

Four New Species of Himalayan *Prunus* Subgenus *Cerasus* (Rosaceae-Prunoideae)

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(Received 15 Aug. 2010; accepted 22 Sept. 2010)

Abstract Four new species of *Prunus*, *P. topkegolensis* H. Ohba & S. Akiyama, *P. harae* H. Ohba & S. Akiyama, *P. taplejungnica* H. Ohba & S. Akiyama, and *P. singalilaensis* H. Ohba & S. Akiyama, are described from eastern Himalaya. The four new *Prunus* are similar to *P. rufa* and considered to belong to the same section. A key to distinguish the four new species and *P. rufa* is provided.

Key words: Bhutan, *Cerasus*, flora, Himalaya, Nepal, new species, *Prunus*.

During the preparation of the treatment for *Prunus* (Rosaceae), sensu lato, for the Flora of Nepal (Watson *et al.*, 2007), we became aware of four novelties of flowering cherries in the Himalayan region. These novelties are considered to be allies of *Prunus rufa* Hook. f., but different from each other and from *P. rufa* and allied taxa previously described from the Sino-Himalayan region.

The Himalayan species of *Prunus* were studied by Koehne (1913), Yü and Li (1986), Hara (1962, 1968 and 1979) and others, however the taxonomy of the genus is still insufficient, with numerous uncertainties including range of variations within species. Koehne (1913) classified *Prunus rufa*, along with *P. campanulata* Maxim., *P. hosseusii* Diels, *P. cerasoides* D. Don, and *P. trichantha* Koehne, into section *Pseudocerasus* subsection *Puddum*. Yü and Li (1986) moved all of them into section *Serrula* in the genus *Cerasus*. The new species, *P. topkegolensis* closely approaches the Japanese *P. incisa* Franch. & Sav., which is characterized by doubly serrate leaves and an urceolate calyx tube. Recently, Kawasaki (1991) established a new section, *In-*

cisae, of which the type is *P. incisa*. Except for *P. topkegolensis* the affinities of the four new species are uncertain. We like describe them as independent species under such situations. They and *Prunus rufa* are distinguished by a combination of several leaf, flower and pubescence characters, as shown in the following key.

- 1a. Petals glabrous; hairs on lower surface of leaf blade white or pale brown and straight
- 2a. Calyx tube urceolate; leaf blade ovate, margins sharply doubly serrate
.....*P. topkegolensis*
- 2b. Calyx tube tubular; leaf blade lanceolate or narrowly oblong, margins mostly with simple shallow serrations*P. harae*
- 1b. Petals sparsely pubescent; hairs on lower surface of leaf blade brown, crisped
- 3a. Calyx tube 11–15 mm long; leaf blade 2.8–5 cm wide*P. rufa*
- 3b. Calyx tube 7–10 mm long; leaf blade 0.8–2.7 cm wide
- 4a. Calyx tube tubular-campanulate; leaf blade 2.6–5.1×0.8–2 cm; lower surface of leaf blade with dense crisped brown hairs

-*P. taplejungnica*
 4b. Calyx tube tubular with slight constriction near mouth; leaf blade 6.4–7×2.1–2.7 cm; lower surface glabrous or with sparse brown crisped and straight hairs*P. singalilaesis*

1) **Prunus (subgen. Cerasus) topkegolensis** H. Ohba & S. Akiyama, sp. nov. [Figs. 1, 5a, 6a]

Type: E Nepal. Topke Gola, 3700 m (H. Kanai,

H. Ohashi, K. Iwatsuki, H. Ohba, Z. Iwatsuki, & P. R. Shakya 720610, 19 June 1972, holo-TI, iso-TNS).

Differt ex *Pruno rufa* Hook. f. foliis profunde duplo-incisissimis, utrinque glabriusculis exclusio veneris subtus modearato supra sparsim pilosis, flores solitari cum calycem tubo angusti-campanulato plusminusve constricto sub apicem.

Shrubs. Branches slender, spreading, those of



Fig. 1. *Prunus topkegolensis* H. Ohba & S. Akiyama (H. Kanai *et al.*, 720610, TI-holo).

present year glabrous, greenish; those of former years glabrous, pale reddish purple. Leaves petiolate; petiole 6–11 mm long; blade ovate to narrowly ovate, 4.2–6.6×2.1–3 cm at flowering, base rounded to cuneate, margins doubly serrate, somewhat glandular at apex of serration, apex acuminate, lower surface with sparse to moderate white or pale brown straight hairs near base. Flowers usually solitary. Pedicel ca. 13 mm long. Calyx tube urceolate, ca. 7 mm long; lobes triangular-ovate, ca. 2.5 mm long, with sparse pale brown crisped hairs, margins entire or serrate. Petals white or faintly pink, erect at flowering, suborbicular, ca. 5.5×3 mm, glabrous. Style exerted, apically glabrous. Fruits and seeds unknown.

Other specimen examined. **E Nepal.** Topke Gola, [alt. 3700 m] (H. Kanai, H. Ohashi, K. Iwatsuki, H. Ohba, Z. Iwatsuki, & P. R. Shakya 723384, TI).

Since preparing the flora of the Jaljale Himal (Ohba and Akiyama, 1992), we noticed this flowering cherry at Topke Gola in the most interior village in the Mewakhola valley. It appears to be a shrub with numerous slender branches. The leaves with their double sharp serrate margins, are similar to those of the Japanese *Prunus incisa* Franch. & Sav.

Prunus topkegolensis differs from *P. rufa* in having deeply doubly serrate, glabrous leaves except for the pilose nerves on both surfaces, and solitary relatively small flowers with an urceolate calyx tube.

2) ***Prunus* (subgen. *Cerasus*) *harae*** H. Ohba & S. Akiyama, sp. nov. [Figs. 2, 5b, 6b]

Type: Bhutan. Nala–Dou Lam Kengchow–Tzatogang, 3100 m (H. Kanai, G. Murata, H. Ohashi, O. Tanaka, & T. Yamazaki, 26 May 1967, holo & iso-TI).

Petalis glabris, pilis foliorum subtus ablibis vel ferrugineusculis, et erectis ex *Pruno rufa* Hook. f. statim dignoscenda. Ex affinitate *Pruni topkegolensis* H. Ohba & S. Akiyama tubo calycis tubere, foliis lanceolatis vel anguste oblongis margine non profunde serratis simplicibus bene

differt.

Small trees. Branches and branchlets many, those of present year glabrous, greenish; those of former years glabrous, pale reddish purple. Leaves petiolate; petiole 6–12 mm long; blade elliptic, 3.3–5.6×1.5–2.7 cm at flowering, base rounded to cuneate, margins serrate or sometimes doubly serrate, basal serrations, somewhat glandular at apex apex acute to acuminate, lower surface with sparse to moderate white or pale brown straight hairs near base. Flowers usually 1 or 2. Peduncle obsolete, pedicels ca. 2–2.7 cm long. Calyx tube 6–10 mm long; lobes triangular-ovate, 1.9–2.6 mm long, with sparse pale brown straight hairs apically and densely so basally or glabrous, margins serrate. Petals suborbicular, 5.1–7.8×2.7–5.9 mm, glabrous. Style exerted, basally pubescent, apically glabrous.

Other specimens examined. **Bhutan.** Tzatogang–Dotanang, 2500–3200 m (H. Hara, H. Kanai, G. Murata, H. Ohashi, O. Tanaka, & T. Yamazaki 21720, 27 May 1967, TI). W side of Thrumse La, W of Sengor 27 24' 91 00', alt. ca. 3600 m (A. J. C. Grierson & D. G. Long 2573, 7 July 1979, TI).

Prunus harae is known only from Bhutan. The specific epithet honors the late Professor Hiroshi Hara of the University of Tokyo who organized a research team to study of the flora of Bhutan in 1967 (Hara, 1971) and who collected this cherry.

3) ***Prunus* (subgen. *Cerasus*) *taplejungnica*** H. Ohba & S. Akiyama, sp. nov. [Figs. 3, 5c, 6c]

Type: E Nepal. Mechi Zone, Taplejung Distr., Chairam–Andha Phedi–Dorongden, 3520 m (S. Noshiro, S. Akiyama, & N. Acharya 9261245, holo-TI).

Pruno rufa Hook. f. tubo calycis 7–10 mm longo, foliis ellipticis (non lanceolato ellipticoque obovatis) 0.8–2.7 cm latis differt. Ex affinitate *Pruni singalilensis* H. Ohba & S. Akiyama foliis magnitudine 2.6–5.1×0.8–2 (non 6.4–7×2.1–2.7) cm, subtus dense pilis crispulis ferrugineis obtectis divergente.

Shrubs. Branches slender, spreading; those of present year glabrous, greenish; those of former



Fig. 2. *Prunus harae* H. Ohba & S. Akiyama (H. Kanai *et al.*, 26 May 1967, TI-holo).

years glabrous, pale reddish purple. Leaves petio- late; petiole 4–14 mm long; blade elliptic, 2.6– 5.1×0.8–2 cm at flowering, base rounded to cuneate, margins serrate, with a gland at apex of each serration and one gland on margin on either side at base, apex acute to acuminate, lower sur- face with brown crisped dense hairs near base. Flowers usually 1 or 2. Peduncle 1–2 mm long,

pedicels 0.5–2.8 cm long. Calyx tube tubular- campanulate, 7–10 mm long; lobes triangular- ovate, 2–4 mm long, with brown crisped dense hairs, margins serrate. Petals white, suborbicular, 5–6×3–4 mm, with very sparse brown hairs. Style exerted.

Other specimens examined. **E Nepal.** Mechi Zone, Taplejung Distr., Topke Gola–Sewaden



Fig. 3. *Prunus taplejungnica* H. Ohba & S. Akiyama (S. Noshiro *et al.*, 9261245, TI-holo).

(M. Suzuki, N. Acharya, S. Akiyama, H. Koba, S. Noshiro, & K. R. Rajbhandari 9240136, 17 May 1992, TI); alt. 3290 m (M. Suzuki, N. Acharya, S. Akiyama, H. Koba, S. Noshiro, & K. R. Rajbhandari 9263087, 17 May 1992, TI); Wolangchug Gola–Tamur–Yangma Khola junction–Cheni Kharka–Thasa Kharka, alt. 3240 m (M. Suzuki, N. Acharya, S. Akiyama, H. Koba,

S. Noshiro, & K. R. Rajbhandari 9263165, 29 May 1992, TI); Ghunsa–Charmalung–Kharka–Rampuk Kharka–Ghunsa, alt. 3740 m (S. Noshiro, S. Akiyama, & N. Acharya 9263201, 7 June 1992, TI).

Prunus taplejungnica was collected in hilly places around Taplejung, Taplejung District, Mechi Zone. The locality is geographically close

to the type locality of *P. topkegolensis*. The leaves, elliptic and gradually narrowing toward both ends and with conspicuously double serrated margins, distinguish it from *P. topkegolensis* in shape and serration.

4) ***Prunus* (subgen. *Cerasus*) *singalilaensis*** H. Ohba & S. Akiyama, sp. nov. [Figs. 4, 5d, 6d]

Type: Darjeeling, Mts. Singalila, Ramam-Pha-

lut, 2400–3500 m (H. Kanai, G. Murata, M. Togashi, & T. Tuyama 6238, 9 May 1960, holo & iso-TI).

Differt ex *Pruno rufa* Hook. f. tubo calycis 7–10 mm longo, foliis ellipticis (non lanceolato ellipticoque obovatis) 0.8–2.7 cm latis. *Pruno talejungnica* H. Ohba & S. Akiyama foliis magnitudine 6.4–7×2.1–2.7 (non 0.6–5.1×0.8–2) cm, subtus glabris vel pilis et crispulis et erectis fer-

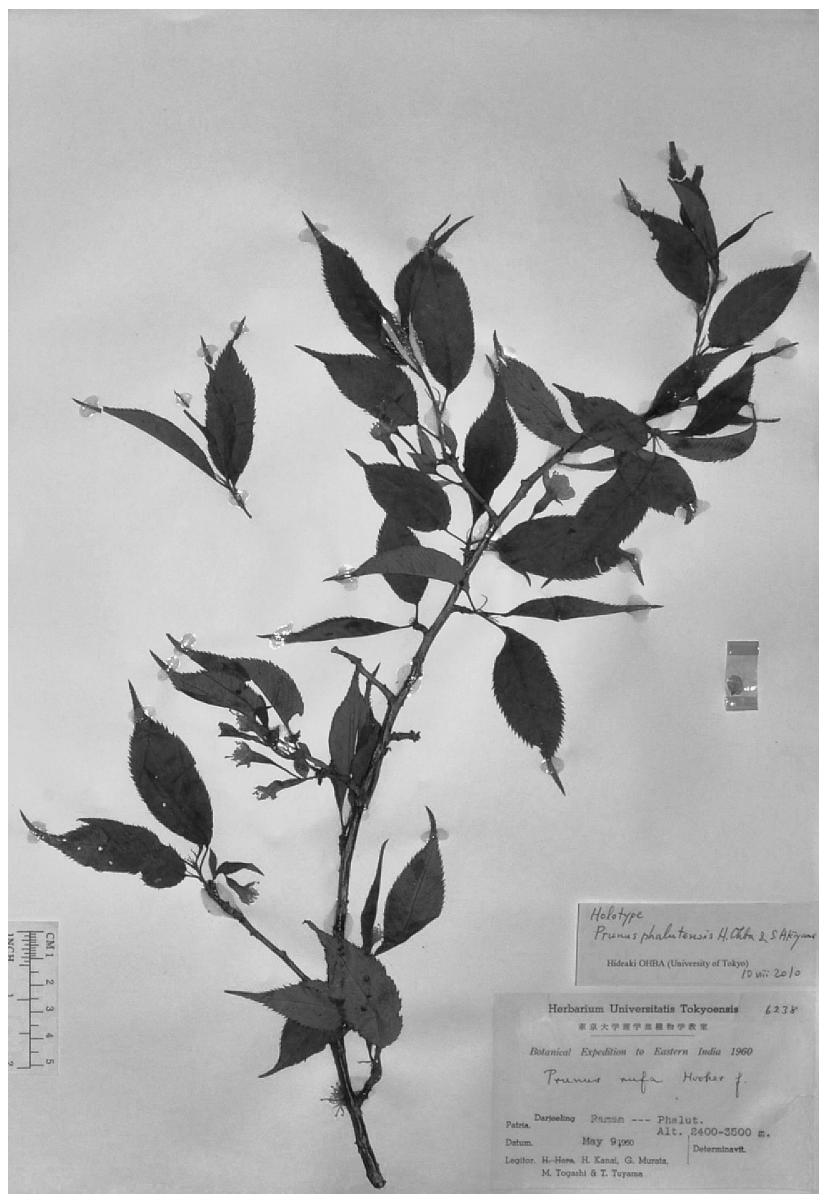


Fig. 4. *Prunus singalilaensis* H. Ohba & S. Akiyama (H. Kanai *et al.*, 6238, TI-holo).

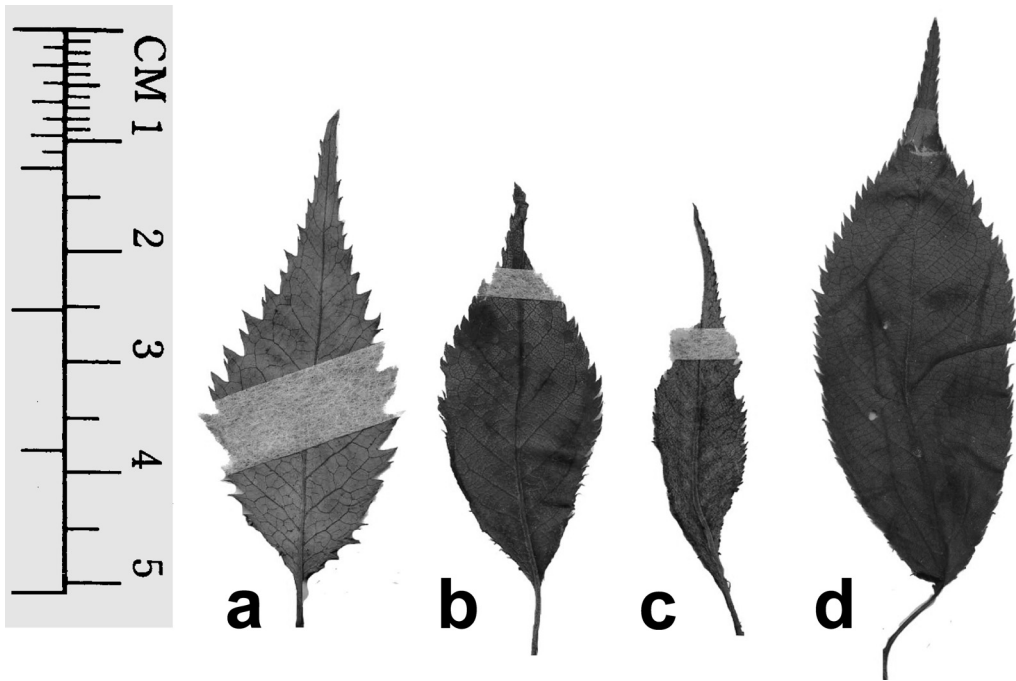


Fig. 5. Leaves at flowering. a: *Prunus topkegolensis* (H. Kanai *et al.*, 720610, TI). b: *P. harae* (H. Kanai *et al.*, 26 May 1967, TI). c: *P. taplejungnica* (S. Noshiro *et al.*, 9261245, TI). d: *P. singalilaensis* (H. Kanai *et al.*, 6238, TI).



Fig. 6. Flowers. a: *Prunus topkegolensis* (H. Kanai *et al.*, 720610, TI). b: *P. harae* (H. Kanai *et al.*, 26 May 1967, TI). c: *P. taplejungnica* (S. Noshiro *et al.*, 9261245, TI). d: *P. singalilaensis* (H. Kanai *et al.*, 6238, TI).

rugineis sparse obtectis divergente.

Shrubs. Branches slender, spreading; those of present year glabrous, greenish; those of former years glabrous, pale reddish purple. Leaves petio- late; petiole 5–14 mm long; blade elliptic to ovate-elliptic, 6.4–7×2.1–2.7 cm at flowering, base rounded to cuneate, margins serrate or sometimes doubly serrate, with a few glands on

margin at base, apex acuminate, lower surface glabrous or with pale brown or brown straight or crisped hairs near base. Flowers usually 1 or 2. Peduncle obsolete, pedicels 5–19 mm long. Calyx tube tubular with slight constriction near mouth, 7–10 mm long; lobes triangular-ovate, 2–4 mm long, with pale brown straight or crisped dense or sparse hairs basally or glabrous, margins

entire or slightly serrate. Petals suborbicular, 5–9×3–7 mm, glabrous or with very sparse brown crisped or straight hairs. Style exerted, glabrous apically, pubescent at middle.

Other specimens examined. **Darjeeling**. Sandakphu–Phalut, alt. 3300–3600 m (H. Hara 6269, 8 May 1960, TI). Ramam–Phalut, alt. 2400–3500 m (H. Kanai, G. Murata, M. Togashi, & T. Tuyama 6238, 9 May 1960, TI). **West Bengal**. Singalila Range, near Phalut, 11000 ft. (F. de Voss & E. G. Corbett 112, 12 May 1965, TI). **Sikkim**. Gamoteng, alt. 3800 m (H. Hara, H. Kanai, G. Murata, M. Togashi, & T. Tuyama 6276, 29 May 1960, TI). **E Nepal**. Arun Valley, Maghang Khola, E of Num, 11000 ft. (J. D. A. Stainton 237, 5 May 1956, TI). Milke Banjgang, 8300 ft. (C. R. Lancaster 3, 21 Apr. 1973, TI).

Prunus singalilaensis, collected in the Singalila Mountains around Phalut by several collectors, differs from the other species described here, especially in the size of the leaves, which reaches 7 cm in length and are shallowly singly serrate. The flowers are similar to those of *P. taplejungnica* in shape and size, but the calyx tube is tubular or urceolate, never tubular-campanulate as in that species.

Acknowledgements

We are grateful to Dr. David E. Boufford, the

Harvard University Herbaria, for reading the manuscript.

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