RNA product self anneals. With the native template the enzyme transcribes for the most part one of the two DNA strands; with the denatured template both strands are transcribed. *E. coli* RNA polymerase therefore distinguishes native from denatured DNA; some specificity is being maintained even in this heterologous system, and, as Westphal proves, it is sufficient to be exploited for the separation of the two strands of SV40 DNA. But is the RNA made by the bacterial enzyme SV40 messenger or antimessenger RNA? In other words, in hybridization experiments, will the RNA made by the bacterial enzyme compete with authentic SV40 mRNA either isolated from infected cells or made *in vitro* with an RNA polymerase from a host cell? Unfortunately, isolating useful quantities of viral mRNA from infected cells is difficult and there are no preparations of polymerase from eukaryotic cells sufficiently active and specific to make SV40 mRNA *in vitro*.

Not surprisingly, many groups are tackling the isolation of these polymerases. Stein and Hausen (*Europ. J. Biochem.*, **14**, 270; 1970), for example, report a new method for extracting RNA polymerase from calf thymus and also claim to have isolated a protein factor which sediments at 3S and increases ten-fold the activity of the enzyme when transcribing native DNA but does not increase transcription of denatured DNA. Hausen and Stein (*ibid.*, 278) also claim to have isolated a curious and unique ribonuclease H which specifically degrades the RNA of RNA-DNA hybrids. It degrades, for example, the RNA made on denatured templates but not that made off native DNA templates.

FLORA

To Asia with a Vasculum

from a Correspondent

THE first symposium on aspects of plant life in south-west Asia, held at the Royal Botanic Garden, Edinburgh, from June 3-6, attracted botanists from Europe and the Middle East. Dr P. H. Davis (University of Edinburgh), discussing endemism in Anatolia, pointed out that transitional and contact zones between the phytogeographical regions often support rather numerous endemics. A diagonal belt which runs from Gümüsane in north-east Turkey south-westwards to the Taurus and Amanus mountains marks a major break in the Irano-Turanian flora which could have its origin in topographical changes during the latter part of the Tertiary. Professor P. Wendelbo (Botanical Garden, Göteborg), dealing with species patterns in Iran and Afghanistan, had maps to show that many Irano-Turanian genera (for example, *Eremurus*) have their principal species concentrations in this area.

The major geographical regions of south-west Asia were outlined by Professor M. Zohary (Hebrew University, Jerusalem). There was disagreement on the limits of some of these regions and on the phytogeographical status of Central Anatolia, Zohary being strongly influenced by the historical climax, and Davis by present day floristic composition. Much of the herbaceous flora of the Mediterranean region was shown to be of Irano-Turanian origin.

The floristic relationship between distant areas with a Mediterranean-type climate was the subject of a session illustrated chiefly by examples from California

by Professor P. H. Raven (Stanford University, California), and South Africa by B. L. Burtt (Royal Botanic Garden, Edinburgh). The floristic differences between these areas of winter rainfall and the impossibility of a Mediterranean-type climate occurring in the tropics led Raven to conclude that each flora is an autochthonous development, and that generic similarities (for example, *Arbutus*) are due to independent derivation of analogous species of widely distributed tropical or temperate genera. Burtt pointed out that the species and genera linking the Mediterranean and the semi-arid areas of southern Africa show varying degrees of discontinuity, and may represent the remnants of an old and widely distributed arid flora.

Biosystematic work on the Middle East flora has developed rapidly during the past decade. Two botanists from the University of Lund dealt with evolutionary problems in the Aegean flora: Dr S. Snogerup with chasmophytes, and Dr A. Strid with the *Nigella arvensis* complex. They are preoccupied with the random, non-adaptive change as an explanation for some distinctive variation patterns found in the archipelago. Dr C. C. Heyn (Hebrew University, Jerusalem) described the extreme variability found in *Medicago polymorpha* and *Poa bulbosa*, and stressed the importance of species polymorphism in arid areas, where precipitation fluctuates widely from year to year. Survival of such species is made possible by the annual selection of forms adapted to conditions prevailing in that particular year. Speaking on Middle East Rubiaceae, Professor F. Ehrendorfer (University of Graz) presented a good example of what is becoming a well established evolutionary pattern. There is a tendency for chromosome numbers to be lower in annuals than perennials, and for the former to have more elaborate dispersal units; self-pollinated annuals have smaller flowers than out-crossed perennials.

Discussing genetic variability and the evolution of ecotypic diversity in cultivated plants, Dr E. Bennett (Food and Agriculture Organization, Rome) said that the extensive gene pools built up by the cultivation of crops in isolated settlements are being rapidly eroded by the wide distribution of uniform seed. Dr H. Helbaek (National Museum, Copenhagen) and Professor D. Zohary (Hebrew University, Jerusalem) spoke on the origin of rye and of other south-west Asian cereals respectively.

Considering conservation, Dr S. M. Walters (University of Cambridge) stressed the responsibility of taxonomists to provide data on which floristic conservation can be based, and the necessity for education before conservation can be effective. From a practical standpoint, Dr M. E. D. Poore (Nature Conservancy, London) treated conservation as part of land-use policy. Impressive examples of devastation of forest vegetation in Turkey were described by Dr F. Yaltirik (University of Istanbul). Discussion confirmed that modern conditions are greatly accelerating the extermination of both wild endemics and indigenous crop plants, resulting in disastrous depletion of south-west Asian gene centres. A motion put forward by Dr R. H. Richens (Commonwealth Bureau of Plant Breeding and Genetics, Cambridge), concerning the extreme urgency for conservation, was adopted. The motion will be brought to the attention of FAO, the International Union for the Conservation of Nature, UNESCO, the International Biological Programme and all south-west Asian governments.