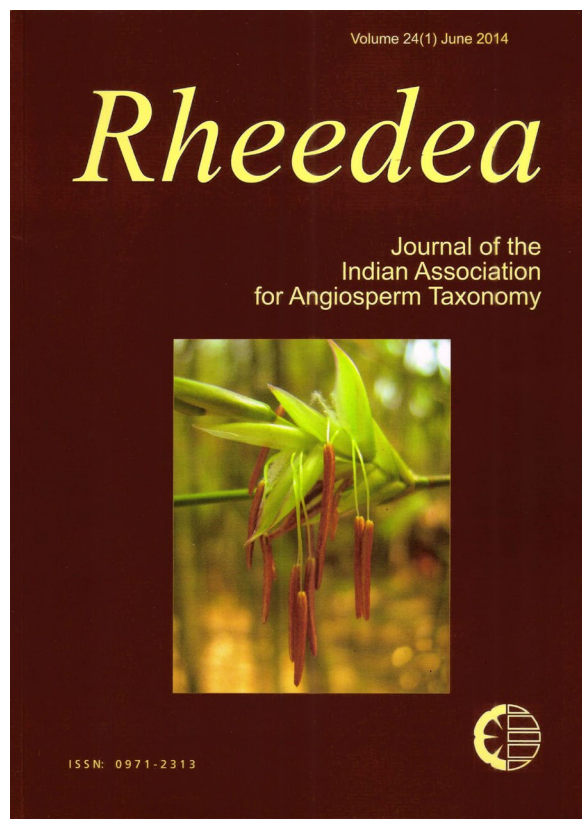




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Cucumis hystrix var. *mizoramensis* (Cucurbitaceae), a new variety from Mizoram, India

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Abstract

A new variety, *Cucumis hystrix* Chakrav. var. *mizoramensis* Sutar & S.R. Yadav is described and illustrated from the Dampa Tiger Reserve Forest, Mizoram, India.

Keywords: India, New variety, *Cucumis hystrix*, Mizoram

Introduction

Genus *Cucumis* L. is represented by 53 species in the world (The Plant List, 2013) of which 11 are found in India (Renner & Pandey, 2013). During present investigation, collections of *C. hystrix* Chakrav. were made from two locations in Mizoram (Dampa Tiger Reserve Forest and Lalen). A thorough morphological analysis revealed that there are noteworthy differences between individuals collected from these locations. The differences were with respect to hairs on stem, petiole, hypanthium and ovary and orientation of calyx teeth. These variations were found to be constant and individuals from one of the localities can be referred to as variety. However, the protologue of *C. hystrix* has no mention of flower since the Chakravarty had not seen/collected the flowers. Hence, there is a dilemma on deciding whether it is the Dampa population which represents a typical species or Lalen population or *vice-versa*. We here follow the treatment of De Wilde *et al.* (2007). As per the illustration and images provided by him it can be deduced that *C. hystrix* has straight calyx teeth. This agrees with the specimens from Lalen. Therefore, we propose Dampa Tiger Reserve Forest specimens as a new variety which differs from the typical variety (*C. hystrix* Chakrav. var. *hystrix*) in having reflexed calyx teeth. Detailed description, illustration and images of new variety are provided to facilitate identification.

***Cucumis hystrix* Chakrav. var. *mizoramensis* Sutar & S.R. Yadav var. nov. Figs. 1, 2a-c & g-i.**

Typus: INDIA, **Mizoram**, Champhai Dist., near Khawnuam village 23°23.549'N & 93°21.287'E; 1187 m, 21.10.2011, *Joseph John* JB/11-132 (holotypus, CAL; Isotypii, K, SUK).

Annual, climbing, monoecious herb. Stem quadrangular, sulcate, herbaceous, pilose hairy; hairs 1–2 mm long, antrorse to straight when young, turn downward with age. Petioles 3–4.5 cm long, sulcate on one side, retrorse hairy. Lamina 8–11 × 7–12 cm, pentangular, base cordate, apex acuminate, margin serrate-denticulate, hairy. Tendril simple, hairy. Inflorescence axillary, male and female flowers borne at different axils. Male flowers borne in cluster of 4–5 per axil on main branch as well as on secondary branches. Male flowers 1.5–1.9 × 1.5–1.8 cm, pedicellate; pedicel c. 0.2 cm long, slender, hairy. Hypanthium tube 0.7 cm long, infundibular, minute hairy inside, outside antrorse, 0.1–0.2 cm long, brown hairy. Calyx teeth 0.4–0.5 cm, hairy, turn downward. Corolla yellow, quincuncial; petals 0.8–0.9 × 0.5–0.6 cm, yellow, ovate-oblong, apex acute and mucronate by the projection of middle vein on dorsal side, hairy on both surfaces. Stamens three, one monothealous, two bithealous, inserted, adnate to hypanthium; anther 0.3 cm, coherent, straight, dorsifixed, ciliate laterally, dehiscing longitudinal, latrorse; connective projected, c. 0.1 cm long, bilobed on bithealous anthers, single on unilobed; filament c. 0.1 cm long, hairy. Pistillode 0.15 × 0.15 cm, globose, glabrous. Female flower solitary, c.

2.5 × 2 cm, pedicellate; pedicels 0.2–0.3 cm, hairy; hypanthium tube 0.7–0.8 cm × 0.4–0.6 cm, calyx teeth 0.5 × 0.1 cm, reflexed, hairy. Corolla same as in male flower. Disc annular, glabrous, 0.1 × 0.4 cm. Staminodes 3, *c.* 0.5 cm long. Ovary *c.* 1.3 × 0.6 cm, oblong, sparsely aculeate; aculei 0.05–0.15 × 0.1 cm, oblong, each with brown upwardly directed hairs. Style *c.* 0.2 cm long, glabrous. Stigma *c.* 0.4

cm, trifid, each one turn bilobed, papillate, yellow. Fruits 4–5 × 1.5–1.6 cm, indehiscent, oblong-elongate, many seeded, tapering at both ends, shortly beaked; beak *c.* 0.5 cm long, covered by erect oblong spiny tubercles; aculei 0.15–0.2 cm long and *c.* 0.1 cm width, acute, green, turns pale yellow at maturity. Mesocarp pulpy, Seeds *c.* 0.4 × 0.2 cm, 0.05 cm thick, ovate to lance-ovate, compressed,

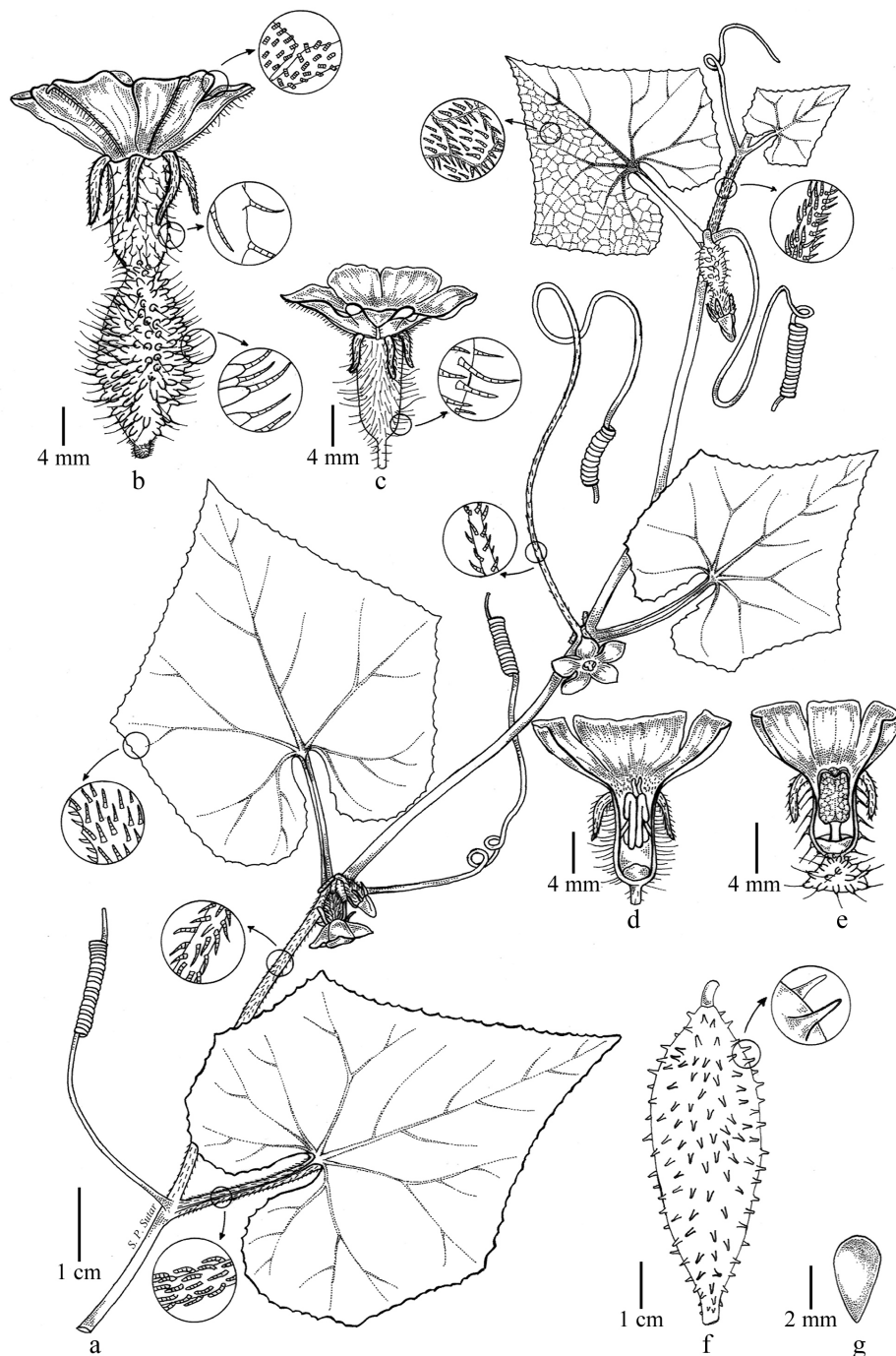


Fig. 1. *Cucumis hystrix* var. *mizoramensis* Sutar & S.R. Yadav: **a.** Habit; **b.** Female flower; **c.** Male flower; **d.** L. S. of male flower; **e.** L. S. of hypanthium of female flower; **f.** Fruit; **g.** Seed.

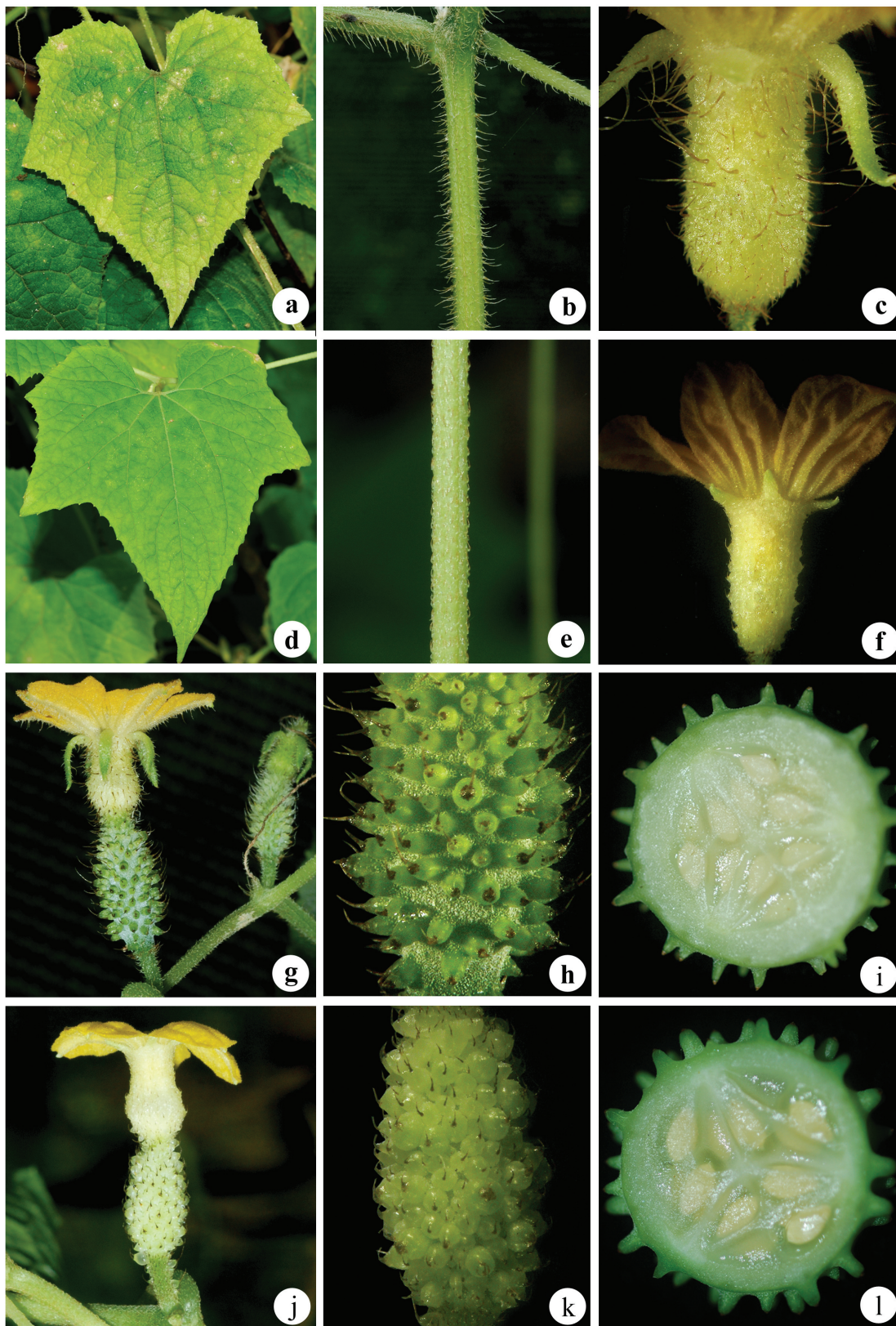


Fig. 2. a-c & g-i. *Cucumis hystrix* var. *mizoramensis* Sutar & S.R. Yadav; d-f & j-l. *C. hystrix* var. *hystrix* a,d. Leaf; b,e. Hairs on stem; c,f. Hypanthium; g,j. Female flower; h,k. Ovary; i,l. T.S. of Fruit.

Table 1. Differences between *Cucumis hystrix* var. *hystrix* Chakrav. and var. *mizoramensis* Sutar & S.R. Yadav

Characters	<i>C. hystrix</i> var. <i>hystrix</i>	<i>C. hystrix</i> var. <i>mizoramensis</i>
Hairs on stem and petiole	antrorse, appressed, c. 0.5 mm long	Retrorse, spread, 1–2 mm long
Hypanthium	Covered with globular protuberant based hairs	Covered with non-protuberant based hairs
Calyx teeth	0.1 × 0.05–0.06 cm, straight	0.3 – 0.5 × 0.1 cm, reflexed
Aculei on ovary	Globose, dense, hairs c. 0.05 cm long, antrorse	Oblong, lax, hairs c. 0.1 cm long, slightly turn upward
Aculei on fruit	Blunt	Pointed

non-beaked, funiculus caducous, apex rounded, base acute, grey-white, compressed, hairy.

Distribution and Ecology: Plants trailing on bushes along roadsides and border of cultivated fields and forests, mostly in shady place.

Flowering & Fruiting: June – December.

Etymology: The infraspecific epithet refers to the region i.e. Mizoram from where the specimen was collected.

Note: De Wilde *et al.* (2007) studied the intraspecific variations in various populations of *C. hystrix* from South-East Asia. These variations were mostly observed in the case of length of the pedicel, tubercle density on fruit and hairs on stem, leaf and petiole. However, *Cucumis hystrix* var. *mizoramensis* differs in having retrorse hairs on stem and petiole, reflexed hypanthium lobes, hairs on hypanthium are lax, non-protuberant based, 1–2 mm long, brown, aculei on ovary narrowly oblong (vs. stem and petiole antrorse appressed hairy, straight calyx lobes, protuberant based, dense, minute hairs on hypanthium, globose aculei on ovary as in *C. hystrix*). Table 1, fig. 2.

Additional specimens examined: INDIA, **Mizoram**, Near Silsuri village, Dampa Tiger Reserve Forest, 23° 29.742' N & 92° 19.164' E; 700 m, 08.10.2010, Yadav SRY 96 (SUK!); Aizwal Dist., Vaivakawn, 23°44.419' N & 92°42.018' E; 1300 m, 24.10.2011, Joseph John]B/11–156(SUK!).

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Literature Cited

- De Wilde, W.J.J.O. & B.E.E. Duyfjes 2007. The wild species of *Cucumis* L. (Cucurbitaceae) in South – East Asia. *Adansonia* 3: 239-248.
- Renner, S.S. & A.K. Pandey 2013. The Cucurbitaceae of India: Accepted names, synonyms, geographic distribution, and information on images and DNA sequences. *PhytoKeys* 20: 53-118.
- The Plant List 2013. Version 1.1. Published on the Internet; <http://www.theplantlist.org/> (accessed 1st January).

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