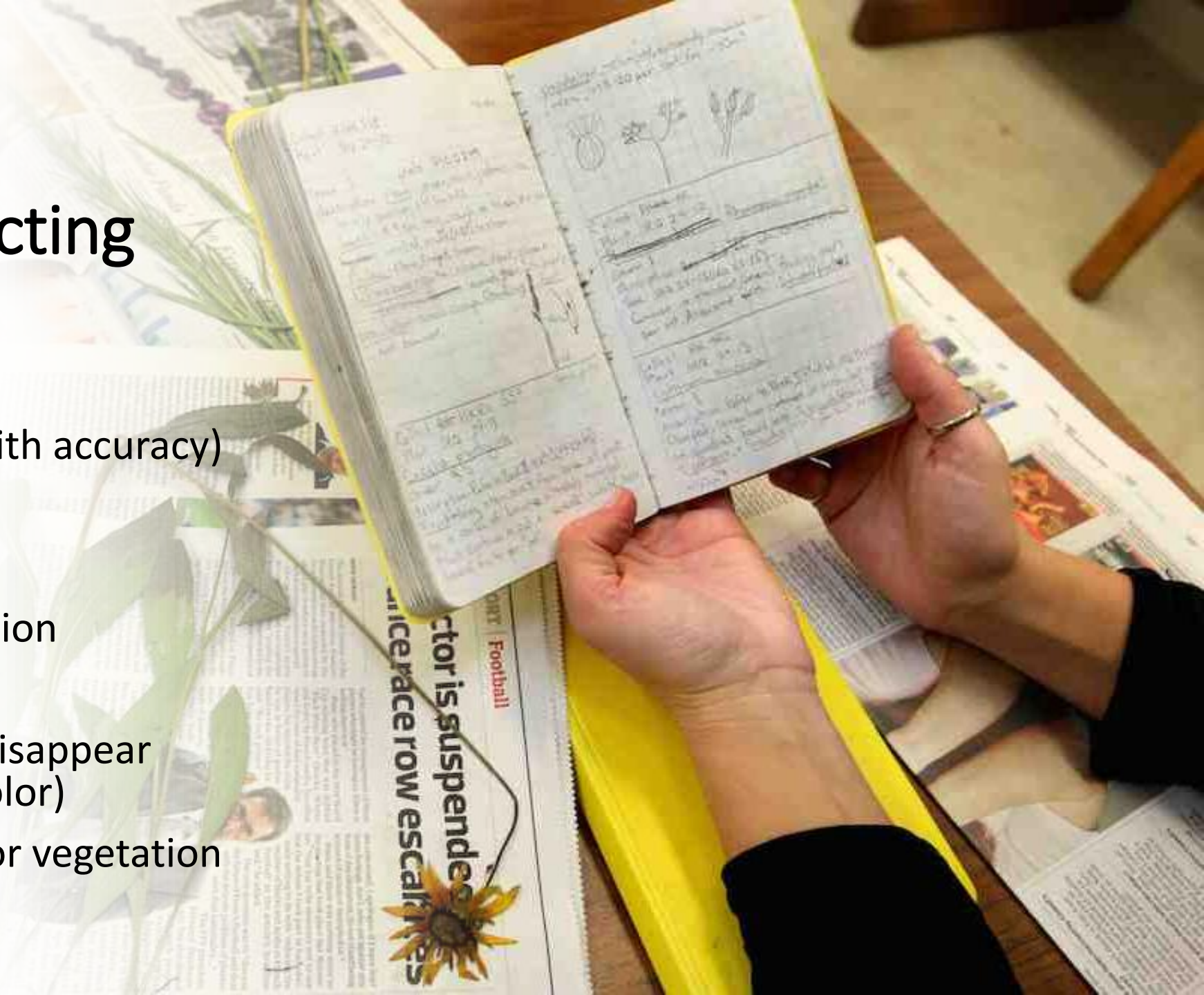
Documenting vegetation: collecting

- Evaluate whether the species should be collected.
 - 1 to 20 rule
 - Never endanger the local population!
 - Pictures not bad!
- At least one whole plant (herbaceous) or representative of all parts
- Avoid diseased and/or damaged specimens



Documenting vegetation: collecting

- Date of collection
- Specific locality
- Latitude and longitude (with accuracy)
- Elevation
- Collection number
- Photographic documentation
- Collector(s)
- Characteristics that may disappear upon preservation (e.g. color)
- Abundance/ Community or vegetation type



Documenting vegetation: pressing





Documenting vegetation: drying

- Best specimens obtained with rapid drying
- Best dryer: a simple wooden box with lights and a fan in the bottom

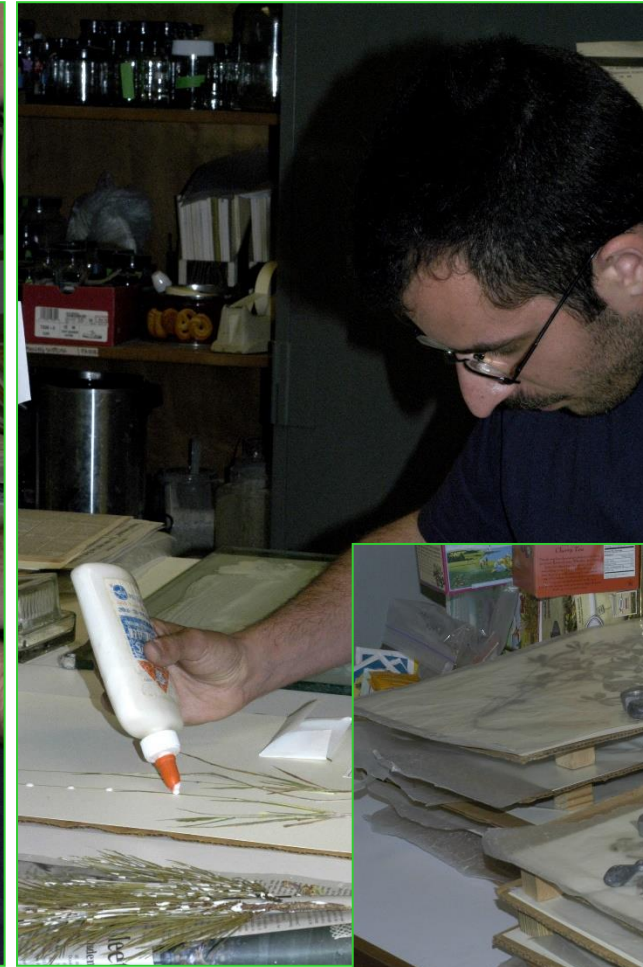


Dryer with light fixtures

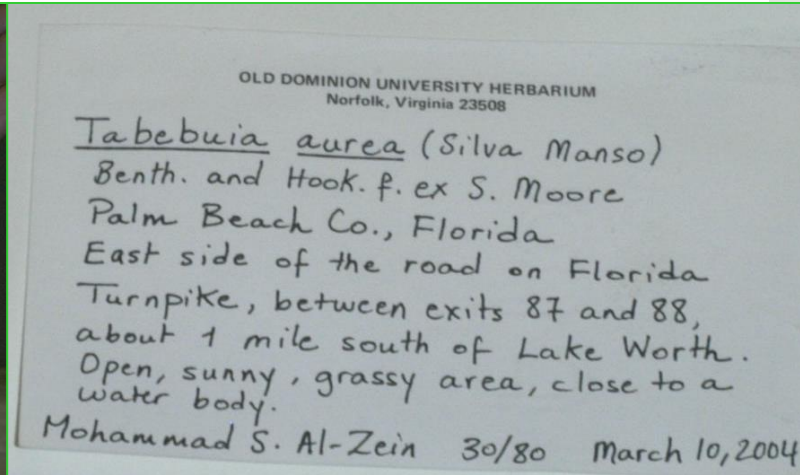


Fastened press on dryer

Documenting vegetation: mounting



Documenting vegetation: mounting



annotation label with updated scientific name

Quercus x campitica
lethosus sp. *lylatis* Hadjite & Hand

det. confirm. G. Hadjikyriakou & R. Hand 2005

Mus. Bot. Berol.

project

Herbarium Ralf Hand • Flora of Cyprus

scientific name

Quercus alnifolia x *Qu. coccifera*

locality information

division 2 (sensu Meikle 1977/85)
Kamos
Agia Anastasia SW above village, semi-open slope
with scattered trees at the watertank
alt. 767 m

collection date

28.03.2005

collector's number

coll. number 4449

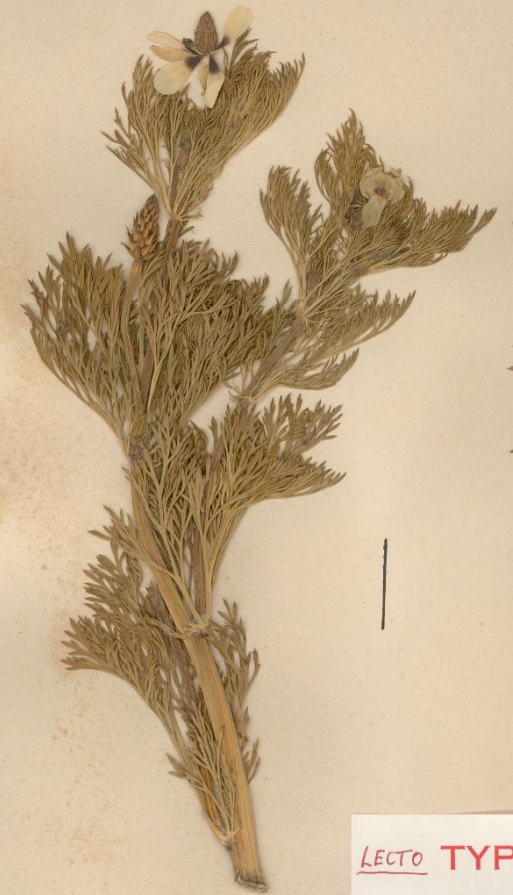
collector

leg. R. Hand det. R. Hand & G. Hadjikyriakou

determinators

additional note

2 trees only



LECTO TYP

Adonis aestivalis L.
ssp. *provincialis* (DC.)

88

Revis. Gen. Adonis C. Steinberg K 1972

25013

Synedra borealis

Ex Herb. Postian. apud Colleg. Syriens. Protest.

Adonis aestivalis, L.

~~longirostris~~, Pat.

Adonis aestivalis

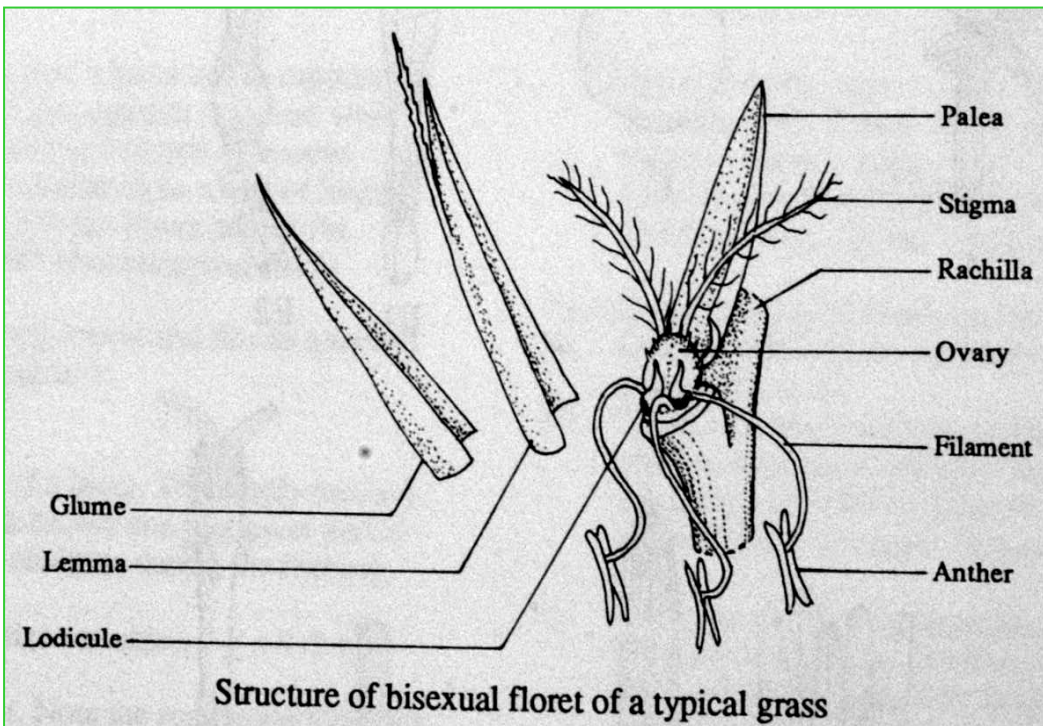
May 16. 1882

Documenting vegetation: curation

- What is the fastest, most effective, and most accurate way to identify a plant?
- Use herbaria.

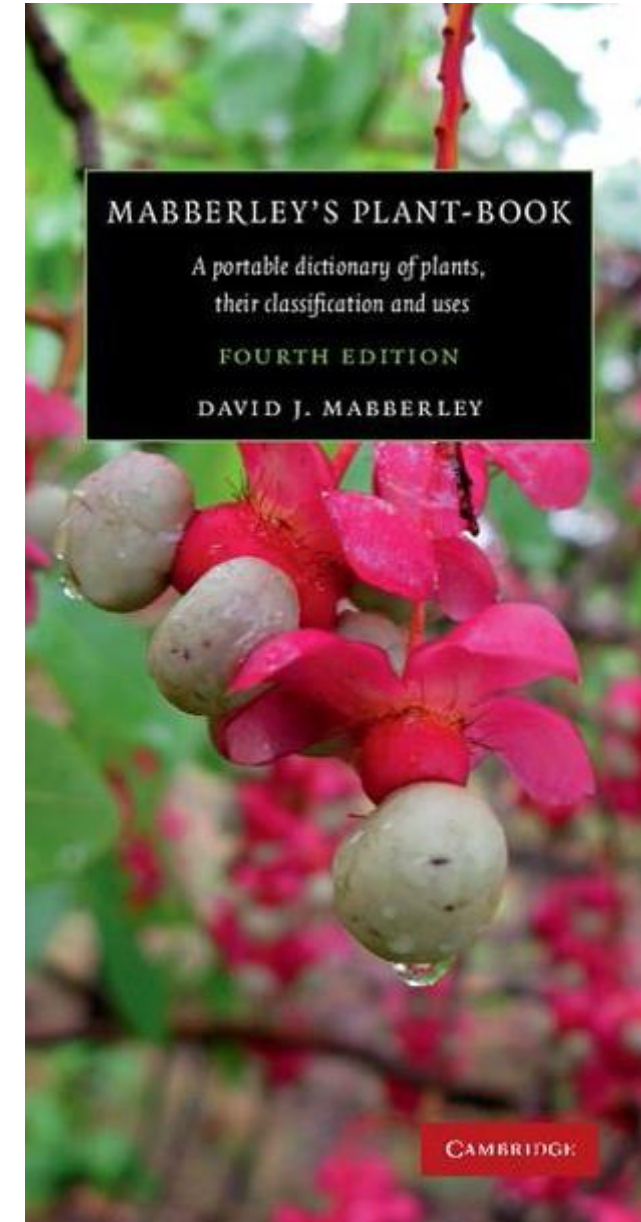
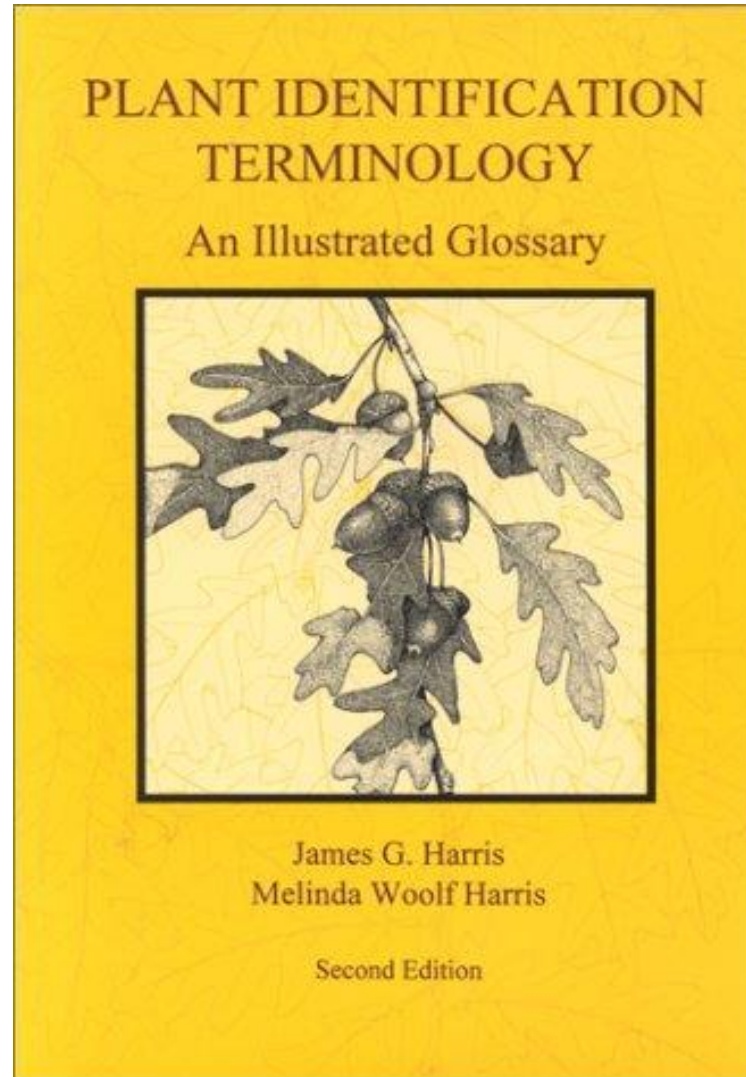
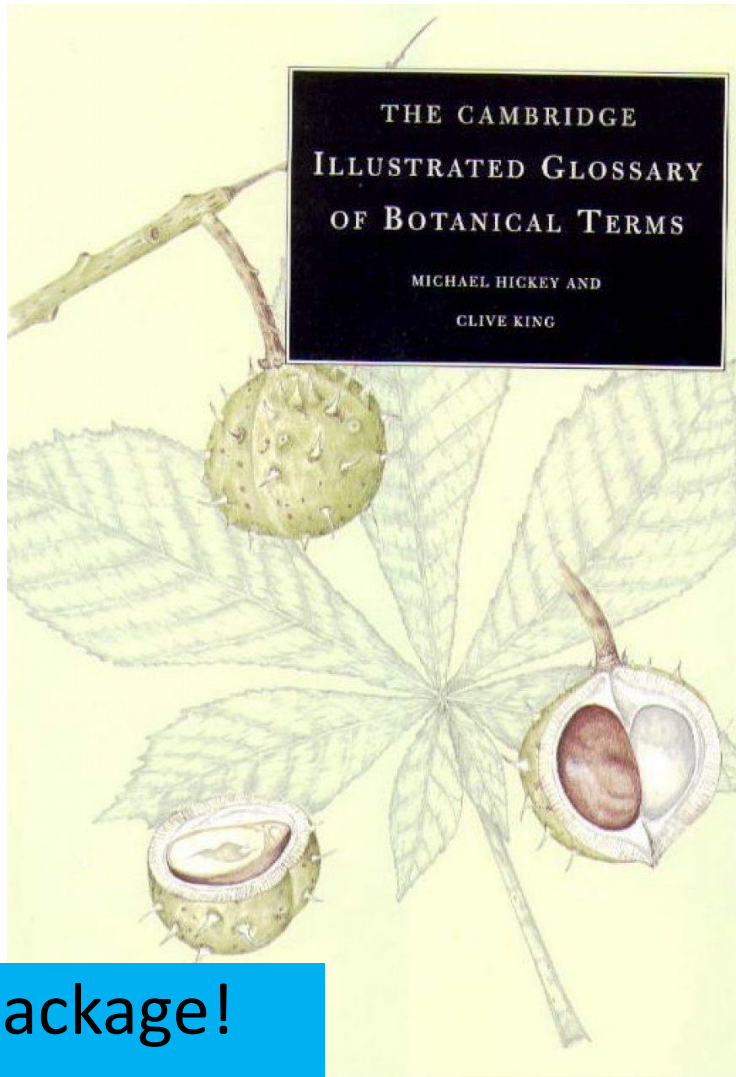
55. PAPILIONACEAE

Herbaceous or woody plants, rarely creeping or climbing, sometimes spiny. Leaves alternate, rarely opposite, usually pinnate, 3-foliolate or digitate, sometimes terminating in or reduced to a tendril, rarely leaves simple; stipules usually present. Flowers hermaphrodite, in axillary or terminal racemes, panicles, heads or spikes, rarely solitary, zygomorphic. Calyx 5-, rarely 4-merous, with sepals more or less united at base, often 2-lipped. Corolla 5-merous, papilionaceous, consisting of a posterior, outermost petal (the standard), 2 lateral, often horizontal, petals (the wings) and 2 anterior and innermost ones usually united by their margins (the keel). Stamens generally 10, either all united by their filaments (monadelphous) or 1 free and 9 fused (diadelphous), rarely all stamens free; anthers basifixed or dorsifixed. Ovary superior, of 1 carpel and simple style; ovules usually numerous, campylotropous, rarely anatropous. Fruit usually a 1-celled, many-seeded pod (legume) dehiscent by 2 valves along the ventral



10. All or part of leaves simple, with tendrils. 41. *Lathyrus*
 — Leaves not as above 11
11. Leaves of 1 pair of leaflets; rarely leaves of more than 2 pairs but then pod with 2-4 prominent longitudinal nerves or leaflets digitate; stipules and leaflets always entire, the former not dark-spotted. 41. *Lathyrus*
 — Leaves of 2 to many pairs of leaflets, rarely only of 1 pair but then stipules dentate or dark-spotted or both 12
12. Stipules usually longer than leaflets, 1 cm. broad or more, dentate or lobed, never dark-spotted; leaflets 1-3 pairs, dentate or lobed. 42. *Pisum*
 — Stipules shorter than leaflets, entire, rarely dentate but then dark-spotted; leaflets mostly in several pairs, entire or only notched at apex, rarely dentate but then pod with ciliate-tuberculate margin 13
13. Pod linear to oblong, at least twice as long as broad. Seeds usually not lenticular. Style hairy all around or only on lower (anterior) side (that facing the keel). 39. *Vicia*
 — Pod shorter than above – or if as long then style hairy on upper (posterior) surface and glabrous beneath. Seeds compressed, lenticular. 40. *Lens*

Documenting vegetation: curation



Survival package!

Documenting vegetation: curation

- What is in a plant name?

Medicago orbicularis (L.) Bartalini



INTERNATIONAL CODE OF
NOMENCLATURE
FOR
ALGAE, FUNGI, AND PLANTS
(SHENZHEN CODE)
2018



Herbaria as data

Search Results

Retrieved 801 records: 53 Families,
3 Countries,
180 Genera,
67 Type Specimens.

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Your query was interpreted as: *(Country = 'lebanon' OR Label Country = 'lebanon') AND Names = 'Current only'*

Records per page [Go](#)

Page 1 of 41

1 2 3 4 5 6 7 8 9 10 forward 10 last

Barcode / id	Image	Family	Scientific name	Collector	Collector no.	Location	Date	Item	Type
K000318474		Aceraceae	Acer hyrcanum subsp. tauricum	Samuelsson, G.	6126	Lebanon. Bsharre [Cedars]	16/06/1933	Sheet	
K000318473		Aceraceae	Acer hyrcanum subsp. tauricum	Samuelsson, G.	6111	Lebanon. Bsharre [Cedars]	16/06/1933	Sheet	

Herbarium Catalogue

- Find out about
 - ▶ What is a Herbarium
 - ▶ Kew's Herbarium
 - ▶ The Herbarium Catalogue
- Search the Catalogue
 - ▶ Simple Search
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Thank you!

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