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# DOES THE GENUS *CARYOPTERIS* BUNGE (LAMIACEAE) EXIST IN INDIAN SUBCONTINENT ?

V. SAMPATH KUMAR
*Botanical Survey of India, Central National Herbarium, Howrah 711 103*

The genus *Caryopteris s.l.* comprises 16 species confined to Eastern Asia. The genus is invariably treated either in Verbenaceae (C.B. Clarke, 1885; Briquet, 1895; Moldenke, 1980; Jafri and Ghafoor, 1974; Long, 1999; Press & al., 2000; Rajendran and Daniel, 2002) or in Lamiaceae (Junell, 1934; Cantino & al., 1992; Thorne, 1992; Harley & al.,2004). Briquet (1895) based on the corolla and anther theca characters divided the genus into two sections viz., *Pseudocaryopteris* Briq. and *Mastacanthus* Briq. The former comprises 3 Himalayan species, while the latter accommodates all the other taxa known to him. Abu-Asab & al. (1993) tabulated the correlation between pollen morphology with floral and fruit morphologies and shown 3 well distinguishable groups. Of these, one group comprises all the 3 species of Briquet's section *Pseudocaryopteris*. Earlier in 1992, two different cladistic analyses of Cantino (1992) and Rimpler & al. (1992) suggested that the genus *Caryopteris* is para- or polyphyletic. Recently, Cantino & al.(1999) performed the cladistic analysis based on nonmolecular data as well as chloroplast DNA (rbcL and ndhF) sequences and found that the results were corroborated with the earlier studies (i.e. either para- or polyphyletic if the genus *Caryopteris* retained in present composition of species). In an effort to delimit *Caryopteris* into monophyletic, Cantino & al.*(l. c.)* created 3 new genera accommodating 5 species and transferred 4 species to other genera, which considerably reduced the number of species in *Caryopteris* to seven.

In Indian subcontinent (India, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, and Sri Lanka) the genus *Caryopteris* was represented by four species, of which 3 species recognised under this genus recently by Rajendran and Daniel (2002) in their Indian Verbenaceae account were actually transferred to the genus *Pseudocaryopteris*(Briq.) P.D. Cantino. The other species, *C. nepalensis* Moldenke, endemic to Nepal (Tebbs, 1982; Press & al., 2000), was described as a new monotypic genus *Discretitheca*. Since the taxa *C. nepalensis* Moldenke var. *parvifolia* Moldenke is not so far formally transferred to the genus *Discretitheca*, a new combination has been made hereunder.

## ENUMERATION OF TAXA

### DISCRETITHECA P. D. Cantino

**Discretitheca nepalensis**(Moldenke) P.D. Cantino in Syst. Bot. 23: 381.1999. *Caryopteris nepalensis* Moldenke in Phytologia 7: 77. 1959; Tebbs in Hara & al., Enum. Fl. Pl. Nepal 3: 145. 1982; Press & al., Ann. Checklist Fl. Pl. Nepal 323. 2000.

*Distribution* : Nepal. Endemic.

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**Discretitheca nepalensis** var. **parvifolia** (Moldenke) V.S.Kumar **comb. nov.** *Caryopteris nepalensis* var. *parvifolia* Moldenke in Phytologia 26: 177. 1973; Press & al., Ann. Checklist Fl. Pl. Nepal 324. 2000.

*Distribution* : Nepal. Endemic.

**PSEUDOCARYOPTERIS** (Briq.) P. D. Cantino

**Pseudocaryopteris bicolor** (Roxb. ex Hardw.) P.D. Cantino in Syst. Bot. 23: 381. 1999. *Volkameria bicolor* Roxb. ex Hardw. in Asiat. Res. 6: 349. 1799. *Caryopteris bicolor* (Roxb. ex Hardw.) Mabb. in Manilal, Bot. Hist. Hort. Malab. 83: 1980; Long in Grierson & Long, Fl. Bhutan 2(2): 936. 1999; Press & al., Ann. Checklist Fl. Pl. Nepal 323. 2000; Rajendran & Daniel, The Indian Verbenaceae 63, f.10. 2002. *Volkameria odorata* Roxb., Hort. Beng. 46. 1814, *nom. nud. Clerodendrum odoratum* D. Don, Prodr. Fl. Nepal. 102. 1825. *Caryopteris odorata* (D. Don) B.L. Rob. in Proc. Amer. Acad. Arts 51: 531. 1916; Jafri & Ghafoor in Nasir & Ali, Fl. Pakistan 77: 36. 1974; Moldenke in Phytologia Mem. 2: 529. 1980; Tebbs in Hara & al., Enum. Fl. Pl. Nepal 3: 145. 1982; Moldenke & A. Moldenke in Dassan., Rev. Handb. Fl. Ceylon 4: 484. 1983; Moldenke in Phytologia 53: 201. 1983. *Caryopteris wallichiana* Schauer in A. DC., Prodr. 11: 625. 1847; C.B.Clarke in Hook. f., Fl. Brit. India 4: 597. 1885; Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4(3a): 178. 1895; Kress & al., Checklist Myanmar 388. 2003. *Clerodendrum odoratum* D. Don var. *albiflorum* Voigt, Hort. Suburb. Calcutt. 466. 1845. *Caryopteris odorata* (D. Don) B.L. Rob. f. *albiflora* (Voigt) Moldenke in Phytologia 22: 6. 1971 & 53: 208. 1983.

*Distribution* : India, Pakistan, Nepal, Bhutan, Myanmar, Sri Lanka, China and Thailand.

It is recorded from Myanmar on the basis of report of its one of the synonyms *Caryopteris wallichiana* by Kress & al. (*l.c.*). Rajendran and Daniel (*l.c.*) cited C. B. Robinson as combination made author for *Caryopteris odorata,* but it should be B. L. Robinson

**P. foetida** (D.Don) P. D. Cantino in Syst. Bot. 23: 381. 1999. *Clerodendrum foetidum* D. Don, Prodr. Fl. Nepal. 103. 1825; Schauer in A. DC., Prodr. 11: 672. 1847. *Caryopteris foetida* (D. Don) Thell. in Vierteljahrschr. Naturf. Ges. Zurich 64: 782. 1919; Tebbs in Hara & al., Enum. Fl. Pl. Nepal 3: 145. 1982; Press & al., Ann. Checklist Fl. Pl. Nepal 323. 2000; Rajendran & Daniel, The Indian Verbenaceae 67. 2002. *Clerodendrum gratum* Wall. ex Walp., Repert. Bot. Syst. 4: 113. 1845. *Caryopteris grata* (Wall. ex Walp.) Benth. in Benth. & Hook. f., Gen. Pl. 2: 1158. 1876; C. B. Clarke in Hook. f., Fl. Brit. India 4: 597. 1885; Briq. in Engl. & Prantl, Nat. Pflanzenfam. 4(3a): 178. 1895; Jafri & Ghafoor in Nasir & Ali, Fl. W. Pakistan 77: 37. 1974; Moldenke in Phytologia Mem. 2: 529. 1980.

*Distribution* : India, Pakistan and Nepal.

**P. paniculata** (C. B. Clarke) P. D. Cantino in Syst. Bot. 23: 381. 1999. *Caryopteris paniculata* C. B. Clarke in Hook. f., Fl. Brit. India 4: 597. 1885; Briq. in Engl. & Prantl, Nat. Planzenfam. 4(3a): 178. 1895; Moldenke in Phytologia Mem. 2: 529. 1980 & in Phytologia 53: 209. 1983; Tebbs in Hara & al., Enum. Fl. Pl. Nepal 3: 146. 1984; Long in Grierson & Long, Fl. Bhutan 2(2): 936. 1999; Press & al., Ann. Checklist Fl. Pl. Nepal 324. 2000; Rajendran & Daniel, Indian Verbenaceae 69. 2002.

*Distribution*: India, Pakistan, Nepal, Bhutan, Myanmar, China and Thailand.

This species was not recorded in 'Flora of West Pakistan' by Jafri and Ghafoor (1974), who reported only the previous two species. Its distribution in Pakistan is included here based on the report of Moldenke (*l.c.*) and Rajendran and Daniel (*l.c.*).

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