

Forsskaolea viridis (Urticaceae) - a new record for the Indian Flora from Kachchh district, Gujarat

Thacker K.^{1*}, Pokar R.², Sumra K.¹, Nagar P.² & P. Joshi¹

¹Sahjeevan, 175-Jalaram Society, Bhuj-Kachchh, Gujarat – 370 001, India

²Department of Botany, The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat – 390 002, India

*E-mail: khyatitthacker5@gmail.com

Abstract: *Forsskaolea viridis* Ehrenb. ex Webb (Urticaceae), a species native to Africa and the Middle East, is reported here as an addition to the angiosperm flora of India from Gujarat. A detailed description, colour photographs, flowering and fruiting times, details on habitat, plant association and the distribution of the species are provided here.

Keywords: Basalt, *Forsskaolea*, Kachchh, New record, Urticaceae.

Introduction

Forsskaolea L. (Urticaceae) comprises six species (Ahmed *et al.*, 2019). In India, a single species is documented, *F. tenacissima* L. from western Punjab (Cooke, 1908). During the floristic exploration of the Dhiodhar hills, an ecologically sensitive area (ESA) cum Medicinal Plant Conservation Area (MPCA) located in Nakhatrana Taluka of Kachchh district in Gujarat, a small population of an annual Urticaceae herb was observed in a rock cleft on a rocky slope by the first author. The voucher specimen was critically examined using the available literature (Hooker, 1888; Cooke, 1908) which suggested it to be a species of *Forsskaolea*. For verification, identification and confirmation of the species the relevant taxonomic literature was consulted (Hooker, 1849; Friis, 1982; Friis & Wilmot-Dear, 1988; Friis & Immelman, 2001; Assaf *et al.*, 2016; Danin & Fragman-Sapir, 2016+). This confirmed the species as *F. viridis* Ehrenb. ex Webb. This was further confirmed by comparing the

voucher specimen with herbarium specimen images at BR, C and E. With no previous record for the Indian subcontinent, we report *F. viridis* as a new addition to the flora of India. A detailed description and colour photographs are provided for easy identification.

Taxonomic treatment

Forsskaolea viridis Ehrenb. ex Webb in Hook., Niger Fl. 179. 1849. *Lectotype* (designated by Friis, 1982): Grown in the Paris Bot. Garden, Herb. Desfontaines in Herb. Webb *s.n.* (FI-W).

Chamaedryfolia viridis Kuntze, Revis. Gen. Pl. 2: 625. 1891.

Forsskaolea eenii Rendle, J. Bot., 4: 203. 1917. **Fig. 1**
Annual herbs, 20–45 cm tall, subulate, hooked hairy all over. Stems herbaceous, 5-angled in cross-section, with distinct ridges; branches ascending, hispid, translucent green, slightly reddish at the base at maturity. Stipules 2, ovate, *c.* 1 × 1 mm, acuminate. Leaves simple, alternate; petioles 1–3 cm long, involute, hairy; lamina ovate to lanceolate, 3–5 × 1.5–2.5 cm, base cuneate, margins serrate, ciliate, apex obtuse, upper surface puberulous, lower surface slightly whitish, woolly, with three prominent veins. Inflorescences bisexual, both male and female flowers aggregated within same involucre of 3–6 bracts; involucre cup shaped, 0.4–0.6 cm, sessile; male flowers in outer whorl and female flowers in the centre of involucre. Bracts obovate, 2.5–4 × 1–2 mm, acuminate at apex, parallel veined, having soft tufts of white hairs on the margins at the base, hispid. Male flowers 5–12,

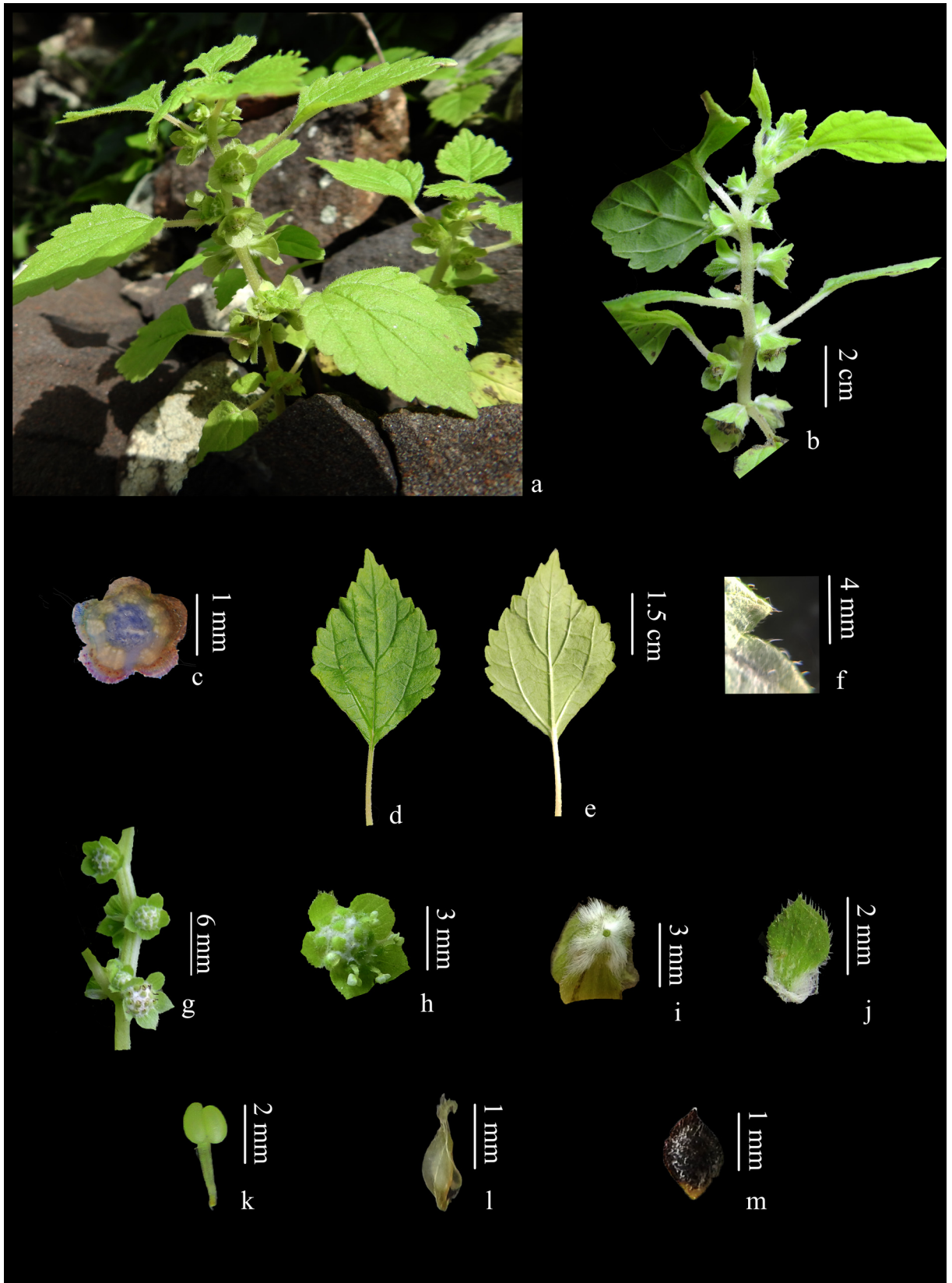


Fig. 1. *Forsskaolea viridis* Ehrenb. ex Desf.: **a.** Habitat; **b.** Habit; **c.** Transverse section of stem; **d.** Adaxial side of leaf; **e.** Abaxial side of leaf; **f.** Hairs present along leaf margin; **g.** Flowering twig; **h.** Inflorescence; **i.** Back side of involucre showing white indumentum; **j.** Bract; **k.** Stamen; **l.** Female flower; **m.** Achene (from *Khyati Thacker, Ritesh Pokar & Kazbanu Sumra* KRK4012; images by R. Pokar)

irregular, 1.5–2 × 0.5 mm, sessile, inserted in white woolly indumentum. Sepals united, 3-lobed, larger lobe covers inflexed stamen, green, hairy. Stamen single; filament 2.5–3.5 mm long, longer than sepal; anther dorsifixed, dithecous, inflexed, reflexed at the time of dehiscence, whitish green. Female flowers 1–3, inserted in white woolly hairs; calyx and corolla absent. Gynoecium prolate, pistil single, 2–2.5 mm, straight, sessile; ovary unilocular, placentation basal, ovule single, erect; style filiform; stigma fimbriate. Achenes 2–2.5 mm long, blackish brown.

Flowering & fruiting: Flowering and fruiting from July to September.

Habitat: Grows in soil between eroded black rocks called deccan trap basalt along with *Commelina benghalensis* L. (Commelinaceae), *Cardiospermum halicacabum* L. (Sapindaceae), *Cayratia trifolia* (L.) Domin (Vitaceae) and *Commiphora wightii* (Arn.) Bhandari (Burseraceae) at an altitude range from 198 to 352 m. The substrate is predominantly soil and to a lesser extent gravel. The soil type is shallow silty loam. It appears that *F. viridis* has site, habitat and substrate preference as most of the individuals were collected from hills dominated by basalts.

Distribution: *Forsskaolea viridis* is distributed in Angola, Cape Verde, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Namibia, Oman, Saudi Arabia, Socotra, Somalia, Sudan, Tanzania, Yemen (Friis & Wilmot-Dear, 1988) and now in India.

Specimens examined: INDIA, Gujarat, Kachchh district, Dhinodhar hills, N 23° 27' 15.17", E 69° 20' 36.31", 352 m, 27.08.2020, Khyati Thacker, Ritesh Pokar & Kazbanu Sumra KRK4012, KRK4013, KRK4014 (BARO).

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