

## Abstracts of poster exhibits

Presented at Inverleith House, Royal Botanic Garden,  
16–21 September 1985

**Akeroyd, J. R.** Towards a revision of *Flora Europaea*, Volume 1.

The first volume of *Flora Europaea*, published in 1964, is currently being revised at Reading University. It is estimated that there will be a 10% increase in the text compared with the original volume and that the revision will take 5 years.

**Amin, G. H.** Some algae of The Gulf.

Studies on the algae of some coral islands of the southern parts of The Gulf have resulted in several new distributional records.

**Anşin, R.** Some aspects of the woody flora of NE Anatolia.

The wet and cloudy NE part of Anatolia is the home of many distinctive relict and endemic species. Some of the interesting woody species are discussed.

**Barkoudah, Y.** ACSAD's role in preserving plant genetic resources in the Arab countries.

The varied activities of the Panarab "Arab Center for the Studies of Arid Zones and Dry Lands" are explained. Applied research and project studies are carried out in the arid regions of most of the countries. In recent years a special unit for genetic resources was established to collect, preserve and evaluate economic arid plants.

**Baytop, T. and Mathew, B.** The petaloid monocotyledons of Mount Ararat.

The monocotyledons of Mt Ararat (Agri Dag) in E Turkey are being researched; there are photographs of, and comments on, some of the spring-flowering species.

**Boulos, L.** *The Weed Flora of Kuwait.*

This weed Flora is intended to complement the main *Flora of Kuwait* (of which Vol. 1 was published in 1985); some of the plates drawn recently in Edinburgh by Magdy el Gohary are shown. About 70 species are treated, each with a detailed description and a full page illustration.

**Browicz, K.** Chorology of trees and shrubs in Rodhos.

The native (and widely introduced) woody plants of Rodhos have been studied and dot maps prepared for most of the 97 species. *Quercus aucheri*, *Rosa sempervirens* and *Tamarix tetrandra* are new records for the island; a new *Amygdalus* hybrid was discovered.

**Chamberlain, D.** The identity of *Ferula assa-foetida*.

Assa-foetida gum has been of commercial importance for at least 300 years. It is extracted from at least 3 SW Asiatic species of *Ferula*. This has led to confusion over the identity of *Ferula assa-foetida*.

**Collenette, S.** *An illustrated guide to the flowers of Saudi Arabia.*

A pre-publication notice of the Meteorology and Environmental Protection Administration's "Flora publication number 1" is displayed.

**Davis, P. H.** Some photographic memories of Turkey.

Original photographs evoking memories of the landscape, flora, and people of Turkey captured, from the late 1940s on, by the camera of Peter Davis during his early travels. Some, often humorous, pictures of mountain tribesmen and of explorers such as Freya Stark are included as well as encounters with animals.

**Demiriz, H.** An annotated bibliography of Turkish flora and vegetation.

**Dittrich, M.** The generic delimitations of the genus *Stemmacantha* (Compositae).

*Stemmacantha* and *Leuzea*, previously distinguished by only one artificial pappus character, are shown to differ clearly in several other floral characters; they also have distinct distributional areas: the former is mostly from C and SW Europe to Asia; *Leuzea* is restricted to the west Mediterranean.

**Dominguez-Vilches, E., Ubera, J. L. and Gibbs, P. E.** Floral Biology in *Hypocoum* species.

The floral biology of *H. procumbens* and *H. leptocarpum* was studied by controlled pollination experiments and fluorescent microscopy of pollen tube growth. Both have secondary pollen placement since precocious anther dehiscence deposits pollen in inner petal pouches. The flowers are technically protandrous but functionally protogynous. Both species are self-compatible and probably predominantly

self-pollinating. However, in both species, but particularly *H. leptocarpum*, the stigmas emerge free from contaminant self-pollen and are so available briefly for cross-pollination by insects arriving to forage at the nectaries.

**Donner, J.** Verbreitungskarten zu P. H. Davis, *Flora of Turkey* vols 1-8.

This 120 page fascicle will be published in *Linzer Biologische Beiträge* 17(1) at the end of September 1985. It contains a list of families and genera alphabetically arranged (cross-referenced to the Flora volume), a large number of maps showing the distribution of species according to the grid-pattern adopted in the Flora and a supplement covering additional taxa, plus bibliographical references. 9228 taxa in 1055 genera from 169 families are covered.

**Edmondson, J.** The J. R. Wellsted collection from Socotra.

The herbarium of John Forbes Royle in Merseyside County Museums, Liverpool (LIV) contains a collection from Socotra dating from 1834. It was given to Royle by Lieut. J. R. Wellsted, whose name is commemorated by the genus *Wellstedia* (Boraginaceae). I. B. Balfour drew on Wellsted's published account of the island and its flora (1838), but the existence of a herbarium collection only came to light when the Roylean herbarium was acquired by the Museum in 1952.

**Fischer, M. A.** SW Asia as a centre of origin for some weedy species of *Veronica*.

Of the 14 widespread weedy *Veronica* species in Europe, 6 are SW Asian in origin and 3 have parents in SW Asia. Several successful weedy species are clearly mesophytic—as they are in their original habitats. Hybridisation seems to be a useful device for becoming a successful weed but is no necessary prerequisite.

**Freitag, H.** and **Maier-Stolte, M.** On the identification and distribution of some *Ephedra* species in C Iran and Afghanistan.

The tall sturdy *Ephedra* species of the hot semi-deserts of this area are reviewed. Four taxa are recognised: two are widely distributed, *E. strobilacea* and *E. sarcocarpa*; *E. microbracteata* is only known from the Dasht-e-Lut in Iran; hybrids are scattered from E Iran to S Afghanistan.

**Frey, W.** and **Kürschner, H.** Mapping of vegetation in the *Tübingen Atlas of the Middle East* (TAVO).

Presentation of a vegetation mapping project with regional and detail maps of different areas of SW Asia (e.g. Hindukush, Elburs Mountains, central Saudi Arabia). By means of a physiognomic-ecological classification scheme, nearly all relevant vegetation units occurring in SW Asia are shown.

**Gammerman, A., Atkinson, W.** and **Skullerud, B.** Expert System for botanical identification.

An application of Knowledge Based Expert System to the field of taxonomy and identification. The system has a large knowledge base of facts and rules (the example used is a key to British Umbelliferae), an 'inference engine' which enables it to reason with this knowledge and a means of explaining its reasoning to the user. The system allows the user to express uncertainty and even complete ignorance.

**Gahreman, A.** Pictures of some species of *Centaurea* of Iran.

Some plates of Iranian *Centaurea*, as published in Ghahreman, A., *Flore de l'Iran en couleurs naturelles* vols 2-4, Tehran, are displayed.

**Goulandris, N.** Paeonies of Greece.

Three Greek paeonies from the limited edition portfolio *Peonies of Greece* published in 1984 by the Goulandris Natural History Museum are displayed. The full set of 12 coloured lithographs are from the original water colours of Niki Goulandris, hand-lithographed by Takis Katsoulidis.

**Hager, J.** The ecology of the subalpine thorn cushion vegetation of Crete.

"Hedgehog" vegetation occurs in Crete from 1400–2400 m, where it is mainly concentrated on wind-exposed stands; it is represented by *Astragalus creticus*, *A. angustifolius* and *Acantholimon ulicinum*. The cushion-like habit reduces wind speed (usually high at this altitude) and thus there is a decrease in water vapour loss and in transpiration.

**Hedge, I., Lamond, J.** and **Kwiton Jong.** *Flora Iranica*—Umbelliferae.

The Umbelliferae for *Flora Iranica* are now ready for press: more than 140 genera are in the area. Colour photos of some of the more interesting taxa are shown. The very distinct new genus *Azilia* has been studied cytologically; its only species, *A. eryngioides*, has  $2n = 22$ .

**Hedge, I., Lamond, J.** and **Rechinger, K. H.** Photographic memories of "Flora Iranica".

Personal selections of photographs taken in the 1960s and 70s in Iran, Afghanistan and Pakistan: R. Alava, S. I. Ali, M. Assadi, L. Ekberg, E. Esfandiari, Evin herbarium staff 1971, I. Hedge, M. Iranshahr, S. M. A. Kazmi, J. Lamond, K. H. & W. Rechinger, J. Renz, F. Termeh and P. Wendelbo are featured.

**Hepper, F. N.** Taxonomic revision of Forsskal's herbarium.

Over 1000 species of plants were collected as herbarium specimens during the Royal Danish expedition to the Mediterranean region, Egypt and Yemen 1761–1763. P. Forsskal was the botanist who died in the Yemen but his collections were sent back to Europe by the sole survivor, C. Niebuhr, who published Forsskal's descriptions of new plant species. These are now being revised for a comprehensive publication.

**Johnson, M.** Chromosome number and variation in some Turkish Liliaceae.

Some bulbous Liliaceae were collected in Turkey in 1982, subsequently grown on at Kew and chromosome counts made. *Muscari* and some *Bellevalia* species are morphologically similar but cytologically very distinct with *Muscari*  $2n=18$  and *Bellevalia*  $2n=8$ . *Ornithogalum* is very variable cytologically and hybridisation may be one cause, plus the occurrence of 'B' chromosomes.

**Khullar, S. P.** Aspects of some ferns in the *Flora Iranica* area.

There are 93 species of fern in the *Flora Iranica* area; the fern flora divides very clearly into a European type (Iran and westwards—including an Iranian element of Afro-European connection) and a Himalayan type (in the east of Afghanistan).

**Kit Tan and Mill, R.** Some original illustrations of the *Flora of Turkey*.

A total of 172 line illustrations mainly depicting plant parts critical for identification, were commissioned for *Flora of Turkey* Volumes 1–9. Thirty different artists were involved. A selection of 13 original illustrations, chosen for their historical significance and/or artistic quality, are exhibited, accompanied by captions giving details of the species illustrated.

**Kukkonen, I.** The genus *Carex* in the area of *Flora Iranica*.

The distribution of the 88 species (94 taxa) of *Flora Iranica Carex* is analysed. The taxa may be divided into 2 almost equal groups penetrating the area either from the NW, i.e. from Caucasus and Turkey, or from the E, from India and C Asia. Endemics are few and only of subspecific status.

**Maleki, Z.** Pictures of some endemic species of Iran.

Colour plates are displayed of some of Iran's numerous distinctive endemics. There are examples from the following genera: *Alcea*, *Anthemis*, *Asyneuma*, *Corydalis*, *Helicophyllum*, *Hyoscyamus*, *Elburzia*, *Iris*, *Origanum* and *Ranunculus*.

**Malyer, H., Başer, K. H. C. and Erken, S.** The endemic *Aristolochia* species of Turkey.

11 out of the 23 Anatolian species of *Aristolochia* are endemic; all but one grow in the Mediterranean zone. They are currently being investigated anatomically, cytologically and chemically; during field studies hybrids have been observed.

**Matthews, V.** SW Asian plants introduced into gardens in recent years.

On display are photographs of some of the more attractive recent introductions: *Lilium ciliatum*, *Iris afghanica*, *I. pamphylica*, *I. doabensis*, *Geranium psilostemon* and *Pelargonium quercetorum*. *Rosa ecae* and *Hulthemia persica* which have been used in the development of garden hybrids are also shown.

**McRitchie, A. and Bennell, A.** Morphological investigations of the indumentum of fruits in the Umbelliferae.

The value of the Scanning Electron Microscope in studying trichomes of Umbelliferae fruits, and thus providing extra taxonomic information, is illustrated by reference to two genera from the *Flora Iranica* area—*Psammogeton* and *Trachyspermum*.

**Meyer, F. K.** The Herbarium Haussknecht of the Friedrich-Schiller-Universität, Jena (DDR).

Encouraged by Edmond Boissier, who supported his botanical expeditions in SW Asia, Carl Haussknecht in 1895 founded his "Herbarium Haussknecht" at Weimar as a private foundation. The interests of his successors, Joseph Bornmüller and Otto Schwarz, in SW Asia and elsewhere helped to make it a major world-wide herbarium with over 2.5 million specimens.

**Miller, A. and King, R.** The Flora of Arabia project.

The rich collections from the Arabian peninsula held in Edinburgh and Kew and other herbaria now provide a sound foundation for writing a comprehensive Flora of the area; it has recently been agreed between Edinburgh and Kew that such a Flora project, together with Arabian commitment, should be started.

**Miller, A. and King, R.** The vegetation of Dhofar (southern Oman).

The vegetation covering the coastal mountains in Dhofar is unique in the Arabian peninsula. From mid-June to mid-September the sea-facing slopes are blanketed in thick mists which have resulted in the development of dense woodland. Colour prints, maps and diagrams illustrate the main vegetation types and some interesting and endemic species along a transect through the woodland to the open desert. The climatic and topographical features which have led to the formation of the woodland are described.

**Mobayen, S.** The vegetation map of the Lut desert, Iran.

This desert is the eastern extension of a large, desertic area stretching from North Africa including the Sahara, through Arabia and ending in Central Asia. In this map, in addition to demonstrating the internal structures of the vegetation some peripheral forms are illustrated including open forests of *Prosopis*, *Tamarix* and *Calligonum*.

**Mobayen, S.** Some pictures of the vegetation of Hormuz Island, South Iran.

This island is situated in the straits which separate the Gulf from the Gulf of Oman.

**Müller-Hohenstein, K. and Deil, U.** On the vegetation of the Yemen Arab Republic.

The varied and on-going research projects of the Bayreuth (BRD) University team in the Yemen Arab

Republic (North Yemen) are explained; one published result is the *Introduction to the vegetation of Yemen* (1984); there are examples of the 'pure' and 'applied' research activities.

**Nasir, Y.** The *Flora of Pakistan* portrayed.

A short history of the *Flora of Pakistan* project, initiated in 1966, is complemented by a selection of original drawings for the Flora.

**Özhatay, N.** *Allium* species of northern Anatolia and their chromosome numbers.

Chromosome numbers of 54 taxa of the 67 species of *Allium* in N Turkey are given. There are 2 new species, *A. eldivanense* and *A. ilgazense* (Özhatay in press). *A. hymenorrhizum* is a new record for Turkey; the presence of *A. erubescens* is confirmed. The basic chromosome number in all examined species is  $x=8$  with one exception (*A. zebdanense*,  $x=9$ ); "B" chromosomes are observed in 3 species; 5 taxa are found to be polyploids.

**Persson, J.** SW Asian bulbous plants in the new frames at Göteborg Botanical Garden.

New bulb frames were constructed in 1983 at the Göteborg Botanical Garden. About 1,200 samples are cultivated; in all *c.* 600 taxa are represented. Most of the material originates from the E Mediterranean and SW and C Asia and was collected in the wild either by members of our staff or by colleagues from other institutes. Mutual exchange of spontaneous material will be appreciated.

**Persson, K.** *Colchicum* (Liliaceae): Patterns of distribution and diversity.

*Colchicum* L. (including *Merendera* Ram. and *Bulbocodium* L.) contains *c.* 100 species from central Europe and the Mediterranean to Pakistan and Middle Asia. Taxonomically important characters are discussed, combinations of which define species rather than single characters. Different patterns of morphological variation and cytological diversity are demonstrated. Species density and frequency of endemics are shown to be highest in Turkey and the Balkans including the Aegean. The genus is represented in a wide range of biotopes from subdesert to montane or alpine zones.

**Quézel, P. and Barbéro, M.** Map of the potential vegetation of the Mediterranean region. Sheet No. 1: Eastern Mediterranean.

This map, scale 1/2 500,000, includes the eastern Mediterranean region from Greece to the Syrian desert. It is an attempt to synthesise the potential vegetation of this region; 67 types of mainly forest structures are pointed out. A 70 page explanatory booklet is published with the map which is available from: Editions du C.N.R.S. 15 Quai Anatole France, 75700—Paris.

**Strid, A.** *Mountain Flora of Greece*, volume I.

A pre-publication display of vol. I (of 2) dealing with the Greek mountain flora above 1800 m. Cambridge University Press.

**Uotila, P.** The *Chenopodium foliosum* aggregate in SW Asia.

*Chenopodium foliosum* and *C. capitatum* are the two species aggregates in subgenus *Blitum*. In addition to the widespread *C. foliosum* s. str. there are several geographically restricted taxa in that aggregate: one in the western Mediterranean area and four in the mountains of SW to C Asia. Morphological characters and distribution of the eastern taxa are described.

**Walther, H.** Some aspects of tertiary vegetation and plants.

Changes in the climate and vegetation of the Weissester basin near Leipzig (DDR) over a period of 18.2 million years are summarised; leaf outlines of many identified species, microphotographs and SEMs of fossil remains complement the text.

**Watling, R.** Gasteromycetes, a case for parallel evolution.

The basidiomycetes occurring in desert and semi-desert areas, although belonging to several often unrelated families and even orders, exhibit a common and very distinctive facies. They have been considered by many authors to belong to a single, yet polyphyletic, group called the stomach fungi (Gasteromycetes). These fungi play a very important role in the ecology of the plant communities in these arid areas, and in physiologically xerophytic associations within more temperate vegetation.

**Weiglin, C.** Anatomical and morphological investigations on leaves of a halophytic community in Eastern Jordan.

Five species considered as typical of special zones were investigated from the viewpoints of morphological and anatomical leaf adaptations. Three, *Cressa cretica*, *Frankenia hirsuta* and *Reaumuria alternifolia*, have a C-3 type of photosynthesis; *Aeluropus litoralis* and *Salsola tetrandra* have a C-4 pathway of photosynthesis.

**Winter, E.** Adaptive strategies in members of a halophytic community of eastern Jordan.

NAA-vegetation analysis and transect map with associations grouped in zonation. In each zone the

adaptations of the leading species to their environmental conditions were studied to the maximum possible extent, with particular attention to salinity tolerance. Other factors however seem to be of equal importance for species success and are synoptically mentioned.

**Yaltirik, F.** Turkish infraspecific taxa of *Pinus brutia*, *P. nigra* and *P. pinea*.

The taxa are defined and their areas indicated: *P. brutia* var. *agrophlottii* Papaj., var. *pyramidalis* Selik, var. *densifolia* Yalt. (broad pyramidal trees with dense, stiff leaves); *P. nigra* subsp. *pallasiana* var. *seneriana* (Saatci.) Yalt. (copious branching, no main bole, round crown), var. *pyramidata* (Acatay) Yalt. (more or less vertical branches), var. *yaltirikiana* Alptekin (larger cones than other varieties); *P. pinea* var. *uergencii* Yalt. (conical cones, the majority of woody scales carrying single seeds).

**Yeo, P. F.** Some *Geranium* species of the Arabian peninsula.

The 5 closely allied Arabian species of *Geranium* sect. *Trilopha* are mainly separated by leaf characters, colour patterns of chasmogamous flowers and the sculpturing of the mericarps. Distributions are plotted; the variation of *G. ocellatum* is reviewed.