



PRACTICAL 30:

PLANT ADAPTATIONS IN RELATION TO MALTESE ECOLOGICAL HABITATS

Objectives

- To distinguish between different plant adaptations within a specific habitat.
- To discern between habitats using plant morphology as a reference point.
- To assess a field's current ecological status through flora present.

Assessing areas through plant adaptations:

In this practical you are asked to assess the following Maltese ecological habitats by using the flora present within them;

- Garigue
- Maquis
- Woodland

You are to choose **3 representative plant species** for each habitat and compare them to highlight the necessary adaptation a plant adopts to accommodate the environmental stressors posed by that particular habitat. From such adaptations, you will be highlighting the biotic and abiotic features that encompass the habitat and that shape the morphology of the plant.

As a guideline, you should be looking for these following features:

- Plant height
- Soil composition
- Number of same plant species occupying the area

- Number of different plant species occupying the area
- Leaf morphology
- Shape and structure of reproductive organ
- Presence and absence of scent
- Presence and absence of flowers
- Leaf colouration

Presentation of data

Your data has to be presented in an **essay type format**. Through this essay you are expected to highlight and discuss your observations done during the field assessment. It is imperative that along your discussion, you include pictures of the **visible features** that you are referencing. The following guidelines should aid in your data presentation:

Introduction;

A brief summary of ecological habitats found in Malta that are portrayed in Buskett (garigue, maquis and woodland)

(10 marks)

Body;

Includes a detailed rendition of the plant adaptations that you have observed and took note of. In this section you are to directly compare the features; ex: leaf morphology. Use the afore mentioned guidelines for reference.

When mentioning the species use the ACFOR scale (*refer to note*) to highlight its abundance. Soil composition should also be included in your discussion under '*edaphic factors*'.

Do not present three paragraphs that solely depict the features of the habitat. You must discuss, compare and contrast.

(20 marks)

Diagrams and Photographic evidence;

Addition of photographic evidence is a must. Each photograph has to be titled and referenced appropriately (Name of photographer, date).

(10 marks)

Conclusion;

Include a brief remark on human impact on the habitats and how these habitats are being influenced by such factor. Also add how these habitats characterize the Maltese ecological succession.

(10 marks)

TOTAL MARKS: 50 marks

Table 2- Definitions of ACFOR Abundance Scale.

A	Abundant	Found all along the recording route, often as the species occupying the highest proportion of aerial cover – either because of it's size, or the high number of individuals of that species. (75% - 100% coverage)
C	Common	Found all along the recording route, sometimes as the species occupying the highest proportion of aerial cover. (50% - 74% coverage)
F	Frequent	Often found along the recording route, rarely as the species occupying the highest proportion of aerial cover. (25% - 49% coverage)
O	Occasional	Sometimes occurring along the recording route; not often recorded, and rarely as the species occupying the highest proportion of aerial cover. (5% - 24% coverage)
R	Rare	Only recorded once or twice within the stand, never as the species occupying the highest proportion of aerial cover. (0% - 4% coverage).