have to be congratulated with their enormous accomplishment. This book is not just a must for libraries, but everyone with a serious interest in fossil plants should have a copy within reaching distance.

HANS KERP (Münster)

Taxodiaceous Conifers from the Upper Cretaceous of Sweden, by V. Srinivasan and E.M. Friis. The Royal Danish Academy of Sciences and Letters, Copenhagen, Biologiske Skrifter, 35. 57 pp. ISBN 87-7304-187-4. Softcover DKR 100.

The Late Cretaceous fossil plant localities in the kaolin quarries of Scania, southern Sweden, are famous due to several structurally preserved angiosperm flowers described by E.M. Friis and other authors. These findings have temporarily left in shade other fossils, notably conifer compressions which seem to represent the most abundant and diverse components of the flora. Presently a number of the compression morphotypes referable to Taxodiaceae are described and illustrated by Srinivasan and Friis. Compressions were detached from the rock matrix and studied with SEM and light microscope. They are classified in three new genera, *Quasisequoia* with five species, *Elatidopsis* and *Paracryptomeria* with a single species each. *Quasisequoia* is based on shoots resembling extant *Sequoiadendron* but differing in blunter points. They also lack tricyclic stomata. The associated seed cones are said to be distinct from both *Sequoia* and *Sequoiadendron* in "the absence of the transverse median groove so characteristic of the cone scales of the two extant genera". *Elatidopsis* is represented by shoots resembling those of *Elatides* Heer (a genus based primarily on seed cones) but with more appressed leaves. *Paracryptomeria* includes shoots externally similar to extant *Cryptomeria* but differing in monocyclic and transversely oriented stomata. There are also several types of unassigned seed and pollen cones testifying to a greater taxonomic diversity of the Scanian Late Cretaceous taxodiaceans. Finally, the extant genera of the Taxodiaceae are briefly reviewed in the Appendix.

This work is contentedly in line with the best traditions of cuticular analysis set out by Nathorst and Florin. However, more attention could be paid to such characters of certain taxonomic value as phyllotaxis. Moreover, the practice of erecting new genera based on minor epidermal distinctions seems questionable in the face of by now already inflated Mesozoic conifer nomenclature. Incidentally, *Paracryptomeria* looks very much like shoots of *Elatides* in several species of which, both European and Siberian, stomatal orientation is prevailingly transverse. Srinivasan and Friis indicate that in *E. bommeri* leaves are epistomatic rather than amphistomatic as in their material. It is well known, however, that in conifers with scale leaves stomatal development on leaf flanks is highly variable.

Because taxodiaceans have been a dominant group of Cretaceous plants, one should also be interested in their present day taxonomic diversity as a clue to vegetational structure and palaeoecology. Unless we revise traditional genera (e.g., *Geinitzia*) and assess their morphological variation, each locality will perhaps bring an array of new genera.

V.A. KRASSILOV (Moscow)

Silvianthemum sueciecum *Gen. et Sp. Nov., A New Saxifragalean Flower from the Late Cretaceous of Sweden*, by E.M. Friis. The Royal Danish Academy of Sciences and Letters, Copenhagen, Biologiske Skrifter, 36. 35 pp. ISBN 87-7304-205-6. Softcover DKR 70.

Else Marie Friis has made outstanding contributions to our knowledge of the early angiosperms. She has focused on structurally preserved flowers, chiefly from the Upper Cretaceous of Sweden and *Silvianthemum*, named in honour of Her Majesty Queen Silvia of Sweden, is perhaps her most spectacular discovery.

Tiny flowers, ca. 0.3 mm wide, from a clay quarry in the Kristanstad Basin, Scania, have been extracted by soaking and sieving organic debris from the lower clayey gyttja together with fragmentary conifer remains and other angiosperm repro-

ductive organs. The lower clay is assigned to the Late Santonian–early Campanian on both paleontological and palaeomagnetic evidence. The fusainised or sometimes lignified flowers were observed under SEM and in thin sections.

The result of this thorough study and beautifully illustrated material is a detailed description of the floral morphology, the most essential features of which are the calix of five free sepals smaller than petals, numerous stamens apparently in a single whorl, an inferior trimerous ovary with free styles and capitate stigmas containing numerous minute reticulate ovules, and tricolpate tectate-perforate pollen found in clumps on the styles and stigmas. Thin axes found in association with these pedunculate flowers and covered with similar trichomes might indicate a sort of racemous inflorescence. Feature-by-feature comparison with various members of the order Saxifragales point to the Escalloniaceae as the closest extant family.

Major conclusions relate to the angiosperm diversity attained as early as the Late Cretaceous and particularly to the Saxifragales as a core order of the lower Rosidae. Within the order, the woody taxa are considered closer to ancestral forms than the herbaceous ones whereas such features as epigynous unilocular ovaries with parietal placentation seem primitive. Friis clearly demonstrates intrusive placentas and some other features hitherto unknown at this evolutionary level. Saxifragalean affinities, if valid, signify the prevalence of morphological traits atypical for the order (in whatever variant of its disputable family content). Even Hydrangeaceae with stamens occasionally twice as many as petals do not match the unique combination of features shown by this Cretaceous flower.

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