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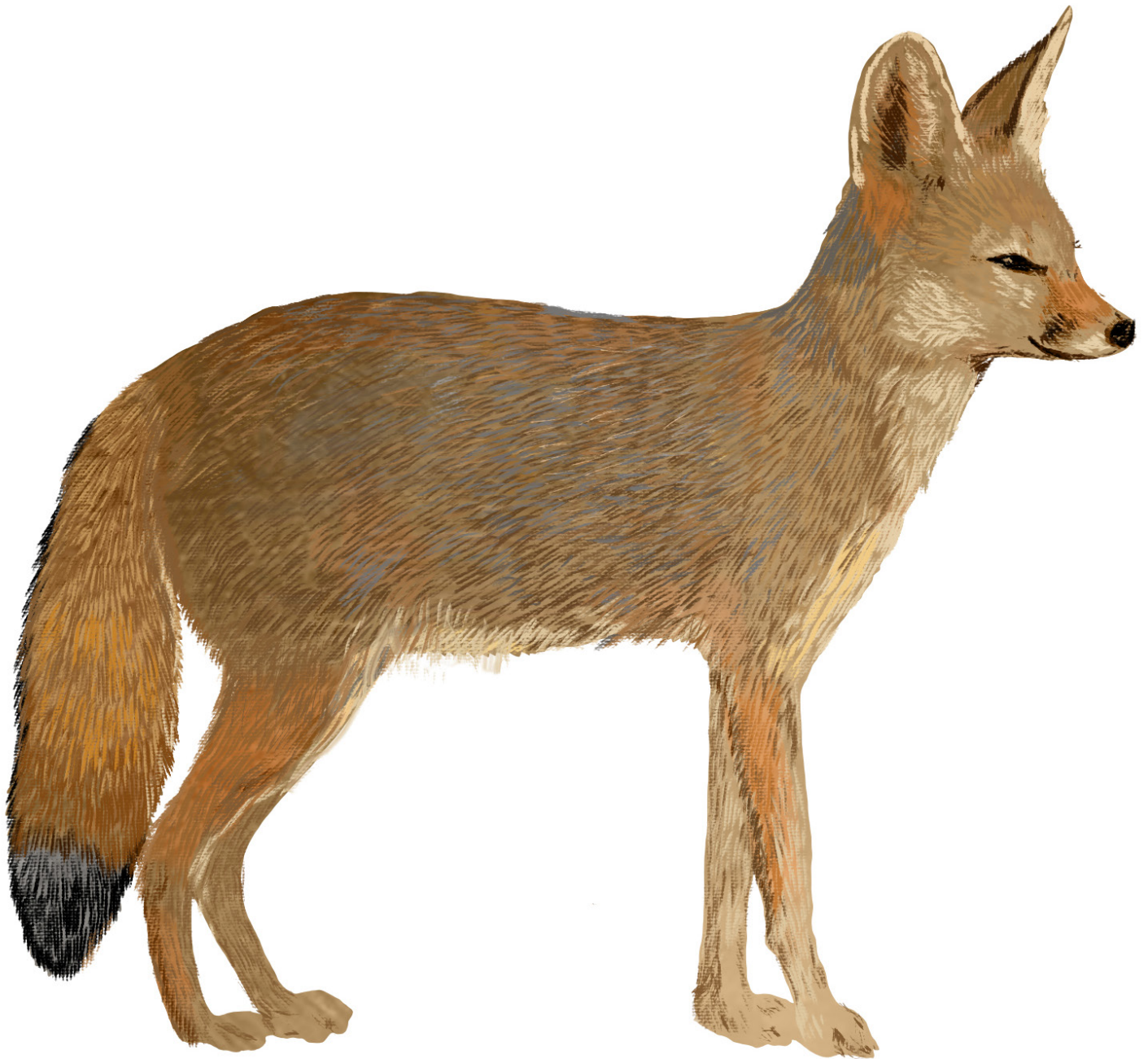
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Cover: Bengal Fox *Vulpes bengalensis*—digital illustration. © Alagu Raj.



Ranunculus cantoniensis DC. (Ranunculaceae): an addition to the flora of West Bengal, India

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Ranunculus L. is the largest genus of the family Ranunculaceae, comprised of more than 1,700 species (POWO 2024). It is cosmopolitan in distribution, generally occurring in temperate to tropical regions, as well as in high mountain regions of the world (Tamura 1995; Mabberley 2008). They occur in a variety of habitats including dry & damp meadows, forests, shallow & marshy banks of water bodies, and alpine grasslands. In India, Rau (1993) recorded 33 species with one variety, whereas Srivastava (2010) reported 41 species with four varieties of the genus *Ranunculus*. Eight species were reported from West Bengal (Uniyal & Thothathri 1999).

During botanical excursions in 2023 and 2024 in northern part of West Bengal, India, one interesting species of *Ranunculus* L. was collected from the district of Coochbehar. The specimen after critical analysis and perusal of relevant literature (Srivastava 2010; BSI 2024) was identified as *Ranunculus cantoniensis* DC. Authenticated herbarium specimens from CAL, BM, G, GH, P (Thiers 2024) were matched for confirmation of the identity of the species. The specimens were submitted to Ramakrishna Mission Vivekananda Centenary College Herbarium (RKMVCCH). Detailed descriptions along with

photographs, habitat details, phenology, and distribution of this species are provided for proper identification.

Earlier literature did not record the distribution of this species from West Bengal in their treatment of Ranunculaceae in India, hence, the species was hitherto unknown from the state (Rau 1993; Uniyal & Thothathri 1999; Srivastava 2010). Therefore, this report is the new distributional record of this herbaceous species from West Bengal.

Taxonomic treatment

Ranunculus cantoniensis DC., Prodr. 1: 43.1824; M.A. Rau in B.D. Sharma *et al.*, Fl. India 1: 117. 1993; *R. napaulensis* DC. in Prodr. 1: 39. 1824; *R. chinensis* Bunge in Enum. Pl. Chin. Bor.3. 1833; *R. fibrosus* Wall. ex Hook.f. & Thomson, Fl. Ind. 1: 37. 1855; *R. pensylvanicus* auct. non L.f.; Hook.f., Fl. Brit. India 1:19.1872, p.p. (Figure 1; Image 1).

Herbaceous, erect, 13–25 cm tall, branched, hirsute. Leaves trifoliate or trifoliolate, ternatisect, alternate, pubescent, palmately veined; leaflets lobed to partite, rhombic or obliquely trullate; apex acute; base cuneate-attenuate; margin irregularly serrated; 4–8 x 5–7 cm;

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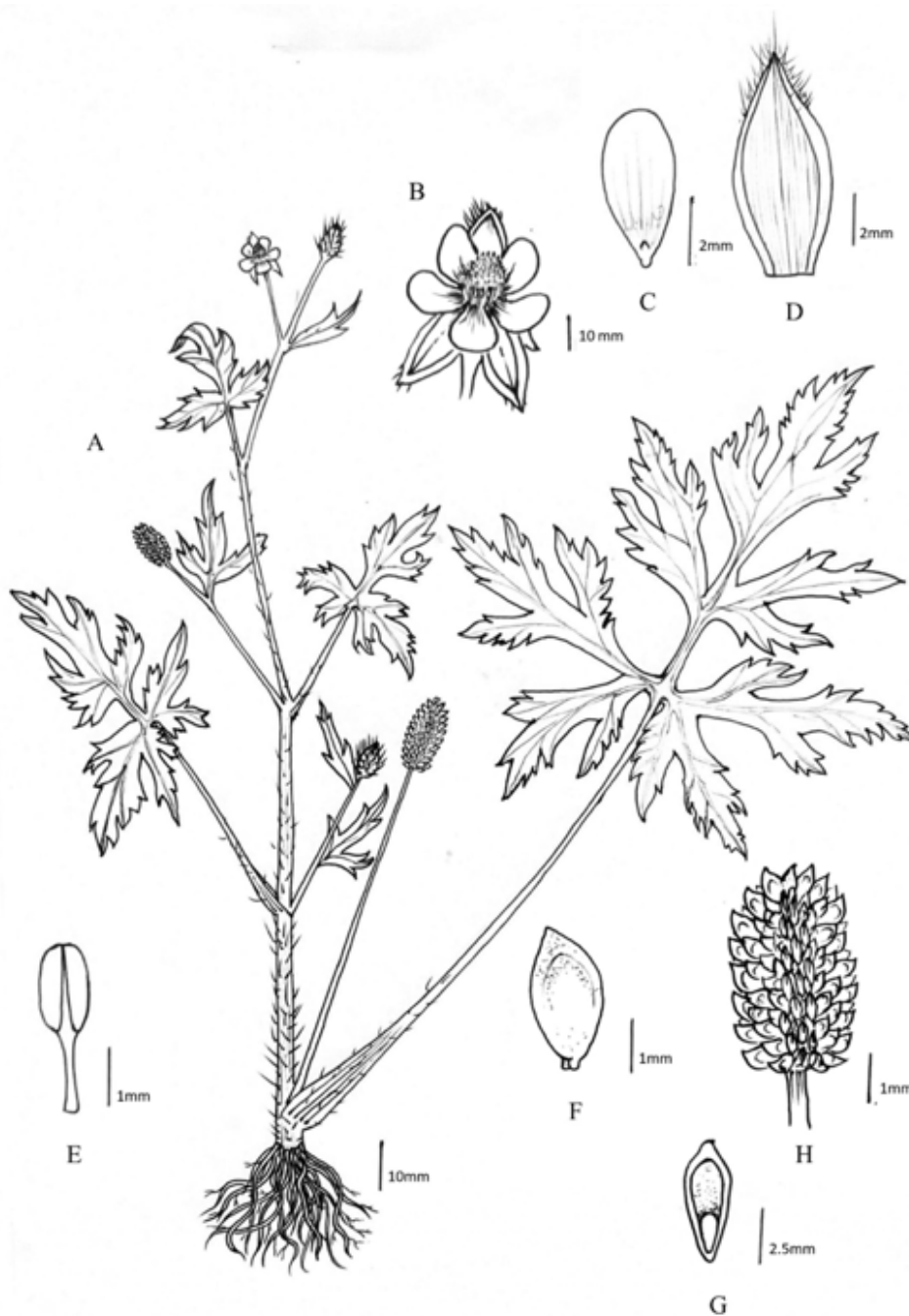


Figure 1. Line drawing of *Ranunculus cantoniensis* DC.: A—Habit | B—Flower | C—Petal | D—Sepal | E—Stamen | F—A single achene | G—T.S. of fruit | H—Etaerio of achenes. © Srijan Mukhopadhyay.

petioles of radical leaves sheathing at base, 3–12 cm long or absent ; petiolules 1–2 cm long. Flowers solitary, terminal, leaf opposed; pedicels 2–5 cm long. *Sepals* 5, ovate or elliptic-oblong, apex obtuse, imbricate, mostly reflexed, adaxially glabrous, abaxially hirsute, green with purple tips, margins translucent, and membranous, c.a. 6–8 x 3 mm. *Petals* 5, obovate, apex rounded-obtuse, glabrous, yellow, greenish towards the base, 5–7 x 3

mm. *Stamens* numerous, 3–3.5 mm long; filaments linear, green, ca. 2 mm long; anthers yellow, basifixed, ca. 1.5 mm long. *Carpels* numerous, green, laterally compressed, obliquely obovate, 3.5 x 2 mm. *Stigma* white, ca. 0.5 mm shortly beaked. *Receptacle* subglobose, narrow, ca 5 x 3 mm, hairy. *Achenes* numerous, obliquely obovate, compressed, spirally arranged in globose to oblong etaerios, shortly beaked, glabrous



Image 1. *Ranunculus cantoniensis* DC.: A–B—Habit and habitat | C—Branch with flower and maturing fruit | D—Flower | E—Portion of leaf | F—Sepal | G—Petal | H—Stamen | I—Gynoecium | J—Etaerio of achenes | K—A single achene. © Biswajit Roy.

or minutely granular, 3.5–4 x 2–3 mm. Seeds ovoid, flattened, light brown, 2 x 1 mm; apex rounded; base acute; hilum lateral, black.

Flowering and Fruiting: March–December

Distribution: Global: Bhutan, China, Japan, Kazakhstan, Kirgizstan, Korea, Malaysia, Mongolia,

Myanmar, Nepal, Pakistan, Taiwan, Thailand, Uzbekistan and Vietnam,

India: Northwestern Himalaya to northeastern India, subtropical to temperate regions. Jammu, Uttar Pradesh, Bihar, Odisha, Sikkim, Assam, Arunachal Pradesh, Meghalaya, Nagaland, Manipur, and West

Bengal (present study).

Specimens examined: West Bengal, Coochbehar, Jhinaidanga, Khalsi (23.309°N, 88.485°E; 32.42 m): 23.iii.2024, Roy, Sarkar, & Mukhopadhyay 7395 (RKMVCCH 000631); West Bengal, Coochbehar, Jhinaidanga, Khalsi (23.309°N, 88.485°E; 32.42 m): 23.iii.2024, Roy & Karak 7396 (RKMVCCH 000632);

Notes: The investigated taxon was found to be growing under diffused sunlight, in low lying, very moist areas adjacent to cultivated land, and bamboo thickets in association with *Mikania micrantha* Kunth, *Hydrocotyle sibthorpioides* Lam., *Stellaria media* L., *Grangea maderaspatana* (L.) Poir., *Persicaria orientalis* (L.) Spach. Rau (1993), Wang & Gilbert (2001), and Kuo et al. (2005) and Yang & Huang (2008) treated *R. chinensis* Bunge and *R. cantoniensis* DC. as two distinct species. *R. chinensis* Bunge is distinguished from *R. cantoniensis* DC. in having narrower & deep-incised leaflets; the central leaflet being rhombic and ovoid-cylindric or ovoid-aggregate fruits, whereas ovate leaflets and subglobose aggregate fruit in the latter. Upon scrutiny of herbarium specimens and literature, Srivastava (2010) revealed this appearance to be continuous gradations in morphology of the leaf, and the etaerios within the broad range of geographic regions of tropical & subtropical Asia, and treated *R. chinensis* Bunge as a synonym for *R. cantoniensis* DC. Among the eight species of *Ranunculus* (Unial & Thothathri 1997), the investigated taxon along with three species of *Ranunculus*, viz. *R. sceleratus* L., *R. muricatus* L., and *R. sardous* Crantz. are known to be distributed outside of Darjeeling District. *Ranunculus muricatus* and *R. sardous* have muricate achenes but

the spines are restricted to the margins in *R. sardous*. Moreover, *R. sceleratus* has smooth achenes like in *R. cantoniensis* but the plant is glabrous unlike the latter.

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