

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

1 - The taxonomic revision of some indigenous species of *Chenopodiaceae* in Egypt was based on the fresh materials collected by the author from various phytogeographical territories throughout the country; as well as the Herbarium specimens deposited in CAI and CAIM, (Index Herb abbreviations). It was based mainly on the morphological characters of the embryo, fruit-perianth, branches, leaves and seeds.

2 - The revision revealed the presence of eight species belonging to five genera. Of these, *Halocnemum strobilaceum*, *Arthrocnemum macrostachyum*, *Salicornia fruticosa* and *Anabasis articulata* are very common; while *Salicornia europaea*, *Noaea mucronata* and *Anabasis setifera* are common. *Salicornia lignosa* is rare and confined in its distribution to the northern parts of the Nile Delta (Borollos and San el Hagar).

3 - The community and habitat characters for each species were studied. The associate species were recorded and ranged between 4-30.

4 - Field studies showed that, the investigated species can be grouped into:

a - **Halophytes**, which are confined to saline habitats and can be arranged on the basis of descending order of salinity follows :
Halocnemum strobilaceum, *Arthrocnemum macrostachyum*,
Salicornia fruticosa, *S.europaea* and *S.lignosa*.

b - Glycophytes, which generally exploit non-saline habitats or abounded to deserts and semideserts. Here belong : *Noaea mucronata*, *Anabasis setifera* and *A. articulata*.

5 - Chemical analysis of the shoots included the determination of ash, total carbohydrates, total nitrogen and total lipids as well as analysis of hydrocarbons, sterols and fatty acids in both shoots and seeds of the studied species.

6 - The ash content attained its highest value in the halophytic *Halocnemum strobilaceum* followed by the glycophytic *Anabasis articulata*. Elemental analyses of the ash content of the studied species showed that the highest values of sodium, potassium, calcium and phosphorus were detected in the halophytic *Halocnemum strobilaceum*. A higher accumulation of magnesium was recorded in the glycophytic *Anabasis articulata*.

7 - The highest values of total carbohydrates content, total nitrogen content and total lipid content were recorded in halophytic *Halocnemum strobilaceum*. The lowest values of total carbohydrates and total nitrogen were detected in *Salicornia lignosa*, and that of total lipids were recorded in *Anabasis setifera*.

8 - Hydrocarbon and sterol analyses in shoots and seeds showed that tricosane and octacosane were the most prominent hydrocarbons as well as cholesterol and campesterol as the major sterols.

9 - Fatty acids analyses of shoots and seeds revealed variations in number, composition and concentration of each of the individual fatty acids; with myristic and palmitoleic as the major fatty acids.

10 - A suggested key was constructed for the studied species depending on the morphological characters, ecological features and the fatty acids constituents.