

## *Uraria hispida* (Leguminosae), a new record for Thailand

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**ABSTRACT.** *Uraria hispida* (Franch.) Schindl. is newly reported from northern Thailand. Description, illustrations and distribution map based on Thai specimen are provided.

**KEYWORDS:** Fabaceae, Desmodieae, *Desmodium*, Taxonomy

### INTRODUCTION

The genus *Uraria* Desv. belonging to family Leguminosae was described by Desvaux (1813) based on *Hedysarum pictum* Jacq. (= *U. picta* (Jacq.) Desv.). Nineteen species of the genus (including *Urariopsis* Schindl.) were reported from China (Thuân *et al.*, 1987; Puhua *et al.*, 2010) and only 12 species were known from Thailand (Thuân *et al.*, 1987; Tokaew & Chantaranonthai, 2008 & 2013; The Royal Forest Department, 2014). *Uraria hispida* (Franch.) Schindl. was described from China and newly found from northern Thailand. In previous study, Puhua *et al.* (2010) placed *U. hispida* in *Desmodium* Desv. because it resembles to *D. laxiflorum* DC. but we do not agree with them because the pods of *U. hispida* are transversely folded between the seeds which is a distinctive characteristic of the genus *Uraria* (Thuân *et al.*, 1987; Niyomdham, 1994; Puhua *et al.*, 2010).

### TAXONOMIC TREATMENT

***Uraria hispida*** (Franch.) Schindl., Repert. Spec. Nov. Regni Veg. 22: 254. 1926.—*Desmodium hispdatum* Franch., Pl. Delavay. 174. 1890. Type: China, Yunnan, *J.M. Delavay* 3504 (holotype P!, isotype A!).—*Uraria henryi* Schindl. in Fedde. Repert. 21: 15. 1925. Type: China, Yunnan, Meng-tsze, *A. Henry* 9342 (isosyntypes A!, US!). Figs. 1–3.

Herbs 30–60 cm high. *Stem* 5-ridged, densely villous. *Leaves* 3-foliolate; petioles 1–2 cm long, densely villous; stipules deltoid, acuminate, puberulose, 11–13 by 3–3.5 mm. *Leaflets* ovate or elliptic, (4.5–) 7–12 by (2.5–) 3–6 cm, base obtuse or oblique, apex acute rarely obtuse, margin entire, chartaceous; upper surface puberulose, lower surface densely villous; petiolules 1.5–2 mm long, densely villous; stipels narrowly lanceolate, acuminate, 4–6 by 0.5–1 mm. *Inflorescences* both racemose and paniculate, both axillary and terminal, erect, 5–15 cm long. *Flowers* dense. *Bracts* lanceolate, 3.5–4.5 by 1–1.2 mm, pale green;

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pedicels 4–4.5 mm long in flower and 4.5–5 mm long in fruit, pubescent with hooked hairs mixed with straight hairs. *Calyx* pale green, densely villous with straight hairs; tube 1–1.5 mm long; upper lobes 1, 3–3.5 mm long; lower lobes 3, 2.5–3 mm long, well-developed in mature fruit. *Corolla* standard 3 by 2.5–3 mm, claw 1.3–1.5 mm long, pale violet to white; wings 2.5–2.8 by 1–1.3 mm, claw 1.8–2 mm long, pale violet; keels 2.7–3 by 1–1.3 mm, claw 1–1.2 mm long, pale violet. *Stamens* diadelphous. *Ovary* 4–6 ovules. *Legumes* semi-plicate with (3–)4–6 segments, connected on the transverse side of each segment, pubescent with hooked hairs.

Thailand.— NORTHERN: Chiang Mai, (Chiang Dao, *W. Tokaew & P. Chantaranothai* 854 (BKF, KKU)).

Distribution.— India, Myanmar, China (type).

Ecology.— Growing on slope, open grassy localities in pine-oak forest, *ca.* 1,500 m alt. Flowering and fruiting in September and December.

Vernacular.— Ton Niaw Doi (ต้นเหินยวดย).

Notes.— The articles of the pods of *U. hispida* are folded both ends to formed in a zigzag shape, but the other members in the genus, their articles of the pods are folded to closed them. In China, Ohashi *et al.* (2002) and Puhua *et al.* (2010) accepted this species as *Desmodium hispida* because of it superficially similar to *D. laxiflorum* by densely villous hairs on some parts of the plant and hooked hairs on the straight pods,

and stated that the pods are plicate (folded as genus *Uraria*) when young and straight (not folded as genus *Desmodium*) when mature. After carefully examined, we do not agree with them, therefore we place this species as *U. hispida* follow Schindler (1926). This species is different from other species by straight articles when mature. The densely villous hairs in some parts of plant and having hooked hairs on the pods can be found in other *Uraria* species (Thuân *et al.*, 1987; Tokaew & Chantaranothai, 2008) and *D. laxiflorum* (Puhua *et al.*, 2010). The both characters are not useful for placed *U. hispida* in genus *Desmodium*.

*Uraria hispida* is distinct from all other species of Thai *Uraria* by having virtue of the ridges on the stem in which it resembles a Myanmar species *U. barbaticaulis* Iokawa, T. Nemoto, J. Murata, & H. Ohashi (Kress *et al.*, 2003; Iokawa *et al.*, 2004) but differs in having 3 leaflets, and inflorescences which are both racemose and paniculate. Although *U. hispida* shares many characters with *U. campanulata* Kurz, the common and widespread species in India, Myanmar, Thailand and Vietnam (Thuân *et al.*, 1987), it differs in having ridges on stem and its pods not enclosed by the calyx (Table 1).

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TABLE 1. Morphological comparison of *Uraria hispidata* and related species.

| Characters              | <i>Desmodium laxiflorum</i> <sup>1</sup> | <i>Uraria hispidata</i> | <i>U. barbaticaulis</i> <sup>2</sup> | <i>U. campanulata</i>   |
|-------------------------|------------------------------------------|-------------------------|--------------------------------------|-------------------------|
| Habit                   | subshrub or shrub                        | herb                    | herb                                 | herb, subshrub or shrub |
| Ridges on stem          | absent                                   | present                 | present                              | absent                  |
| Leaflet number          | 3                                        | 3                       | 1 (3 at basal of stem)               | 1–3                     |
| Leaflet shape           | ovate or elliptic                        | ovate or elliptic       | cordate or ovate                     | ovate or elliptic       |
| Inflorescence types     | racemose                                 | racemose and paniculate | racemose                             | racemose and paniculate |
| Inflorescence positions | axillary and terminal                    | axillary and terminal   | axillary and terminal                | terminal                |
| Hair types on calyx     | densely villous                          | densely villous         | densely villous                      | hirsute                 |
| Ovule number            | 4–12                                     | (3)–4–6                 | -                                    | 4–7                     |
| Pod shape               | linear                                   | semi-plicate            | -                                    | plicate                 |
| Hairs on pods           | hooked hairs                             | hooked hairs            | -                                    | hooked hairs            |

1 = Based on descriptions of Puhua *et al.* (2010), 2 = Based on descriptions of Iokawa *et al.* (2004) and *J.H. Lace* 5981 (Royal Botanic Garden Edinburgh Herbarium (E), 2012) specimens online: Accessed via [http://eol.org/data\\_objects/16005941](http://eol.org/data_objects/16005941) on 2014-10-13, – = lack of data

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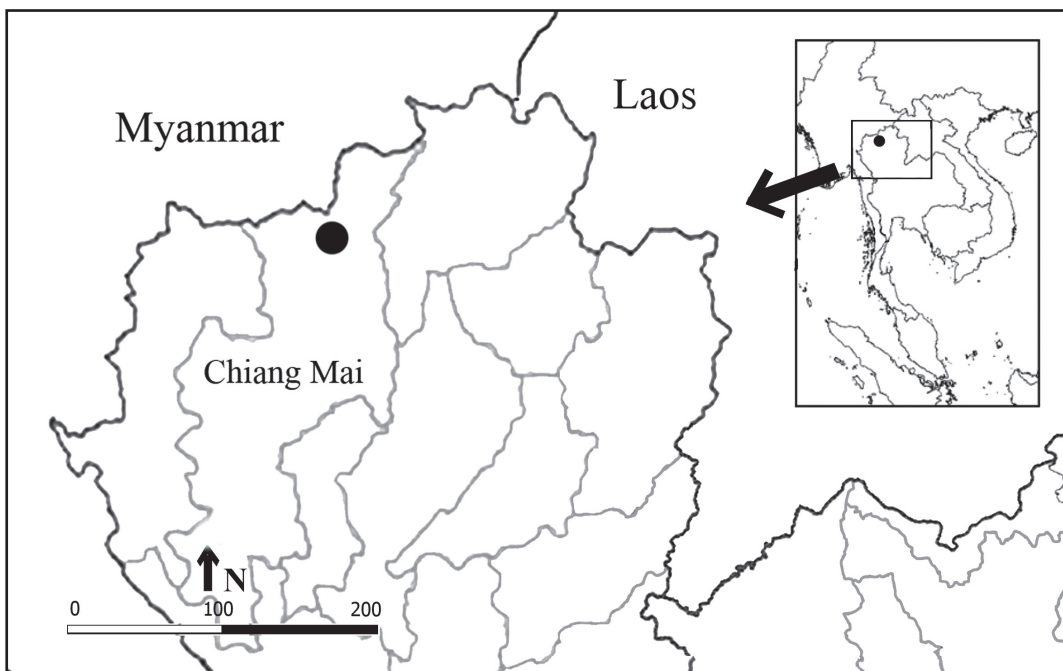


FIGURE 1. Distribution of *Uraria hispida* in Chiang Mai province, northern Thailand.

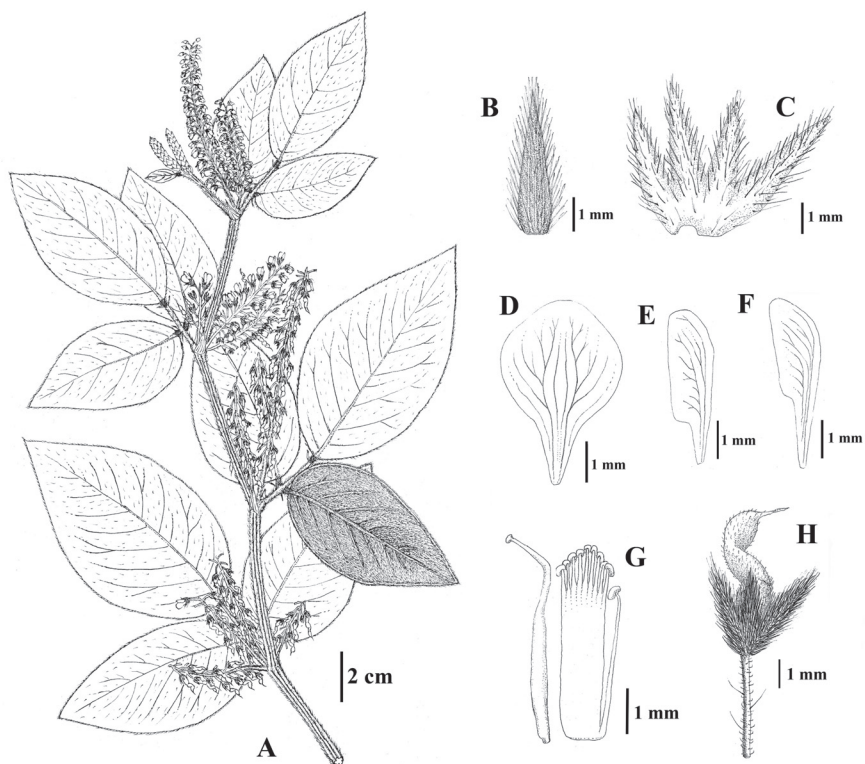


FIGURE 2. *Uraria hispida*: A. Habit; B. Bract; C. Calyx (outside); D. Standard; E. Wing; F. Keel; G. Pistil and Stamens; H. Fruit with calyx and pedicel (A.–H. from *W. Tokaew & P. Chantaranothai* 854; Drawn by *W. Tokaew*).

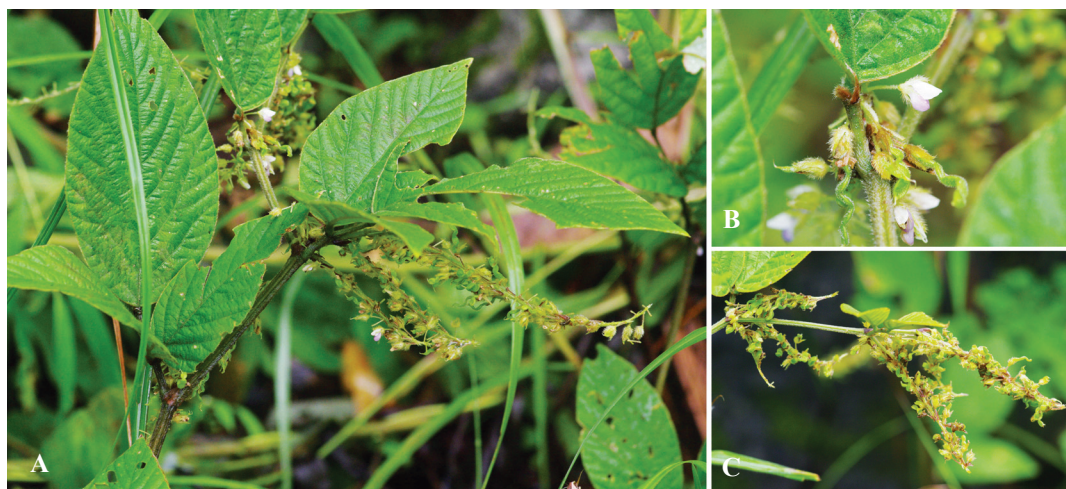


FIGURE 3. *Uraria hispida*: A. Habit; B. Flowers and pods; C. Inflorescences (photos by *W. Tokaew*).