



Identity of *Microtoena coreana* (Lamiaceae), a doubtful species from Korea

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Abstract

The species *Microtoena coreana* has long been extremely doubtful. This species is endemic to South Korea, and only the holotype has been collected. The author, who described this species as new, placed it into the genus *Microtoena* without confidence. Some taxonomists even considered that it might belong to another genus instead of *Microtoena*. However, no conclusion has been achieved. In the present study, the holotype of *Microtoena coreana* was found and carefully examined. This holotype possesses 5-lobed corolla, broadly campanulate calyxes, and long-exserted stamens, which make it distinct from all the other species of *Microtoena*. The results of examination on a large number of specimens and statistical analysis of multiple characters clearly show that the holotype of *Microtoena coreana* is an element of *Tripora divaricata* (= *Caryopteris divaricata*). Therefore, the name *Microtoena coreana* is here excluded from the genus *Microtoena*, and is reduce to a synonym of *Tripora divaricata*. In addition, the lectotype of *Tripora divaricata* is designated in the present article.

Keyword: *Caryopteris*, lectotypification, principal coordinate analysis, taxonomy, *Tripora*

Introduction

The genus *Microtoena* Prain (1889: pl. 1872) of Lamiaceae is distributed in southwestern China and adjacent regions. Some species of this genus, such as *Microtoena insuavis* (Hance) Prain ex Briquet (1895: 269), *Microtoena patchoulii* (C.B. Clarke ex Hook. f.) Wu & Hsuan (1965: 44), and *Microtoena mollis* Léveillé (1911: 222), possess special odour, which was ever considered to be ‘the true Patchouli scent’ (Hooker, 1885).

The genus *Microtoena* is poorly studied in taxonomy, and there is still no taxonomic revision of the whole genus. Wu (1959) and Hsuan (1965) made a taxonomic revision for the Chinese *Microtoena* respectively. Li and Hedge (1994) recognized 24 species of *Microtoena*, 20 of which were distributed in China. Our recent work (Wang & Hong 2011) presented a taxonomic revision on the *Microtoena insuavis* complex, a complicated group of *Microtoena*. In addition, we clarified the taxonomic status of *Microtoena affinis* Wu & Hsuan (1965: 48), a puzzling species distributed in Yunnan of China (Wang & Hong 2012).

When preparing a monograph of taxonomic revision for the whole genus, I encountered *Microtoena coreana* Léveillé (1911: 223), a doubtful taxon distributed in South Korea. The holotype, which is also the only specimen of *Microtoena coreana*, was collected from Seoul City of South Korea. Léveillé (1911) was not sure about the taxonomic position of *Microtoena coreana*, and marked it as doubtful species. Wu (1959) and Hsuan (1965) referred to *Microtoena coreana* in their taxonomic revisions of Chinese *Microtoena*. Both of them failed to examine the holotype of *Microtoena coreana*. Since it is distributed far from the distribution range of *Microtoena*, Wu (1959) and Hsuan (1965) considered that *Microtoena coreana* should belong to another genus instead of *Microtoena*.

In the present study, the holotype of *Microtoena coreana* is found. This doubtful species seems to be closely relative to species of *Caryopteris* Bunge (1835: 27) and *Tripora* Cantino (1999: 380) in morphology, but not to that of *Microtoena*. The holotype of *Microtoena coreana* and a large number of specimens of *Caryopteris*, *Tripora*, and *Microtoena* are carefully examined. Statistical analysis of multiple characters is carried out in order to reconsider the taxonomic status of this doubtful species.

Material & Methods

The holotype of *Microtoena coreana* preserved in the herbarium E, and a large number of specimens of its allies from

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