Plant identification and curation

BY

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Plant Identification

Identify?

Identifying a plant requires recognizing it by one or more characteristics and linking that recognition with a name, either a common or scientific name.

Why Identify?

Accurate identification of a plant can be helpful in knowing how it grows as well as how to care for and protect it from pests and diseases.

❖ Many things are taken into consideration when trying to identify a plant.

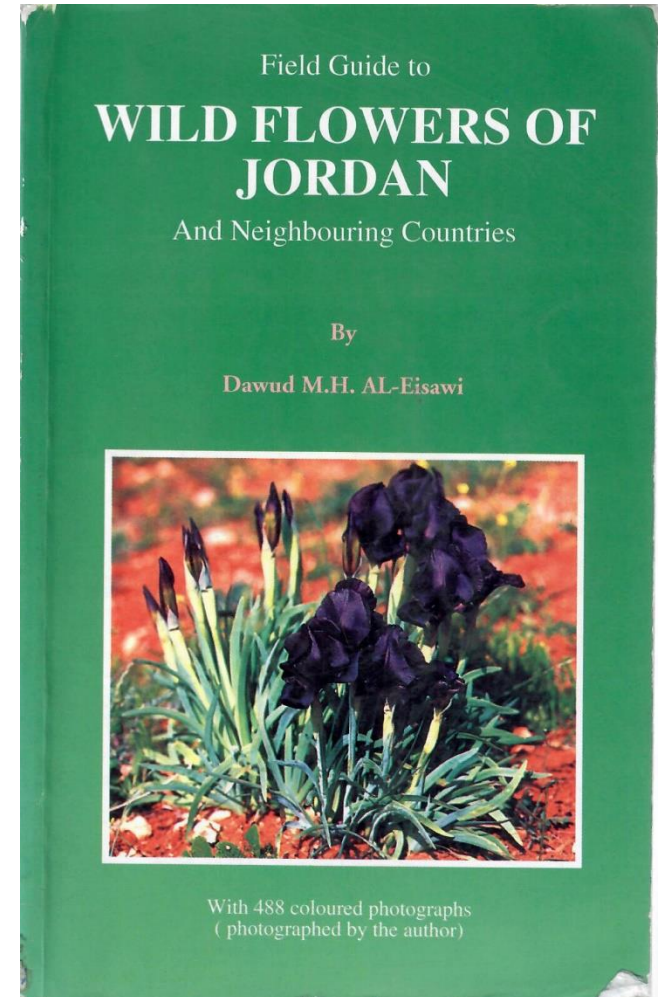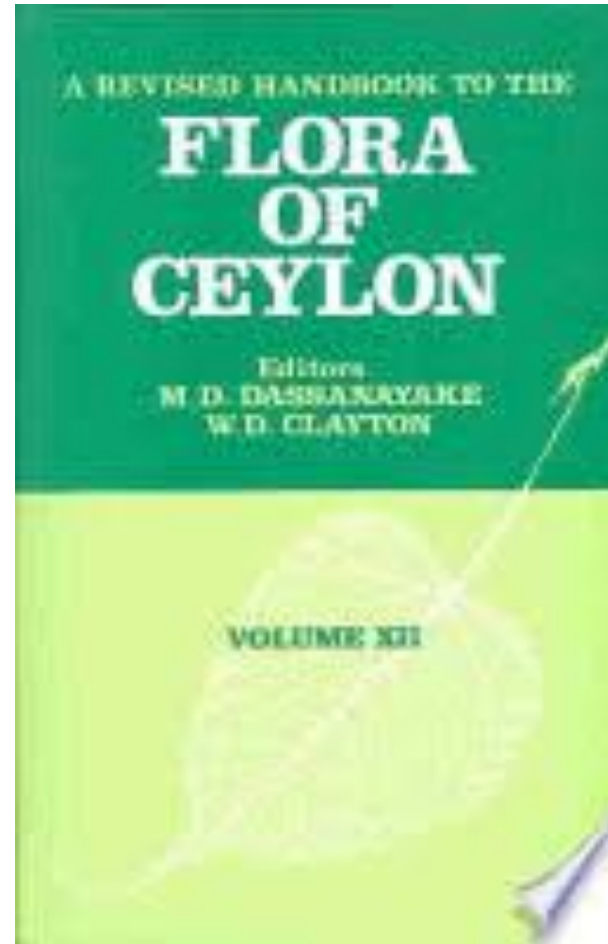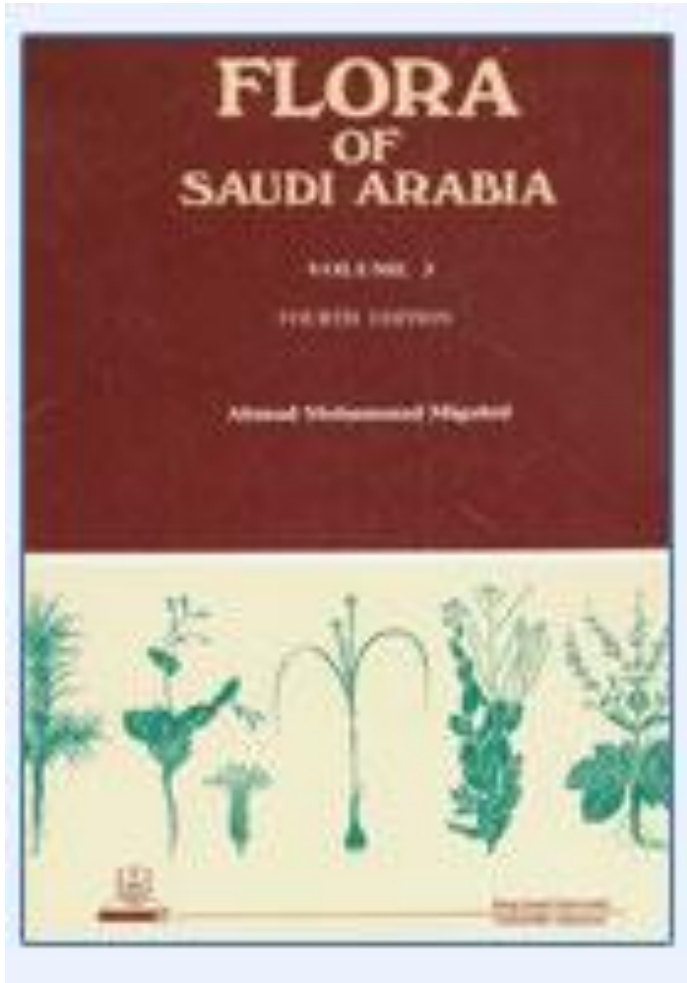❖ Roots, stems, leaves and flowers will help in the identification process.

HOW DO WE IDENTIFY AN ORGANISM?

Methods of identification:

1- Expert determination

2 - Recognition

3 - Comparison

4 - Use of keys and similar devices

Heavy books and guides

FLORA OF SAUDI ARABIA

VOLUME 3

FOURTH EDITION

Ahmad Mohammed Migahid

A REVISED HANDBOOK TO THE FLORA OF CEYLON

Editors
M. D. DASSANAYAKE
W. D. CLAYTON

VOLUME XII

Field Guide to
WILD FLOWERS OF JORDAN
And Neighbouring Countries

By

Dawud M.H. AL-Eisawi

With 488 coloured photographs
(photographed by the author)
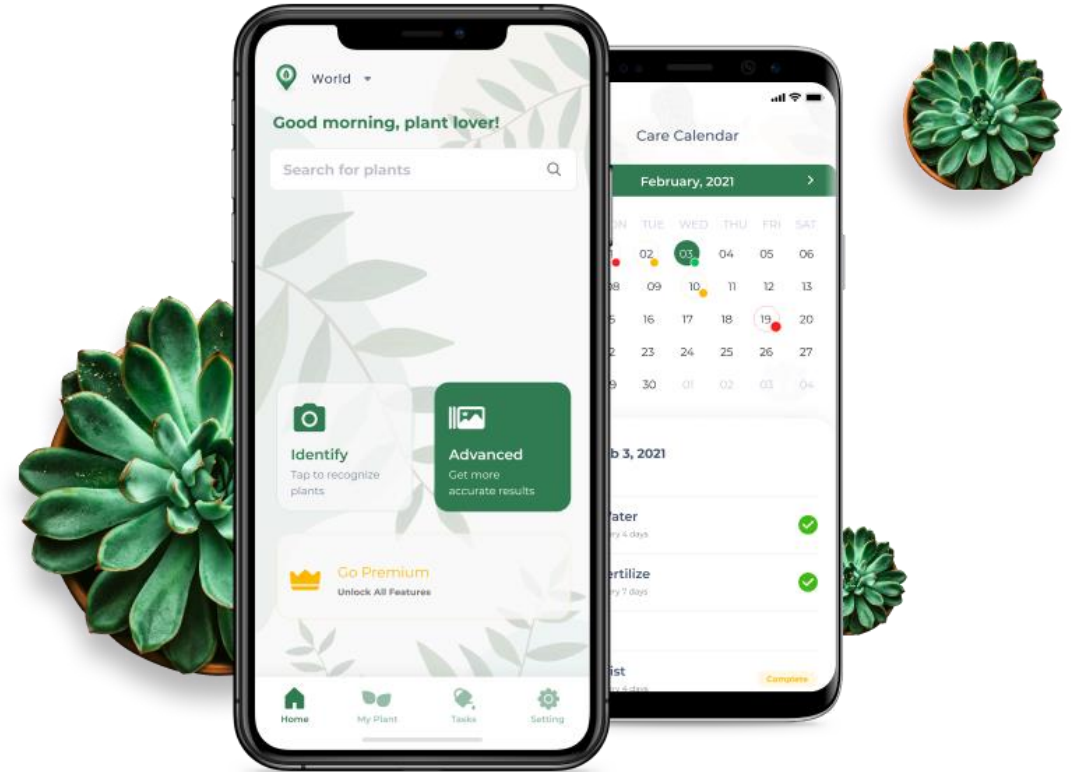
Heavy books and guides

Best Plant Identification Apps

- [PictureThis – Plant Identifier](#)
- [LeafSnap-Plant Identification](#)
- [NatureID: Plant Identification](#)
- [PlantNet – Plant Identification](#)
- [PlantIn: Plant Identification](#)
- [Seek by iNaturalist](#)
- [Planta](#)
- [Blossom – Plant Care Guide](#)

IDENTIFICATION KEYS

TYPES OF IDENTIFICATION KEYS

1- Traditional keys = dichotomous keys

 - they present a stepwise sequence of choices.

**2- Computer-aided keys make identifying species easier because the keys can be interactive.**

Dichotomous Key For Leaves

1.	a. Needle leaves	go to 2
	b. Non-needle leaves	go to 3
2.	a. Needles are clustered	Pine
	b. Needles are in singlets	Spruce
3.	a. Simple leaves (single leaf)	go to 4
	b. Compound leaves (made of "leaflets")	go to 7
4.	a. Smooth edged	go to 5
	b. Jagged edge	go to 6
5.	a. Leaf edge is smooth	Magnolia
	b. Leaf edge is lobed	White Oak
6.	a. Leaf edge is small and tooth-like	Elm
	b. Leaf edge is large and thorny	Holly
7.	a. Leaflets attached at one single point	Chestnut
	b. Leaflets attached at multiple points	Walnut

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A. _____   B. _____   C. _____

D. _____   E. _____   F. _____

G. _____   H. _____
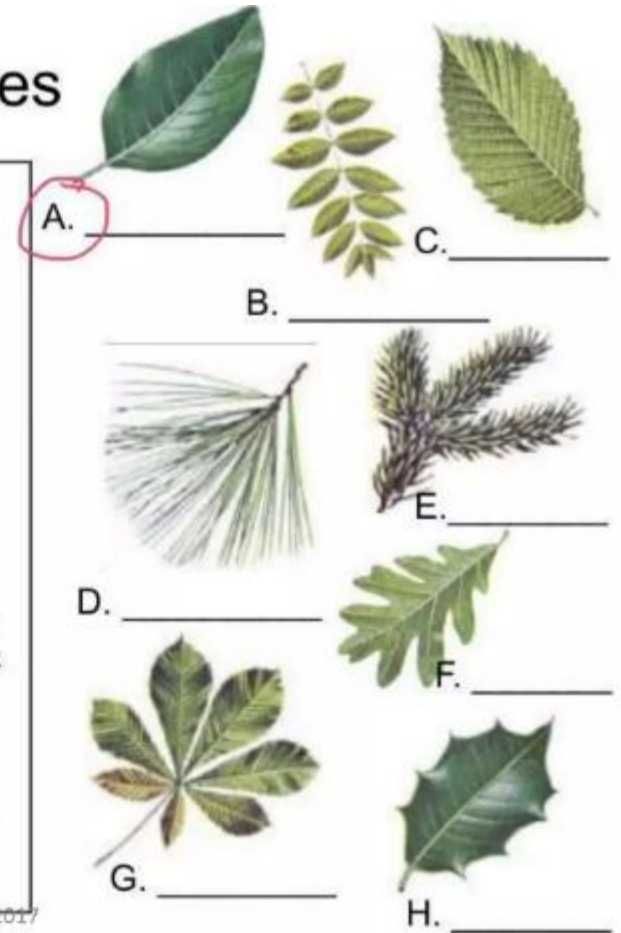
You have two main categories of plants

- **Monocots** – grasses, grain crops, lilies, gladiolas, and palm trees

- **Dicots** - most of the other plants such as shrubs, trees, and flowers.
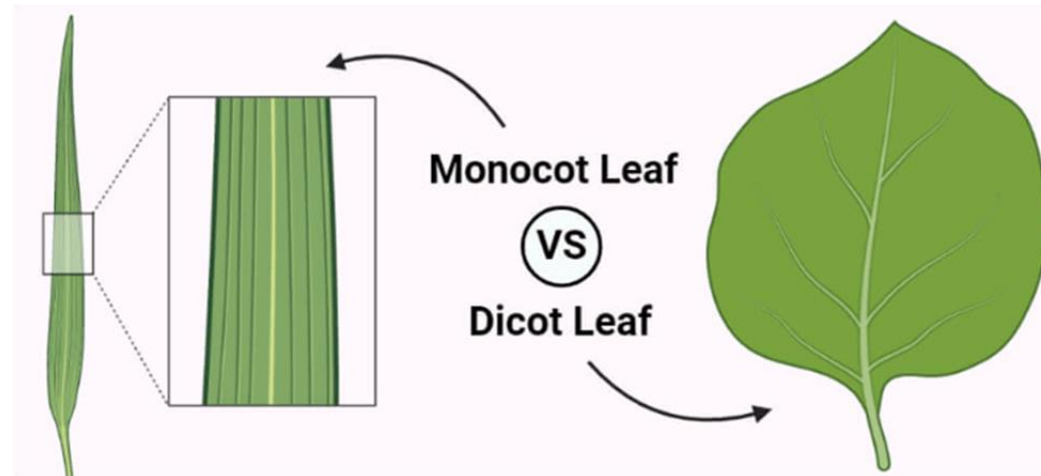
GUIDELINES 1

conservative characters a) Some characters vary more than others; - age, ecological or local conditions, the season etc. are the most important factors involved.

- e.g. the form and size of the leaves E.g. *Morus* sp. (mulberry tree (LEAF POLYMORPHISM)

GUIDELINES 2

b) other characters are conservative = they show very little variation whatever the conditions. - e.g. flower shape and size, fruit type and size, hair type (but not hair density).

Conservative characters are therefore **more reliable** for identification .

GUIDELINES 3

What about ABSENT characters?

present but not easily observable (the number of seeds inside a fruit); not yet developed (fissures in old bark); have developed and already disappeared (bud scales that fall very early).

GUIDELINES 4

WHAT IF the parts you need to examine are no longer attached to the plant?

- **This is especially true of trees, where sometimes the only fruits, leaves or flowers available are those that have fallen on the ground.**

- **Check that these unattached parts are from the plant you are examining and not from a different one nearby.**

GUIDELINES 5

Take nothing for granted!

- Many species, especially closely related ones, differ only in minor ways.

- Check each specimen to ensure it has all the relevant characters and that your identification is correct.

SYCAMORE

NORWAY MAPLE

GUIDELINES 6

Smell but don't taste!

- the scent of both foliage and flowers can be a useful clue tasting plants

  should be avoided - <u>some are poisonous!</u>

Identifying Plant Families

APIACEAE
Umbels type of
inflorescence

ASTERACEAE
2 types of flowers
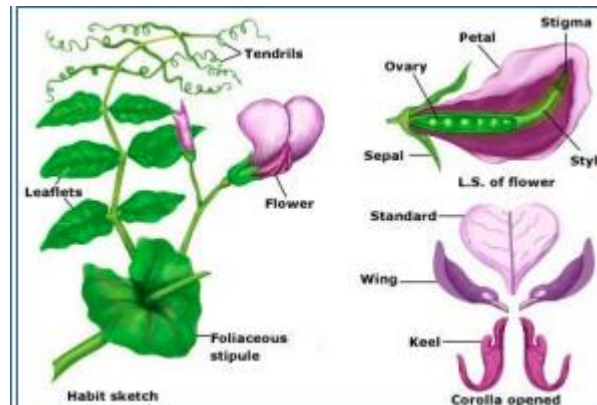small in dense heads

BRASSICACEAE
Flowers have 4
petals in a cross
And 4 sepals

LAMIACEAE
Flowers have 4
petals in a cross
And 4 sepals

FABACEAE
5 sepals forming calyx-tube (lower
parts of sepals fused)
Fruit an elongated pod

ASCLEPIADACEAE
milky sap,
corona containing hoods and horns