

PREFACE

The genus *Microtoena* is an enigmatic member of the mint family. Most species of this genus are rare and poorly collected in the field. Although this rare plant is not widely cultivated in most gardens, the lovely flowers of it are certainly attractive, both to the taxonomists and to the general public. Recent studies on chemical components of *Microtoena* reveal its huge potential in Medicine. Obviously, for a genus of such horticultural and medicinal importance, it is essential to have a scientifically sound taxonomy.

In the taxonomic history of *Microtoena*, more than thirty species and varieties have been described and reported. However, most of these taxa are poorly known, and the relationship between species was still unclear. The only taxonomic system of *Microtoena* was proposed about fifty years ago. Unfortunately, this taxonomic system with six series is not reliable, because it is mainly based on a few quantitative characters which are found to be unstable.

I have worked on this enigmatic genus for more than ten years and have carefully investigated nearly all the distribution areas of *Microtoena*. Based on extensive field observations, population sampling, critical examination of herbarium specimens, scanning electron microscopy (SEM) observations, and statistical analysis of all relevant characters, as well as molecular phylogenetic analysis, two sections with nineteen species are recognized here for *Microtoena*. In addition, twenty-two names of species and varieties are reduced to synonyms, and one species is excluded from *Microtoena*. Based on molecular phylogenetic analyses and reconstructions of ancestral states of diagnostic characters as well as distribution patterns, I traced evolutionary trends of a number of characters of taxonomic significance, and also inferred the biogeographical history of *Microtoena*.

It is to be hoped that the present monograph will stimulate the intensive study and conservation of these lovely plants. It is necessary for us to know such a rare, enigmatic, and important genus better, before we lose it.

Qiang WANG
Oct. 10, 2017