Abstract

The genus *Veronica* comprises about 500 species (of which about 180 species are distributed in the Southern Hemisphere Hebe-complex), many of which grow in the Mediterranean area. Their extreme variability in morphology, life form and habitats has led to many suggestions regarding their evolution and biogeography. Difficulties arise from parallel syndromes, widespread among species and lowland perennials, and particularly among annual species of the genus.

Flow cytometry, molecular markers (plastid rps16-trnK region and nuclear ribosomal ITS sequences) and morphometry have been applied in an attempt to unravel confusion of taxonomically intricate complexes and to contribute to clarify the relationship among 22 taxa in *Veronica* section *Beccabunga* collected from different regions in Africa, Europe and Asia. All these species are confined to aquatic conditions of various semi-natural or anthropogenic habitats, examples of which include springs and wells, rivers and irrigation system banks, seasonally flooded fields and lawns.