

NEW PLANTS FROM NETARHAT PLATEAU, BIHAR-2*

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Abstract

Nine new distributional records for the flora of Bihar State are enumerated, consequent upon the intensive studies carried out by the author on the flora of Netarhat Plateau, Bihar. The taxa included here are: *Pterospermum xylocarpum* (Gaertn.) Sant. & Wagh; *Rhamnus wightii* Wight & Arn.; *Vitis heyneana* Roem & Schult; *Pseudelephantopus spicatus* (Juss. ex Aubl.) Rohr. ex Gleason; *Cynoglossum zeylanicum* (Vahl) Thunb. ex Lehm.; *Plectranthus striatus* Benth.; *Pogostemon parviflorus* Benth.; *Ajuga bracteosa* Wall. ex Benth. and *Satureja umbrosa* (M. Bieb.) Scheele, with comments on their identity and distribution.

The specimens on which these records, new to the State of Bihar, are based are lodged in the Herbarium of the National Botanical Research Institute, Lucknow (LWG).

Sterculiaceae

1. *Pterospermum xylocarpum* (Gaertn.) Sant. & Wagh in Bull. Bot. Surv. India **5** (2) : 108. 1963. *Velaga xylocarpa* Gaertn. Fruct. **2** : 245. t. 133. 1791. *Pterospermum heyneanum* Wall. ex Wight & Arn. Prodr., **69**. 1834; Masters in Fl. Brit. India **1** : 369. 1872; Haines, Bot. Bih. & Orissa **2** : 79. 1921 (*non* G. Don 1831).

Rare in the ravines of the Upper Ghaghra water-fall area.

Fl. : Nov.—Dec. Fr. : April. S. R. Paul 82399.

Distribution—Throughout western Peninsula.

Notes—Closely resembles *P. acerifolium* Willd. but distinguishable by its oblong-acuminate, 5-nerved leaves and much smaller flowers. Also it resembles *P. reticulatum* Wight & Arn. but for its oblique leaves, distinctly longer stipules and bigger flowers.

Rhamnaceae

2. *Rhamnus wightii* Wight & Arn., Prodr. **164**. 1834; Lawson in Fl. Brit. India **1** : 639. 1872; Trimen, Fl. Ceyl. **1** : 283. 1893.

Not common, seen on the hilly slopes near the ravines.

Fl. : Dec.—Jan. S. R. Paul 89848.

Distribution—Western Ghats; Nilgiri & Pulney Hills, up to 610 m and Sri Lanka.

Vitaceae

3. *Vitis heyneana* Roem. & Schult. Syst. **5** : 318. 1820. *V. lanata* Roxb., Fl. Ind. **2** : 474. 1824; ed. 2, **1** : 660. 1832; Lawson in Fl. Brit. India **1** : 651. 1872; Haines, Bot. Bih. & Orissa **2** : 203. 1921; Hara, Fl. E. Himal. **201**. 1966.

Rare in dense mixed forest at Koorgee, 975 m. Fl. & Fr. : Dec.—April. S. R. Paul 96164.

Distribution—Kashmir to Sikkim; Assam; Lower Himalayas; Eastern Bengal; Eastern Ghats, Burma; China.

Note—Haines (1921) cites Campbell and Watt's collection from Manbhum—a locality now outside the present boundary of Bihar and with remarks—"but I have seen no specimen from our area and it may be an error in identification". *Vitis vinifera* Linn. (a native of West Asia and Mediterranean) seen under cultivation in gardens is though closely related to *V. heyneana* but differs from

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the latter in the absence of tendrils on the inflorescence—peduncles on one hand and from *V. parviflora* Roxb. in its longer petals and pubescence on the other. Sometimes *V. heyneana* is also confused with *Cissus adnata* (Roxb.) Wall. (= *V. adnata* Roxb.) but differs in having polygamous dioecious flowers arranged in 7.5–15 cm long thyrsoid panicles, 5–merous slender pedicelled flowers and the calyptrate corolla. Lawson (*loc. cit.*) has recognised three varieties. My specimens stand closer to the typical variety.

Asteraceae

4. *Pseudelephantopus spicatus* (Juss. ex Aubl.) Rohr ex Gleason, Bull. N. Y. Bot. Gard. **4** : 242. 1906 & N. Amer. Fl. **33** : 109. 1922; Koster, Blumea **1** : 465. 1935; Philipson, J Bot. **76** : 301. 1938; Datta & Mitra, Indian For. **87** : 308. f. 3. 1961.

Rare in ravines.

Fl. : Dec.—Feb. *S. R. Paul* 94460.

Distribution—Tropical central and South America; Africa. Introduced in S-E. China (Hongkong); Formosa; Marianne Islands; Batan Islands; Philippines; Java and India.

Boraginaceae

5. *Cynoglossum zeylanicum* (Vahl ex Hornem.) Thunb. ex Lehm. Neue Schriften Naturf. Ges. Halle **3**(2) : 20. 1817; Brand, Pflanzenr. IV. 252 (Heft 78) : 134. 1921, excl. var. *lanceolatum* Clarke; Riedl in Rechinger, Fl. Iranica **48** : 145. 1967; Kazmi in J. Arn. Arb. **52** : 344. 1971. *Anchusa zeylanicum* Vahl ex Hornem. Enum. Hafn. **3** : 2.1 807.

C. frucatum Wall. ex Roxb., Fl. Indica **2** : 6. 1824. *C. coeruleum* Buch.—Ham. ex D. Don, Prodr. Fl. Nepal 100. 1825.

In open waste places and grasslands, not common.

Fl. & Fr. : Feb.—April. *S. R. Paul* 96745.

Distribution—Afghanistan; Pakistan; India and Sri Lanka; Philippines; Japan and China.

Labiatae

6. *Plectranthus striatus* Benth. in Wall. Pl. As. Rar. **2** : 17. 1830; Hook. f., Fl. Brit. India **4** : 618. 1885; Mukerjee in Rec. Bot. Surv. India **14**(1) : 43. 1940. *P. gerardianus* Benth. in Wall. Pl. As. Rar. **2** :

17. 1830; Hook. f., Fl. Brit. India **4** : 167. 1885. (incl. var. *brachyantha* Hook. f.). *P. stocksii* Hook. f., Fl. Brit. India **4** : 618. 1885.

Frequently met with on hilly slopes in association with *Azanza lampas* near the ravines at Upper Ghaghra Water Fall area. Fl. Nov.—Dec. *S. R. Paul* 82381.

Distribution—Kashmir to Bhutan, 1000–4000 m; Assam; Burma; China.

7. *Pogostemon parvifloras* Benth. in Wall. Pl. As. Rar. **1** : 31. 1830 et in DC, Prod. **12** : 152. 1848; Hook. f., Fl. Brit. India **4** : 632. 1885; Prain, Beng. Pl. 849. 1903; Haines, Bot. Bih. & Orissa **4** : 738. 1922; Mukerjee in Rec. Bot. Surv. India **14**(1) : 68. 1940. *P. frutescens* Grah. Cat. Bomb. Pl. 149. 1839. *P. purpuricaulis* Dalz. in Hook., Kew Jour. **2** : 336. 1850; Dalz. & Gibson, Bomb. Fl. 207. 1881.

Rare in ravines along water courses.

Fl. Dec.—April. *S. R. Paul* 89900.

Distribution—Kumaon to Bhutan; Konkan; Assam and Burma.

Note—Resembles *P. plectranthoides* Desf. but distinguishable by its much more slender spikes and narrower bracts.

Haines (*loc. cit.*) expressed doubt if this taxon extends to the Champaran Hills, an extreme north-western locality in Bihar. However, now it is being recorded from the central-western corner of the province.

8. *Ajuga bracteosa* Wall. ex Benth. in Wall. Pl. As. Rar. **1** : 59. 1830; Hook. f., Fl. Brit. India **4** : 702. 1885; Haines, Bot. Bih. & Orissa **4** : 754. 1922; Mukerjee in Rec. Bot. Surv. India **14**(1) : 224. 1940; Hedge in Notes R. B. Gard. Edin. **27** : 150. 1966-67. *A. remota* Benth. *loc. cit.* **1** : 59.

Uncommon in waste places and grasslands.

F. : Jan.—March. *K. K. Singh* 2546 (CDRI)

Distribution—N-W. Frontier Province; Kashmir; Punjab; Kumaon; Nepal; Afghanistan; Tibet; China; Japan and Abyssinia.

9. *Satureja umbrosa* (M. Bieb.) Scheele in Flora **26** : 577. 1843; Bunnemeyer in DC. Tropische Natur **7** : 101. f. 3 & 102. 1918. *Calamintha umbrosa* (M. Bieb.) Fisch. & Mey., Ind. Sem. Hort. Petrop. **6** : 6. 1840; Prain, Beng. Pl. 853. 1903; Mukerjee in Rec. Bot. Surv. India **14** (1) : 98. 1940; Hedge in Notes R. Bot.

Gard. Edin. **27** : 151. 1966-67. *Melissa umbrossa* M.-Bieb., Fl. Taur.—Cauc. **2** : 63. 1808. *Clinopodium umbrosum* (M.—Bieb.) Koch. in Linnaea **21** : 673. 1848; Hara in Fl. E. Himal. 272. 1966. *Calamintha repens* (Don.) Benth. in DC, Prodr. **12** : 233. 1848.

Rare in valleys below the lower Ghaghra Water Falls.

Fl. : Oct.—Feb. S. R. Paul 92247.

Distribution—Caucasus; Iran; Afghanistan; W. Pakistan; Nepal; Sikkim; Kashmir to Bhutan; Assam and Burma.

Note—Controversial opinions have been expressed about the delimitation of *Calamintha*. Koch (Linnaea 21: 673. 1848) merged it with *Clinopodium*. Bentham (Lab. Gen.

Sp. 384. 1834.) treated *Calamintha* as a section of *Melissa* and distinguishes *Micromeria* from *Satureja* mainly by the calyx which is 13-nerved. Specimens from Bihar are generally met with 10-11-nerved calyx and thus support Briquet's (in E & P. Nat. Pfl. Fam. 4, 3a. 301. 1896) concept that *Micromeria* and *Calamintha* be reduced to *Satureja*. This broad concept of the genus is adopted here.

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