

Smt. Chhabi GHORA* & G. PANIGRAHI*: **Taxonomic delineation
within *Rosa clinophylla* Thory complex**

S. C. ゴラ・G. パニグラヒ: *Rosa clinophylla* 類の分類学的記述

Robertson (1974) accepts, in general, Rehder's (1940) classification of the subgen. *Rosa* into 10 sections, of which species belonging to 9 sections (the 10th one being section *Carolineae* Crep.) occur in India. Section *Bracteatae* Thory, to which *Rosa clinophylla* Thory belongs, is nearest to sect. *Rosae* and sect. *Pimpinellifoliae* DC. in possessing solitary flowers but is distinguished from them as keyed below:

- 1a. Stipules adnate, acute with dilated auricles at base. Prickles scattered; branches usually glabrous. Flowers ebracteate
..... Sect. *Pimpinellifoliae* DC. and sect. *Rosae*
- 1b. Stipules slightly adnate with pectinate margin; prickles in pairs just below the stipules; branches tomentose. Flowers with large tomentose bracts
..... Sect. *Bracteatae* Thory

The present communication deals with the section *Bracteatae* Thory comprising three species, of which two species (and one with two additional varieties) occur in India, the third species, *R. bracteata* Wendl. being indigenous to China and Japan. J. D. Hooker (1878) reduced *R. lyellii* Lindl. as a synonym of *R. involucrata* Roxb. (1832) and Rehder (1940) as a synonym of *R. clinophylla* Thory. However, Hooker's statement that "except that one is described as scandent, I cannot distinguish *R. involucrata* from *R. lyellii*", appears to us not quite correct. Hara (1979) includes *R. lyellii* Lindl. as a doubtful synonym of *R. clinophylla* Thory. The two species are distinguished here as follows:

- 1a. Prickles pointed upwards. Leaflets eglandular on midrib and pale beneath, apex obtuse or rounded, margin closely serrate. Hypanthia and pedicels eglandular. Flowers usually solitary, sometimes in cluster. Sepals entire
..... *R. clinophylla*
- 1b. Prickles pointed downwards. Leaflets glandular on midrib and glaucous beneath, apex acute, margin distantly serrate. Hypanthia slightly glandular and

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pedicels distinctly glandular. Flowers in corymbs, 3-7 together. Sepals with few appendages.....*R. lyellii*

1) ***Rosa clinophylla*** Thory in Redoute, Les Ros. 1: 43. t. 10. 1817 (May), et 3: pl. 24.2. 1835 (as '*Clynophylla*'); Lindl., Ros. Monogr. 137. 1820 (as species dubiae); Rehder, Man. ed. 2. 451. 1940; Robertson in Journ. Arn. Arb. 55: 616. 1974; Hara et al., Enum. Fl. Pl. Nepal 2: 143. 1979. Type: (?) China; cultivated in gardens in Paris, July, M. Boursault s.n. (? P).

R. involucrata Roxb. [Hort. Beng. 38. 1814, nom. nud.] ex Lindl., Rosa. Monogr. 8. 1820; Ker-Gawler in Edwards Bot. Reg. 9: t. 739. 1823-1824; D. Don, Prodr. Fl. Nepal. 235. 1825; Wall. Num. List. no. 696. 1829; Roxb., Fl. Ind. 2: 513. 1832; Brandis, For. Fl. 199. 1874; Crep. in Bull. Soc. Bot. Belg. 14: 140. 1875; Hook. f., Fl. Brit. Ind. 2: 365. 1878 p.p. excl. syn. *R. lyellii* Lindl.; Prain, Beng. Pl. 2: 466. 1903, et in Rec. Bot. Surv. Ind. 3: 209. 1905; Duthie, Fl. Up. Gang. Pl. 1: 327. 1903 (Rep. ed. 302. 1960); Haines, Bot. Bihar & Orissa Pt. III. 340. 1922.

Type: Nepal, Dr. Buchanan s.n. (? BM).

R. multiflora Buch.-Ham. in Sched., non Thunb. (1784).

Although Lindley (1820) did not notice any fundamental differences between *R. clinophylla* Thory (1817) and *R. involucrata* Roxb. ex Lindley (1820), he treated the two as distinct in difference to the judgement of Sabine's. He, however, stated that "absence of bracteate in *clynophylla* which as they are not noticed in the description, I conclude really not to be present". It is true that Thory (l.c.) did not refer to the presence of bracts either in the diagnosis or in his description of *R. clinophylla* but he observed "this rose can be distinguished from all others by the disposition of its leaves and artificial involucre which envelopes its flowers and this appeared to us as sufficient characters for constituting a new species" (English translation of the original French text).

In describing *R. involucrata* Roxb., J.D. Hooker (l.c.) referred to the "Lindley's varieties *burmana*, *parvifolia*, *glabra* and *acutifolia* (in Wall. Herb.) and stated that they explain themselves". It is noticed that in Wall. Num. list no. 696 (1829) named *R. involucrata* Roxb., Lindley named four varieties as alluded to by J.D. Hooker, such as β . *burmana* Lindl., γ . *parvifolia*, δ . *glabra* and ϵ . *acutifolia*. Despite the statement of Hooker that these names explain themselves we have to treat the four named varieties of *R. clinophylla* as nomen nuda. We propose to describe 2 of the four varieties which we have

detected among specimens in CAL, recycling the same epithets, as in Hooker (1878), to maintain the continuity of their use in a historical sense. The varieties are keyed below :

- 1a. Leaflets elliptic-lanceolate, tomentose-woolly beneath. Hypanthia spherical in shape var. *clinophylla*
 1b. Leaflets elliptic, glabrous on both sides except the midrib beneath. Hypanthia oblong in shape 2
 2a. Leaflets 2.7-4.0×0.7-1.3 cm. Flowers up to 5.5 cm across. Pedicels up to 10 mm long var. *glabra*
 2b. Leaflets 1.2-1.8×0.5-0.9 cm. Flowers up to 2 cm across. Pedicels up to 2 mm long var. *parvifolia*

Var. **clinophylla** (Fig. 1A, B, C, D, E, F, G, H)

Shrubs, branches pale brown, flexuose, densely very shiny bright soft tomentose. Prickles bright brown up to 7 mm long with narrow base (2 mm) usually in pairs, straight pointing upwards on branches below the stipules. Leaves 7.0-7.5 cm; leaflets 7-9, 15-25×8-12 mm, ovate-lanceolate, base cuneate to round, apex obtuse to round, margin blunt serrate-cuspidate to serrate with glandular tips, deep green above with conspicuous denticulations, veins whitish tomentose beneath. Petioles and rachis tomentose, glandular with small prickles. Stipules 4×3 mm, margin fringed, the serratures sometimes stalked, glandular, villous. Flowers usually solitary, sometimes in cluster, 3.5 cm across. Pedicels 5-10 mm long, thick, tomentose, eglandular. Bracts at the base of the hypanthia usually 3.7×2 mm, lanceolate, pectinate, woolly; bracts at the base of the pedicels, 15×6 mm, lanceolate, woolly, ± lacinate. Hypanthia 5×8 mm, round, woolly, eglandular. Sepals 5, 13-14×3-5 mm, erect, ovate-lanceolate, apex acute, margin entire, woolly on both sides. Petals 5, 20-25×16-17 mm, emarginate, obovate, white. Stamens numerous, filaments up to 7 mm long. Carpels numerous, sessile or stipitate included within the floral cup, 3 mm long, free; styles terminal, villous, slightly exerted; disc convex. Fruit 9-20×10-18 mm, round, tomentose.

Bangulab (Beng.).

Flowering: February-April.

Ecology: Wild as bushes in plains, marshes, river banks, in the jungles of reeds; sometimes on the sandy alluvium at bottom of narrow ravine; in the rainy season it gets submerged in water, the fruiting stems only emerging the

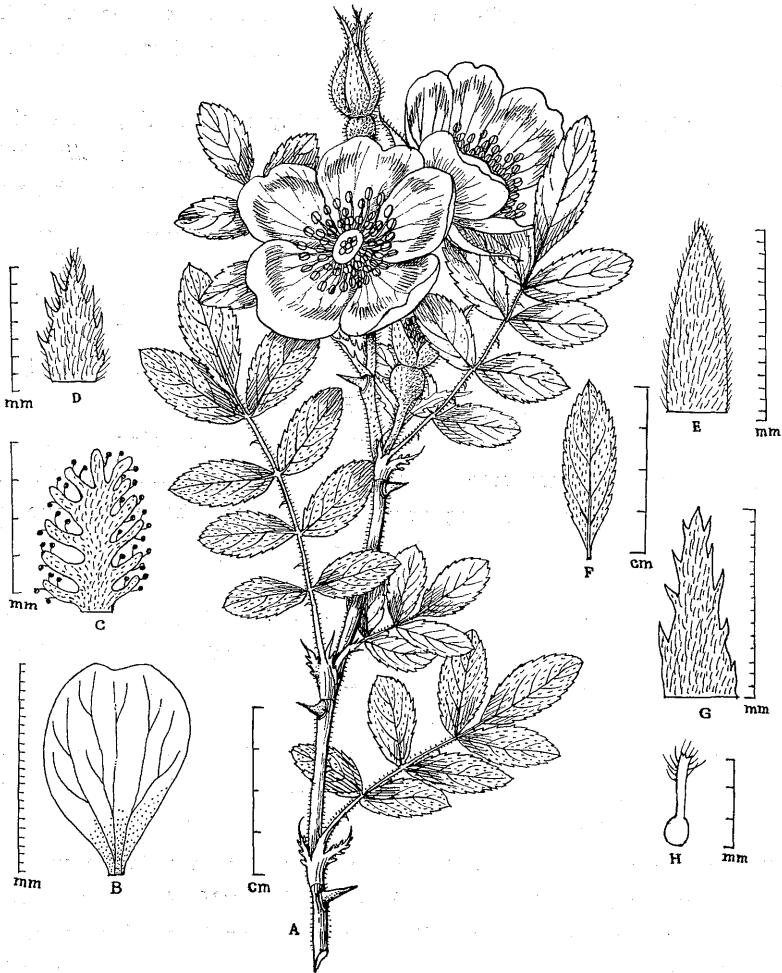


Fig. 1. *Rosa clinophylla* Thory. A. Habit showing solitary flower, hypanthia and pedicels eglandular, tomentose, leaflets tomentose-woolly beneath. B. Petal. C. Stipule villous with fimbriate margin and stalked glands. D. Pectinate and woolly bract at the base of hypanthium. E. Sepal woolly with entire margin. F. Leaflet tomentose beneath. G. Woolly bract at the base of pedicel, lacinate. H. Carpel.

water level.

Distribution. India (Haryana, Rajasthan, Uttar Pradesh, Karnataka, Bihar, Orissa, West Bengal, Assam, Manipur), Bangladesh, Nepal, China, Burma, Thai-

land and Laos.

Representative specimens. India. West Bengal: Hoogly, Carraghola ghat, S. Kurz s.n. (CAL); Hoogly, 31 Jan. 1867, T. Anderson s.n. (CAL); 24 Parganas, near Dum Dum Air Port, 21 Feb. 1984, Pandey 1378 (CAL). Bihar: Purnea distr. Mechi Bank at Kaimoni, 1 Feb. 1911, I.H. Burkill 34152 (CAL). Assam: Naogaon distr., Ganja Mahal, Feb. 1893, D. Prain s.n. (CAL); Naogaon distr., Simons s.n. (CAL). Orissa: Bonai, Balitakudar, 135 m, 3 June 1950, Mooney 3812 (DD, K); Bamra, Naikul, 110 m, 24 Feb. 1950, Mooney 3738 (DD).

Var. **glabra** Ghora et Panigrahi, var. nov. (Fig. 2A, B, C, D, E, F).

Var. *clinophyllae* similis, a qua differt foliis ellipticis utrinque glabris, costis infra exceptis, floribus majoribus usque ad 5.5 cm diametro, bracteis in mediis pedicellorum portatis.

Types. Holotype. Bangladesh: Sylhet, March 1886, G. Mann s.n. (CAL, acc. no. 151422); Isotype (CAL).

R. involucrata Roxb. δ *glabra* Lindl. in Wall., Num. List. no. 696d (1829), nom. nud.; Hooker f., Fl. Brit. Ind. 2: 365. 1878, sine descript. nom. invalid.

Shrub, 4-6 m high; branches slightly tomentose or glabrous, distantly prickly below; the stipules usually in pairs, erect, pointing upwards, barks usually deep brown to black. Leaves 7-8 cm; leaflets 9-11, 2.7-4 \times 0.7-1.3 cm, elliptic, base cuneate, apex acute, margin serrate, glandular, deep green to blackish above, glaucous-glabrous beneath except the midrib. Petioles villous with some prickles, rarely glandular. Stipules 4-5 mm long, margin pectinate, villous, stalked, glandular. Flowers usually solitary, axillary, 5.5 cm across. Pedicels 2-10 mm long, shiny woolly, up to 3 mm thick. Bracts usually 3-5 at a distance of 4-5 mm from the base of hypanthia, 12 \times 4 mm, shiny, whitish tomentose, lanceolate, margin pectinate. Hypanthia 8 \times 5 mm, subglobose, shiny woolly, eglandular. Sepals 16 \times 5 mm, lanceolate, base broad, apex linear, margin entire, shiny woolly-tomentose on both sides. Petals 2 \times 2.5 cm, obovate to round, yellow. Stamens numerous, filaments up to 5 mm long. Carpels numerous, sessile, included within the floral cup; styles terminal, up to 3 mm long, free; stigma woolly; disc convex. Fruit 12 \times 10 mm, globose, woolly, eglandular.

Flowering: March—April.

Ecology: Occurs wild in mountains and along river bank or in jheel areas.

Distribution: India (W. Bengal, Bihar, Assam, Meghalaya, Manipur, Uttar Pradesh, Andhra Pradesh) and Bangladesh.

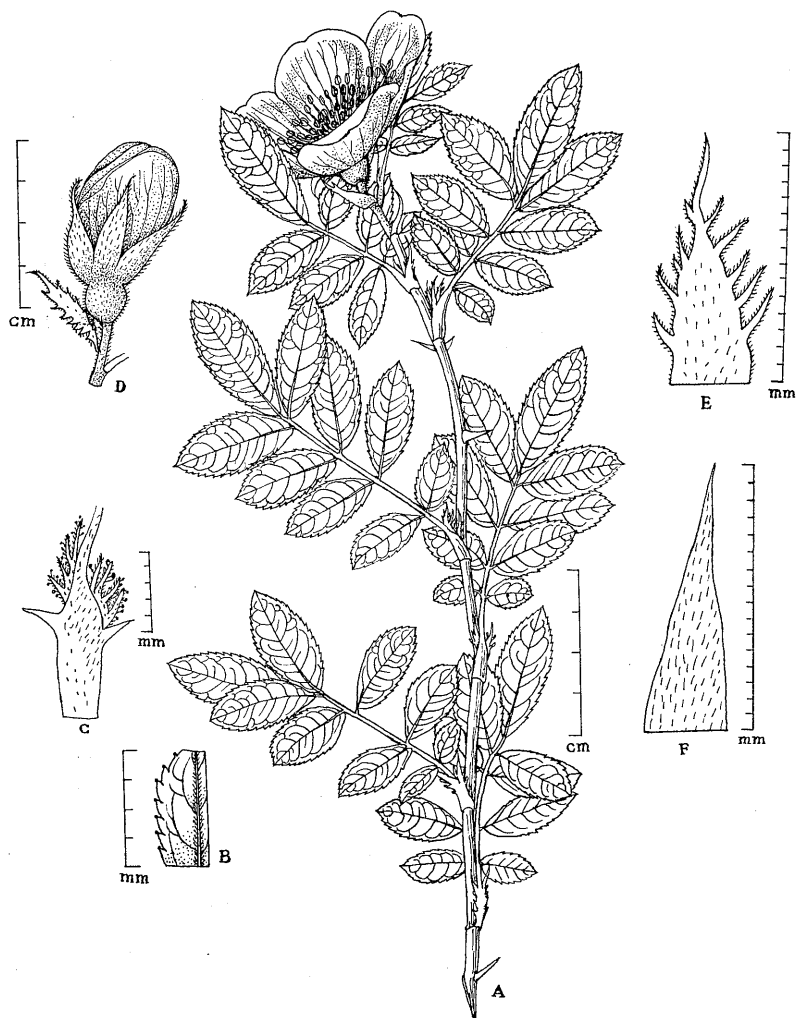


Fig. 2. *Rosa clinophylla* Thory var. *glabra* Ghora et Panigrahi. A. Habit showing glabrous leaflets and long pedicels. B. Part of a leaflet showing glabrous beneath except the midrib and margins glandular. C. Stipule woolly and stalked glandular. D. Flower bud with oblong hypanthium and bract at the base, pedicel long. E. Bract tomentose, pectinate margin. F. Sepal woolly tomentose, margin entire.

Specimens examined in CAL. India. Manipur: Manipur city, 600-900 m, Feb. 1882, G. Watt 7271; Waithong, 4 Mar. 1954, D.B. Deb 2009. Assam:

Jenkins s.n. Ganah, Mar. 1893, Dr. King's collector s.n. Sibsagar distr. Mar., sine lect. 2529; Lower Assam, Brahmaputra Plains, Mar. 1876, Kurz 79. West Bengal: Jatrapur, 14 Mar. 1895, G. Watt 10306; Malda, Saluka hill area, 28 Apr. 1966, R.M. Dutta 245. Bihar: Patna, 10 Jan. 1876, C.B. Clarke 26877A; Choto Nagpur, Feb. 1903, Dr. Prain's collector 77. Uttar Pradesh: Apr. 1902, R.S. Hole 171; Gorakhpur, 17 Apr. 1898, Harmkh 21608/a. Andhra Pradesh: Vizagapatnam, Apr. 1877, J. Ball. s.n. Bangladesh. Pundua in Silhet, Wallich 696d (K-Wall, microfiche CAL!).

Var. **pavifolia** Ghora et Panigrahi, var. nov. (Fig. 3A, B, C, D, E, F, G).

Var. *clinophyllae* similis, a qua differt foliolis parvioribus (usque ad 1.8 cm longis et 0.9 cm latis), floribus usque ad 2 cm diametro, pedicellis brevioribus (2 mm longis).

Holotype. Manipur, 4 Mar. 1954, D.B. Deb 2009 (CAL). Paratypes. Bihar, Chotonagpur. J.J. Wood s.n. Uttar Pradesh, Kumaon, R. Blinkworth vide Wall. Num. list no. 696γ.

R. involucrata Roxb. γ *parvifolia* Lindl. in Wall., Num. List No. 696 (1829) nom. nud.; Hooker f., Fl. Brit. Ind. 2: 365. 1878, sine descript. nom. invalid.

Bushy shrub; branches glabrous, young branches tomentose, barks black, prickles erect, slightly pointing upwards, usually in pairs just below the stipules. Leaves 3.5-4.5 cm; leaflets 7-9, 12-18 × 5-9 mm, elliptic, base cuneate, apex round-acute, margin serrate, glandular, deep green above, pale green beneath, glabrous on both sides except the midrib beneath. Petioles woolly, with pricklets. Stipules 3-4 mm long, lacinate, glabrous, glandular. Flowers solitary, 2 cm across. Pedicels 2 × 1.5 mm, woolly. Bracts 3-4, 8 × 2 mm, lanceolate, apex linear, lacinate, woolly on both sides. Hypanthia 4 × 4 mm, globose, woolly. Sepals 5, 12 × 3 mm, lanceolate, margin entire, woolly outside, tomentose, glandular inside. Petals 13 × 14 mm, slightly emarginate. Stamens numerous. Carpels many, sessile, included within the floral cup; styles up to 2 mm long; stigma woolly.

2) **Rosa lyellii** Lindl. Ros. Monogr. 12, t 1. 1820; Brandis, For. Fl. 199. 1874; Crepin in Bull. Soc. Bot. Belg. 14: 143. 1875; Hooker f., Fl. Brit. Ind. 2: 365. 1878, pro syn. (Fig. 4A, B, C, D, E, F).

Type: Nepal, Wallich s.n. (BM)

Other type collections: Wallich 682 (K-Wall, microfiche CAL), Wallich 682A (CAL, acc. no. 151437).

Bushy shrub; branches prickly, usually in pairs, erect, usually pointing

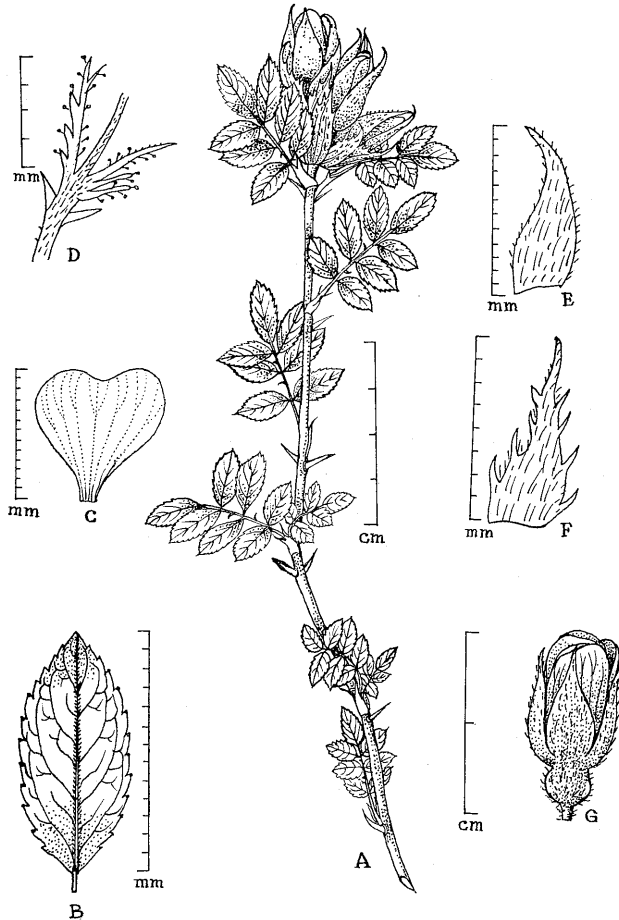


Fig. 3. *Rosa clinophylla* Thory var. *parvifolia* Ghora et Panigrahi: A. Habit showing smaller leaflets, flowers and short pedicels. B. Glabrous leaflet, pubescent beneath on midrib. C. Petal. D. Stipule small, glabrous. E. Sepal woolly, margin entire. F. Bract lacinate, woolly. G. Flower showing globose hypanthium and hairy pedicel.

downwards, tomentose, sometimes very fine glandular bristles present. Leaves up to 7 cm long; leaflets 5-7, 25-30×7-12 mm, elliptic-ovate, base cuneate to round, apex acute, margin distantly glandular serrate, deep green above, glaucous, glabrous beneath except the midrib. Sometimes glandular on midrib. Petioles tomentose with pricklets, slightly stalked glandular. Stipules 10×1.5 mm, margin

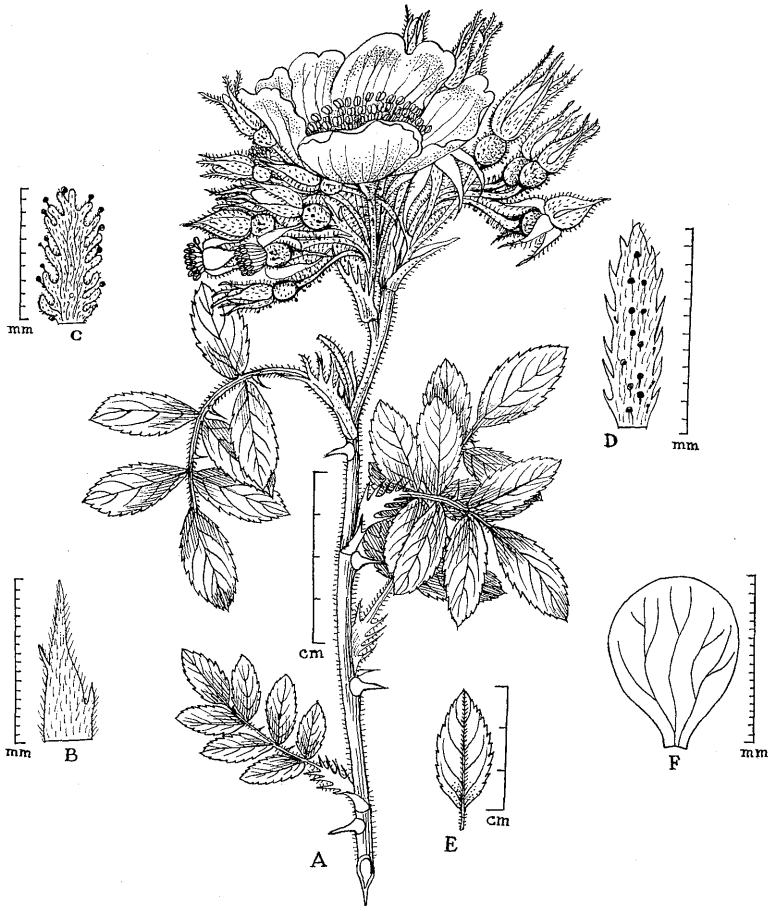


Fig. 4. *Rosa lyellii* Lindl. A. Habit showing corymbose inflorescence, long, slender, glandular, tomentose pedicels, hypanthia villous, glandular. B. Sepal villous, margin with few appendages. C. Stipule woolly, margin fimbriated, glandular. D. Bract villous, glandular, margin pectinate. E. Leaflet glabrous except the midrib beneath. F. Petal.

fringed, villous, glandular. Flowers in corymbs, 3-7 flowers together, 3 cm across. Pedicels 15-24 mm long, tomentose, glandular. Bracts usually 2-3 at 5-10 mm distance from the hypanthia, 13×3 mm, margin, more or less entire, sometimes with few appendages, glandular, villous. Bracts at the base of peduncles usually 2(-3), 12×2 mm, lanceolate, margin pectinate, glandular, villous. Hypenthia 5×4 mm, subglobose; sometimes dark glandular, villous. Pedicels

15-20×1.5-2 mm, glandular, tomentose. Sepals 5, 16-18×4-5 mm, lanceolate, linear at apex, margin usually entire, sometimes with some appendages, villous outside, tomentose inside. Petals 18-20×10-15 mm, obovate, white. Stamens numerous, filaments 5-7 mm long. Carpels numerous, sessile or stipitate included within the floral cup; styles up to 3 mm long, free, terminal, slightly hairy, disc convex. Fruits round, orange to red, woolly.

Flowering: April.

Ecology: Wild in mountain areas.

Distribution: India (Uttar Pradesh—Kumaon, Sikkim), Nepal.

Lindley described the bract as entire, but we found it as slightly or deeply dissected in the materials deposited in CAL.

Specimens examined in CAL: India. Sikkim: S. Kurz. s.n. Uttar Pradesh: Saharanpur, 27 Sept. 1845, Garden collection no. 1785; Sagar, Viccary s.n.; Dehra Dun, 5 Apr. 1899, P. W. Mackinnon s.n.; Gorkhpur, 7 Apr. 1898, Harsukh 21608 (DD). Madhya Pradesh: Jabbalpur, Jublee Public Gardens, H. S. Hole s.n. (D. D.). Rajasthan: Oorya, Aboo, 26 Apr. 1868, G. King s.n.

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ヒマラヤ産の *Rosa lyellii* Lindl. は *R. clinophylla* Thory (*R. involucrata* Roxb.) と合一されたこともあるが、別種であると考え。また *R. clinophylla* の下に新たに 2 変種を認めた。これらの区別は検索表で明かにし、おのおのに詳しい記述をつけ図解した。