Hamata, a New Section of Taraxacum (Asteraceae)

By H. Øllgaard, Viborg

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Abstract: A distinct group of triploid, apomictic Taraxacum species, recognized by blackish green, pruinose involucres and ± hamate lateral lobes, is newly described as section Hamata. Cytological and morphological investigations have shown a distinctive uniformity among these species which supports this classification. A key to all known Hamata species, illustrations and notes about critical species are given. A new species of the section, T. fusciflorum, is described.

In Denmark, the Taraxacum sections Palustria Dahlst., Obliqua Dahlst., Erythrosperma Dahlst. emend. Lindb. Fil., and Spectabilia Dahlst. (s.l.) are attached to habitats that existed before the preneolithic forests were cleared away by the agriculturalists (about 4000 years ago). The 2 latter sections, however, also contain species with a greater ecological amplitude. In Erythrosperma, this is true for more or less anthropophilous species related to T. fulvum Raunk. described as sect. Fulva by M. P. Christiansex. In Jutland, Denmark, one species of Spectabilia (sensu Dahlst. 1930), T. euryphyllum (Dahlst.) M. P. Chr., is often found on roadsides, in gardens etc. together with species of sect. Taraxacum, thus deviating from the other members of the section. T. euryphyllum is now considered to belong to sect. Naevosa M. P. Chr. The numerous species in sect. Taraxacum (Vulgaria Dahlst. 1918) thrive well in all areas where species of other Taraxacum sections occur, but are dependant on a certain amount of disturbance of the habitat by man, and are thus less constant in their localities, if these are not more or less influenced by human activity. Sect. Fulva (now included in sect. Erythrosperma by most taraxacologists), possibly T. euryphyllum, and
sect. Taraxacum are thought to have immigrated during or after the neolithic age, and therefore to be younger members of our flora (for exceptions in sect. Taraxacum, see below).

Examination of the ecological amplitude of any Taraxacum species must be based on a "narrow" and correct perception of the taxon, on years of experience in the field in different parts of the country, and on international communication. For instance, T. euryphyllum has a somewhat different ecology in the western part (Jutland) and in the eastern part (Zealand) of Denmark. In Jutland it is rather common in both humid, unfertilized meadows and in ruderal habitats. In Zealand it is rare and only found in meadows. A similar divergence in ecology is found in the following species of sect. Taraxacum: T. gelertii Raunk., T. haematicum HAGL., T. intermedium RAUNK., and T. raunkiaerii WINT. These naturalized species, hitherto regarded as members of sect. Taraxacum by most workers, ought to be objects of special interest to taxonomists and cytologists.

One species in the same category (now placed in sect. Hamata, described below), T. hamatum Raunk., has many close relatives, many of which are widely distributed in northern Europe. Even as a beginner in the taxonomic study of Taraxacum, the present author became aware of the T. hamatum group, which distinctly differed from other Taraxaca. The species of the group are, however, very difficult to separate from each other, and therefore I started to cultivate them experimentally, recognizing variabilities and constancies in the species. Through correspondence with other workers and the study of herbarium material, a picture of their distribution area was formed. T. hamatum is restricted in eastern Denmark and Sweden to wet, unmanaged meadows. However, in western Denmark and the British Isles it also occurs frequently in ruderal habitats. The rest of the species in the T. hamatum group show the same ecological breadth as sect. Taraxacum. For that reason and because of triploidy, the T. hamatum group was regarded by me as a well defined subsection of sect. Taraxacum.

A recent cytological study by Mogie & Richards (1983) has shown, however, that the cells of all 11 species examined in the T. hamatum group have only two satellited chromosomes, which clearly separates the group from other sections of Taraxacum, and suggests a single progenitor of the species of the group. This interesting discovery clearly classifies the T. hamatum group as a section. Furthermore, their examination of T. bracteatum Dahlst., the affinity of which to the Hamata was dubious because of a somewhat different appearance, shows that it has to be added to sect. Hamata.