PHYLOGENETIC RELATIONSHIPS WITHIN TRIBE GENISTEAE (PAPILIONOIDAE) WITH SPECIAL REFERENCE TO GENUS ULEX

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Abstract
Molecular evidence presented here, from the literature and from this study, provide new insights into the systematics of the Genisteae s.s. Within this tribe, the evolutionary history of *Ulex* is investigated using phylogenetic analyses of two non-coding nuclear (ITS nrDNA) and plastid (*trnL-trnF*) sequences. *Ulex* represents a natural group, which is derived from within the Genista-Cytisus complex. A close relationship between *Ulex* and *Stauracanthus* is strongly supported by molecular data. *Ulex* appears to have evolved into two main lineages, which arose from a common diploid ancestor. One is represented by a single extant diploid species, *U. micranthus*, which is endemic in central Portugal. The second group includes all the remaining Euro-African diploid and polyploid taxa. The lack of resolution among the latter and their very weak molecular divergence are suggestive of a recent and rapid diversification of the gorses. The *trnL-trnF* sequence data also support *Lupinus* as a monophyletic group within Genisteae, that is distinct from the Cytisus-Genista complex.

Introduction
Within the Papilionoid legumes, the Genisteae (Adans.) Benth. s.s., as defined by Polhill (1976) and re-arranged by Bisby (1981), represent a diverse tribe comprising about 20 genera and 450 species. The Genisteae are mostly woody shrubs which are essentially distributed in Europe and North Africa, and the Mediterranean region is viewed as their primary centre of diversification. Polhill distinguished the Genisteae from the other Genistoid tribes by a combination of morphological characters, primarily: stamen filaments joined into a closed tube with distinctly dimorphic anthers; leaves simple, unifoliolate or digitately three–many-foliolate; seeds exarillate, or if arillate only on a short side; calyx-lobes variously united, with a basically two-lipped calyx. During the two last decades, new evidence has been provided from biochemical investigations (Cristofolini and Feoli-Chiapella, 1977, 1984; Kinghorn

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