SYSTEMATIC INVESTIGATION OF THE PLANT FAMILY DIOSCOREACEAE IN SRI LANKA

ABSTRACT

The family Dioscoreaceae is represented in Sri Lanka by the genus Dioscorea which consists of nine species and two varieties. A key to the identification of subgeneric taxa of Dioscorea is provided. Information on each species contains a description, global and local distribution, vernacular names, uses and a citation of the representative specimens. Most species of the genus in Sri lanka have edible tubers affording an important secondary source of carbohydrates. Cultivated species, namely D. alata and D. sativa, occur in several cultigens. Most wild species, except D. bulbifera and D. tomentosa, could yield quality yams for food, although none has been domesticated.

INTRODUCTION

The family Dioscoreaceae is represented in Sri Lanka by its largest and most important genus Dioscorea, which includes all true yams. This genus is very widespread in the world and several species are utilized as a source of food to a notable degree. The economic use of this genus has recently entered the pharmaceutical field as some of its species are known to yield steroidal saponins (Coursey 1967).

Of the elaborate systematic treatments of the family for the world, the work of Knuth (1924) remains the most notable. He classified over 600 species of Dioscorea in 60 sections. Prain and Burkill (1936, 1939) published an informative monograph of the genus in Asia, in which 147 species were grouped in 9 sections. Much insight into the genus, as well as the family, was provided by Burkill (1960) and Aayensu (1972). Jayasuriya (1983) provided a systematic treatment of Dioscorea in the Indian Subcontinent containing detailed accounts of nomenclature, keys to identify subgeneric taxa and descriptions. As for Sri Lanka, the treatment by Trimen (1898) was nomemclaturally confusing and the information was incomplete. Its revision by Alston (1931) too was not much helpful and did not reflect a sound species concept. Characterization of mainly cultivated species and their cultigens, using morphology, leaf anatomy and chemistry of the phenolic constituents, was attempted by Harischandra (1987). Due to the confusing nature of the taxonomy of the group in general, and perhaps lack of sufficient material, no comprehensive revision of the family for Sri Lanka has been attempted and our knowledge of this important group of plants remains somewhat obscure.