Taxonomic studies of some genera of chenopodiaceal in Egypt

Mohamed abd el-salam el-galaly

1 The taxonomic reviSIOn of some indigenous spec1es ofChenopodiaceae in Ek'YPt was based on the fresh materials collected bythe author from various phytogeographical territories throughout thecountry; as well as the Herbarium specimens deposited in CAI andCAIM, (Index Herb abbreviations). It was based mainly on themorphological characters of the embryo, fruit-perianth, branches,leaves and seeds.2 - The revision revealed. the presence of eight species belonging tofive genera. Of these, Halocnemum strobilaceum, Arthrocnemummacmstachyum, Salicomia fruticosa and Anabasis articulata are verycommon; while Salicomia europaea, Noaea mucronata and Anabasissetifera are common. Salicomia lignosa is rare and confined in itsdistribution to the northern parts of the Nile Delta (Borollos and San elHagar).3 - The community and habitat characters for each spec1es werestudied. The associate species were recorded and ranged between 4-30.4 - Field studies showed that, the investigated species can be groupedinto:a - Halophytes, which are confined to saline habitats and can bearranged on the basis of descending order of salinity follows :Halocnemum strobilaceum, Arthrocnemum macrostachyum,Salicomia fiuticosa, S.europaea and S./ignosa.b - Glycophytes, which generally exploit non-saline habitats orabotmded 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 nitorgen and total lipids as well as analysis ofhydrocarbons, sterols and fatty acids in both shoots and seeds of thestudied species.6 - The ash content attained its highest value in the halophyticHalocnemum strobilaceum followed by the glycophytic Anabasisa~ticulata. Elemental analyses of the ash content of the studied speciesshowed that the highest values of sodium, potassium, calcium andphosphoms were detected m the halophytic Halocnemumstrobilaceum. A higher accumulation of magnesium was recorded inthe glycophytic Anab,1sis articulata.7 - The highest values of total carbohydrates content, total nitrogencontent and total lipid content were recorded in halophyticHalocnemum strobilaceum. The lowest values of total carbohydratesand total nitrogen were detected in Salicomia lignosa, and that of totallipids were recorded in Anabasis setikra.8 - Hydrocarbon and sterol analyses in shoots and seeds showed thattricosane and octacosane were the most prominent hydrocarbons aswell as cholesterol and campisterol as the major sterols.9 - Fatty acids analyses of shoots and seeds revealed variations innumber, composition and concentration of

each of the individual fattyacids; with myristic and palmitoleic as the major fatty acids.Summary & ConclusionI 0 - A suggested key was constmcted for the studied spec1esdepending on the morphological characters, ecological features and thefatty acdis constituents.