The Genus *Uraria* (Leguminosae) in China

Hiroyoshi OHASHI*, Yu IOKAWA* and Pauline Dy PHON*

*Botanical Garden, Tohoku University, Sendai, 980-0862 JAPAN; E-mail: ohashi@mail.tains.tohoku.ac.jp
*Department of Biology, Joetsu University of Education, Joetsu, Niigata, 943-8512 JAPAN; 
*Laboratoire de Phanérologie, 16, rue Buffon, Paris, 75005 FRANCE

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The genus *Uraria* in China, including Taiwan, is revised. A key to the sections and species of the genus in China with those of related species in *Desmodium* and *Christia*, correct names for the accepted species and synonyms with bibliography mainly for Chinese species, morphological descriptions, distribution, and representative specimens collected in China are included. *Uraria* and *Urariopsis* were treated as distinct in China but they are united into *Uraria* in this paper. *Doodia picta* (Jacq.) Roxb. is designated here as lectotype of the genus. The genus *Uraria* is divided into two sections, sect. *Uraria* and sect. *Urariopsis* (Schindl.) H. Ohashi, Iokawa & Dy Phon. Section *Sinuraria* Y. C. Yang & P. H. Huang is merged with sect. *Uraria*. Of 13 species known in China including two *Urariopsis*, we accept nine as distinct species. Five species endemic to China are accepted as follows: *Uraria aequilobata* Hosok. (= *U. hamosa* Wall. var. *formosana* Matsum.), *Uraria longibracteata* Y. C. Yang & P. H. Huang and *Uraria fujianensis* Y. C. Yang & P. H. Huang are recognized as identical with *Uraria neglecta* Prain; *U. guangxiensis* W. L. Sha is treated as a synonym of *Uraria lacei* Craib; and *Urariopsis brevissima* Y. C. Yang & P. H. Huang is considered synonymous with *Uraria cochinchinensis* Schindl. *Uraria neglecta* Prain is newly recorded from China. Lectotypes of *U. hamosa* var. *sinensis* Hemsl. and *U. guangxiensis* W. L. Sha are selected. *Uraria lagopodioides* (L.) Desv. is treated to as different from *U. lagopoides* DC.

**Key words:** China, classification, endemic species, Leguminosae, *Uraria*.

*Uraria* is a genus belonging to tribe Desmodieae of the subfamily Papilionoideae, Leguminosae (Ohashi 2005). It is basically characterized in having imparipinnately 1–7(–9)-foliolate leaves, the leaflets of which have distinct principle lateral nerves extending to the margin; densely flowered long pseudoracemes with acuminate bracts longer than the flowers, paired pedicels inflex-hooked at the apex with dense long hairs, and jointed pods with folded articles. The genus comprises about 20 species distributed mainly in tropical and subtropical regions in SE Asia, extending east to Taiwan and Japan (Ryukyus), south to northern Australia, and disjunctively in Africa. The center of diversity is considered to be India to Indo-China (Ohashi 2005).

Many species of *Uraria* have been recorded in China. The genus was first compiled by Yang and P. H. Huang (1981) and their results were adopted in Flora Reipublicae Sinicae vol. 41 Leguminosae (3) in 1995. They recognized nine species of *Uraria* and two of *Urariopsis*. T. C. Huang and Ohashi (1993) compiled the
genus in Taiwan and recognized four species. Aside from three species common in both works, *Uraria aequilobata* Hosokawa was regarded as a synonym of *Uraria lagopodioides* (L.) Desv. ex DC. by Yang and P. H. Huang (1981, 1995), but was treated as a distinct species endemic to Taiwan and Hongkong by Huang and Ohashi (1993). *Uraria guangxiensis* W. L. Sha was described from Guangxi (Sha 1994), but is not included in the Fl. Reipubl. Popul. Sin. 41 (1995). Accordingly, 11 species of *Uraria* and two of *Urariopsis* are recorded in China as indigenous. However, *Uraria* and *Urariopsis* were regarded as congeneric by De Haas et al. (1980) and this broad circumscription of *Uraria* has been accepted by Dy Phon (1987) and Ohashi (2005). We follow *Uraria* s. l. in this work. Therefore, 13 species of *Uraria* are known in China at present.

Recently, *Uraria* has been studied in Indochina (Dy Phon 1987, Lock and Heald 1994), Bhutan (Grierson and Long 1987), India (Sanjappa 1992), and South Asia (Kumar and Sane 2003). Dy Phon (1987) revised *Uraria* in Cambodia, Laos and Vietnam and recognized 13 species including *Uraria campanulata* (Benth.) Gagnep. which is recognized here as *Christia campanulata* (Benth.) Thoth. and is excluded from *Uraria* following the previous treatments in floras of Taiwan (Huang and Ohashi 1977, 1993) and China (Yang and Huang 1981, 1995). Of the 12 species of *Uraria* in Indochina (Dy Phon 1987) six are common with China, i. e., *U. cordifolia* Wall., *U. crinita* (L.) Desv. ex DC., *U. lacei* Craib, *U. lagopodioides* (L.) Desv. ex DC., *U. picta* (Jacq.) Desv. ex DC. and *U. rufescens* (DC.) Schindl. Kumar and Sane (2003) enumerated 14 species from South Asia consisting of Bangladesh, India, Myanmar, Nepal, Sikkim, and Sri Lanka. Except for *Uraria campanulata*, seven species of the 13 recorded in South Asia are distributed also in China. Six of these are common with those in Indochina as listed above and another is *U. sinensis* Franch.

Five endemic species are recorded from China. Of the five, three are included in Yang and Huang’s works (1981, 1995): *Uraria fujianensis* Y. C. Yang & P. H. Huang, *Uraria longibracteata* Y. C. Yang & P. H. Huang and *Urariopsis brevissima* Y. C. Yang & P. H. Huang. *Uraria aequilobata* Hosokawa and *U. guangxiensis* W. L. Sha are also endemic to China. The same numbers of endemic species were recorded in Indochina (Dy Phon 1987) and South Asia (Kumar and Sane 2003). Of the 12 species, five were endemic to Indochina: *U. acaulis* Schindl., *U. balansae* Schindl., *U. cochinchinensis* Schindl., *U. pierrei* Schindl. and *U. poilanei* Dy Phon. Of the 13 species five were endemic to South Asia: *U. acuminata* Kurz., *U. barbaticaulis* Iokawa, T. Nemoto & H. Ohashi (= *U. barbata* Lace), *U. kurzii* Schindl., *U. lagopus* DC. and *U. prunellifolia* Baker. In fact, *U. cochinchinensis* and *U. kurzii* should be excluded from their lists, because the former is already known in China and the latter is considered synonymous with *U. cordifolia* Wall. These features of endemic species may suggest interesting relationships in taxonomy and species diversity of *Uraria* in the regions from India to southern China. We have been interested in Chinese *Uraria* especially those endemic to China.

The Chinese endemic species need to be revised, because they have not been critically compared with species of other regions. It is the same as to the Chinese species common with other regions in the same reason. We also need to prepare a regional treatment on the Chinese species as a precursor to the treatment for the Flora of China project. Based on our field observations of living plants of *Uraria* in China and Taiwan as well as neighboring regions and examination of herbarium specimens in A, BKF, CAL, GH,
IBK, IBSC, K, KYO, NA, P, PE, TAI, TI, and TUS, all the species of *Uraria* in China are treated in this paper.

**The genus Uraria**


*Doodia* Roxb., Fl. Ind. ed. 2, 3: 365 (1832) [Type: *Doodia picta* (Jacq.) Roxb., lectotype species designated here], non R. Br. (1810).


Perennial herbs or subshrubs, erect, rarely decumbent or climbing. Leaves stipulate, 1-foliate or imparipinnately 3- or 5-9-foliate with often 1- or 3-foliate leaves on upper stem or young plants; leaflets usually longer than wide, rarely as long as wide; stipules free, striate, acuminate to caduate; stipels persistent, striate.

Inflorescence a spike-like pseudoraceme or panicle, mostly terminal, sometimes terminal and axillary, usually densely flowered; flowers geminate at a node; pedicels densely hairy, accrescent, mostly incurved upward at apex. Primary bracts ovate or broadly ovate with a long acuminate or caduate apex, deciduous or persistent, imbricate; secondary bracts and bracteoles absent. Calyx 5-lobed, upper two lobes more or less connate at base, lower 3 lobes usually longer than upper two, the lowest one often much longer than others. Corolla variously colored, commonly yellow, pink or purple. Standard orbicular to pinnate, pink or purple. Ovary sessile or rarely with a small ovary attached at base; stigma usually longer than ovary and ovary terminal, capitate and minute.

Pods jointed, plicate or peltate, exserted from or included in persistent calyx; articles inflated, one-seeded, indehiscent, connected at both ends or at center of lateral surfaces, pubescent or glabrous. Seeds reniform or quadrate, with a scarce rim-aril around hilum.

Chromosome numbers $x = 10, 11; 2n = 20, 22$.


**Infrageneric system**

Schindler (1925) described two subgenera of Uraria, i.e., subgen. Desmodiastrum Schindl. based on *U. henryi* Schindl. and subgen. Cyclodesmus Schindl. based on *U. prunellifolia* Graham ex Baker. The former was suggested by Ohashi et al. (1981) as it belongs to *Desmodium* and *U. henryi* Schindl. was regarded as a synonym of *Desmodium*, because the pods of *U. prunellifolia* are not plicated but are perfectly straight.

Yang and Huang (1981) recognized *Uraria* and *Urariopsis* as distinct, and divided *Uraria* into two sections, i.e., sect. *Uraria* and sect. *Sinuraria*. Y. C. Yang & P. H. Huang based on *U. sinensis* (Hemsl.) Franch. They distinguished sect. *Sinuraria* from sect. *Uraria* by the lax flowered inflorescences, triangular or ovate calyx-lobes, and the lowest calyx-lobes equal to or shorter than the calyx-tube. However, these characters in *U. sinensis* are not distinct from *U. rufescens* which is most closely related to the species and is distributed widely from India to China showing wide morphological variation in these characters. Section *Sinuraria* is included in section *Urara*, although the species has unique, apiculate keel-petals (Iokawa and Ohashi in prep.).

The genus is divided into two sections in this paper, i.e., sect. *Uraria* based on *Uraria picta* (Jacq.) Desv. ex DC., type of the genus, and sect. *Urariopsis* (Schindl.) H. Ohashi, Iokawa & Dy Phon based on *Uraria cordifolia* Wall. as follows:


**Key to the sections and species of Uraria of China with related species of Desmodium and Christia**

1. Articles peltate each other, i.e., connected centrally on the facing flat sides; leaves 1-foliolate (sect. *Urariopsis*) ............... 2

2. Leaflets usually obtuse at apex; inflorescences simple, usually more than 10 cm long; flowers dense and compact ............

3. Flowers fasciculate at a node of inflorescences; pods zigzag when young then straight .......... *Desmodium hispidum*

4. Leaves 5−7−(9)-foliolute, sometimes mixed with (1-)3-foliolate leaves ........ 5

5. Leaflets linear to narrowly oblong, usually variegated along midrib above, lateral nerves looped with margin; pedicels 5−9 mm long in fruit; lateral and lowest calyx-
lobes not elongate after anthesis, 2–4 mm long; leaves (1–)3-foliolate on lower part of stem ........................................... U. picta
5. Leaflets narrowly ovate to ovate, narrowly elliptic to elliptic or oblong, without variegated area, lateral nerves extending to margin; pedicels 12–15 mm long in fruit; lateral and lowest calyx-lobes elongate to 5–6 mm long after anthesis; leaves sometimes (1–)3-foliolate on upper part of stem ................................................................. U. crinita
6. Inflorescence usually a terminal panicle; with dense glandular hairs 1–2 mm long on inflorescence-rachis, pedicels and calyx; pods shortly pubescent .... U. lacei
6. Inflorescences usually simple, sometimes with elongate branches but not paniculate; glandular hairs present or absent on inflorescence-rachis, pedicels and calyx; pods glabrous or pubescent .......................... 7
7. Lateral and lowest calyx lobes more than 2 times as long as the upper lobes; inflorescences short, usually 3–6 cm long, densely flowered; bracts persistent, patent at apex; leaflets usually orbicular to broadly ovate ....................................... U. lagopodioides
7. Lateral and lowest calyx lobes less than 2 times as long as the upper lobes; inflorescences usually longer than 6 cm, densely or loosely flowered; bracts deciduous or persistent, erect along inflorescence when persistent; leaflets basically oblong to ovate, rarely (in U. sinensis) broadly obovate or obcordate, truncate or emarginate at apex ............................................. 8
8. Calyx accrescent, papery with reticulate veins, enveloping fruit; without glandular hairs on inflorescence-rachis, pedicels and calyx ......................... Christia campanulata
8. Calyx not accrescent, not reticulately veined, not enveloping fruit; with glandular hairs on inflorescence-rachis, pedicels and calyx ......................................................... 9
9. Inflorescence-rachis, pedicels and calyx densely covered with patent glandular hairs 1–2 mm long; pods glabrous; inflorescences densely flowered; bracts 9–18 mm long ......................... U. neglecta
9. Inflorescence-rachis, pedicels and calyx without or with only sparse glandular hairs 1–2 mm long; pods short hairy; inflorescences more or less loosely flowered; bracts usually less than 13 mm long .............................................................................. 10
10. Keel-petals obtuse at apex; pedicels 5–6 mm long in flower, recurved after anthesis; calyx-lobes narrowly triangular, acuminate; pods minutely hairy; leaflets obtuse to acute or rarely rounded at apex .................................................. U. rufescens
10. Keel-petals apiculate at apex; pedicels 7–8 mm long in flower, not recurved after anthesis; calyx-lobes triangular to broadly ovate, acute; pods with long glandular hairs; leaflets obtuse to truncate or emarginate at apex ... U. sinensis

Enumeration of species


   [Fig. 1]


   Erect herb or subshrub, 0.6–1 m tall; stems flexible, with dense yellowish hairs. Leaves unifoliolate, chartaceous, 5–11 cm long, 5–8 cm wide, cordate at base, acute-acuminate at apex, both surfaces patent-pubescent; lateral nerves 8–10 on each side of midrib, extending to margin; secondary nerves connect lateral nerves. Petioles 3–7
cm long; petiolules 2–4 mm long. Stipules caducous, ca. 5 mm long, 1.5 mm wide; stipels persistent, 2–5 mm long.

Inflorescences short, axillary or terminal, branched, loosely flowered, 4–15 cm long, rachis densely spreading-hairy with long, yellowish glandular hairs and long and short straight hairs. Pedicels 10–12 mm long in flower, ca. 20 mm long and incurved upwardly in fruit, densely patent hairy. Bracts ovate, acuminate, imbricate, early caducous, 9–20 mm long, long glandular hairs along margin. Flowers small. Calyx campanulate, ca. 5.5 mm long, hairy outside and along margin, rachis densely spreading-hairy with long and hooked hairs. Corolla yellow; standard lobed; lobes free, extending to margin, ca. 3 mm long, hairy outside and along margin, with long yellowish glandular hairs and shorter straight and hooked hairs. Corolla yellow; standard orbicular to obovate, 6–7.5 mm long, 5 mm wide; wings curved, 4.5–6 mm long, 1.5 mm wide; keel-petals slightly clawed, auriculate, ca. 5.5 mm long, 1 mm wide. Ovary ca. 3 mm long, 3–4 ovulate, 1/2 as long as style.

Pods minutely hairy; articles 3–4, peltate, orbicular, reticulate, terminated by a central joint, ca. 3 mm long, 2.8 mm wide; seeds cordiform, smooth, reddish, 2 mm in diameter, 1.5 mm thick.

Distribution: Cambodia, Laos, Vietnam and southern China.


This species was reported by Schindler from Yunnan in 1933 – the first record of the species in China. However, it was recorded as endemic to Indochina (Dy Phon 1987, Lock and Heald 1994).

2. Uraria cordifolia Wall., Icon. Pl. Asiat. Rav. 1: 33, tab. 37 (1830) [Type: Wallich 5679A (K); De Haas, Bosman & Geesink in Blumea 26: 439 (1980); Dy Phon in Fl. Cambodge Laos Vietnam 23: 98 (1987). [Fig. 2]

Uraria cordata Wall. [Cat. n. 5679 A (1831), nom. nud.] ex Steudel, Nom. ed. 2, 2: 732 (1841), nom. illeg.


Herbs or small shrubs, 0.8–1 m tall; stems strong, cylindrical, yellowish velvety. Leaves unifoliolate, broadly ovate, base rounded or cordate, apex acute to obtuse, 8–20 cm long, 6–14 cm wide, upper surface sparsely to uniformly appressed-hairy on nerves, lower surface more densely; lateral nerves 8–12 on each side of midrib, prominent, extending to margin, cancellate nerves more or less prominent. Petioles 3–7 cm long, hairy like on stem; petiolules 5 mm, hairy. Stipules ovate, acuminate, hairy, 10–15 mm long; stipels 5 mm long.

Inflorescence a simple pseudo raceme, 15–30 cm long, 2–3 cm wide, rachis densely patent long glandular yellow hairy. Pedicels geminate, densely patent hairy, 10–12 mm long, incurved upward after anthesis. Bracts broadly ovate, acuminate, ca. 3.5 mm wide, hairy abaxially, densely ciliate. Flowers white or rose. Calyx densely hairy, 5–6 mm long, tube about 1.5 mm, 5-lobed; lobes...
Fig. 1. *Uraria cochinensis* Schindl. Holotype of *Urariopsis brevissima* Y. C. Yang & P. H. Huang in PE.
subequal, upper 2 lobes connate to half, 2-toothed at apex, lower narrowly triangular, acuminate, 4–5 mm long. Corolla 5–6 mm long; standard obovate, 4–5 mm long; wings ca. 5 mm long, 1–2 mm wide, subsessile, auriculate; keel-petals obtuse at apex. Ovary 3–5 mm long, hairy, 2–4 ovulate; style ca. 8 mm long.

Pods brownish or black, minutely hairy, included in calyx; articles 2–4, peltate; seeds
elliptic ca. 2 mm long, 1.5 mm wide, 1 mm thick.


Specimens examined. CHINA. Gwangxi. W. H. Soo 67646 (PE); C. F. Liang & D. L. Woo 32277 (PE); Li 474 (IBK, PE). Yunnan. C. W. Wang 20550 (PE).


Hedsysarum comosum Vahl, Symb. 2: 84 (1791).

Doodia crinita (L.) Roxb., Fl. Ind. ed. 2, 3: 369 (1832).

Uraria comosa (Vahl) DC., Prodr. 2: 324 (1825).


**Uraria cornosa** Spanoghe in Limneca 15: 193 (1841).


Erect undershrubs, 0.5–2 m tall; stems strong, cylindrical, short-hairy with hooked hairs. Leaves 5–7 foliolate, often mixed with 3-foliolate ones or rarely 1-foliolate on upper stem; leaflets variable, usually narrowly ovate to ovate or ovate-oblong, sometimes elliptic, broadly ovate or somewhat obovate, apex obtuse to acute or mucronate, base rounded, upper surface glossy and glabrous, lower surface pale and minutely hairy, with some hairs along nerves; lateral nerves distinct, 6–8 on each side of midrib, ascending, extending to or looped within margin; secondary nerves prominent, reticulate with succeeding ordered nerves, terminal one 7–18 cm long, 3–7 cm wide, lateral ones usually almost equal length with the terminal one but typically narrower. Petioles 5–13 cm long; rachis usually 5–8 cm long in 5–7 foliolate leaves; petiolules 2–3 mm long, hairy. Stipules deciduous, broadly triangular, acuminate, 10–15 mm long, 3–10 mm wide at base; stipels 3 mm long.

Inflorescences long-pseudoracemose, terminal or terminal and axillary, simple, compact, 15–40(–60) cm long, 2–3 cm wide. Pedicels gminate, 6–12 mm long in flower, 12–15 mm long in fruit, hairy with long hyaline glandular and short uncinate hairs, incurved upward in fruit. Bracts deciduous, narrowly ovate, acuminate, 10–20 mm long, 5 mm wide, imbricate, hairy. Calyx campanulate, whitish or greenish; tube ca. 2
Fig. 3. *Uraria crinita* (L.) Desv. ex DC. Taiwan. Ohashi & Nemoto 200081-a (TUS), a form referable to *U. macrostachya* (Wall.) Prain.

Fig. 4. *Uraria crinita* (L.) Desv. ex DC. Hongkong. S. Y. Hu 10842 (A), a form with narrowly ovate acute leaflets.
mm long; lobes unequal, hairy along margin with long spreading hyaline hairs, upper lobe more or less entire, 1–2 mm long, lower 4–5 mm long in flower, 5–6 mm long in fruit. Corolla rosy or violet, 7–9 mm long; standard orbicular, slightly clawed, ca. 7 mm wide; wings subsessile, 6–6.5 mm long, 2–2.5 mm wide; keel-petals as long as or slightly longer than wings, long-clawed. Ovary 1/3 as long as style, ovules 5–7; style flattened at apex.

Pods bright yellowish or grayish when mature, with 5–6 articles, glabrous or puberulent; articles 2.5–3.5 mm long, ca. 2.5 mm wide. Seeds reniform, 2–2.5 mm long, 1.7–2 mm wide.

Distribution: India, Bangladesh, Myanmar, Thailand, Cambodia, Laos, Vietnam, Malesia, southern China, Taiwan, and Japan (southern Ryukyus).

Representative specimens examined: CHINA.
Hainan. H. Fung 20277(GH); F. C. How 71547 (A); T. Tuyama & al. 81500 (T1, TUS).
Hongkong. C. Wright s. n. (GH), Hance 927 (GH), Y. W. Taam 1429 (A), Hu & But 21959 (A), 20896 (A), 22343(A).
Taiwan. Ueno 2 anno 1898 (TI); T. Kawakami & B. Hayata s. n. anno 1908 (TI); Matuda-Elzi Leg. 6, anno 1919 (TI); T. C. Huang & al. 16129 (A, TUS); Namba & al. s. n. anno 1968 (TI); H. Ohashi & al. 23796 (TUS), 24056 (TUS); H. Ohashi & T. Nemoto 20081 (TUS), 20153 (TUS); Y. Tateishi & Y. Endo 20235 (TUS); Y. Tateishi & al. 25372 (TUS), Y. Tateishi & T. Kajita 25031 (TUS).
Yunnan. C. W. Wang 79145, 80455 (A).

Uraria crinita (L.) Desv. ex DC. var. macrostachya Wall. is based on specimen Wallich 5675 I (K) which was a plant cultivated in Calcutta Botanic Garden derived from seeds collected in China. Uraria macrostachya Wall. is, according to Prain (1897), a name not accepted by Wallich and is regarded as an erroneously printed name under plate 110. Prain (1897) gave a detailed note and assessment of historical treatments between U. crinita and U. macrostachya. He considered U. crinita var. macrostachya Wall. as a distinct species and adopted U. macrostachya Wall. for the species. The name is considered a new combination by Prain, hence the author of the name should be Prain, as U. macrostachya (Wall.) Prain.

Prain (1897) characterized Uraria macrostachya in having broadly ovate, subacute leaflets, long, spreading hairs on the pedicels and yellowish glabrous articles and recorded it from China and Myanmar. However, U. crista appears to be very polymorphic showing wide ranges of morphological variation. Plants with acute leaflets are often found sporadically in southern China, Thailand and Myanmar. Pods are glabrous or puberulent, but have been described as shortly pubescent (Yang and Huang 1995). Uraria crinita and U. macrostachya need to be reexamined in future.
Subshrubs or herbs 1–3 m tall; stems erect, strong, covered with dense brownish hairs, striate. Leaves trifoliolate; petiole 3–4 cm long; rachis 1–2 cm long; terminal leaflet 5–12 cm long, 2.5–5 cm wide, oblong or elliptic-ovate, rounded or obtuse at both ends, apex mucronate, covered with white or
yellowish-appressed hairs, more densely hairy on lower surface: lateral nerves 12–15 on each side of midrib, ascending, extending to margin, densely hairy with yellow hairs; pulvinus ca. 3 mm long, covered with yellow hairs; lateral leaflets smaller than terminal one. Stipules triangular, caudate, hairy, 15–20 mm long, 3–5 mm wide at base; stipels like stipules, 8–10 mm long.

Inflorescence a panicle, 15–40 cm long; each branch raceme 10–20 cm long, covered with dense yellowish glandular hairs 1–2 mm long. Pedicels geminate on each side of midrib on both upper and lower surface; lateral nerves 12–15 more densely hairy on lower surface. Inflorescences covered by bracts. This species is characteristic in having panicles, pubescent pods and oblong or elliptic-ovate leaflets. These features correspond well with *U. lacei* and therefore we consider them to be conspecific.

Fig. 6. *Uricia lagopodioides* (L.) Desv. Taiwan. Ohashi & al. 24101 (TUS).

Fig. 7. Infertrescence of *Uricia lagopodioides* (L.) Desv. showing glabrous pods, long linear calyx lobes, and persistent long acuminate bracts with long patent glandular hairs along margin.


Hedysarum lagopoides Burm. f., Fl. Ind. 168, t. 53, fig. 2 (1768), nom. superfl.

Lespedeza lagopoioides Pers., Syn. 2: 318 (1807), as “lagopoides”.


Uraria alopecuroides Sweet, Hort. Brit., ed. 2, 149 (1830); Wight, Icon.: tab. 290 (1840).

Doodia lagopoidoiodes (L.) Roxb., Fl. Ind. ed. 2, 3: 366 (1832).

Doodia alopecuroides Roxb., Fl. Ind. ed. 2, 3: 368 (1832).

Uraria repanda Wall. ex Benth., Pl. Jungh. 213 (1852).


Perennal herbs or undershrubs, prostrate, much branched at base; stems usually densely patent hairy with long glandular, long eglandular and short hairs. Leaves trifoliolate, often mixed with unifoliolate leaves; leaflets ovate, orbicular to elliptic, 2.5–5(–8) cm long, 1.5–3(–6.5) cm wide, base rounded to subcordate, rarely cordate, apex obtuse to emarginate, upper surface more or less appressed hairy, rarely glabrescent, lower surface hairy; lateral nerves distinct, 6–7 on each side of midrib, extending to margin, tertiary nerves joining to lateral ones. Petiole 1.5–3 cm long, covered with short hairs. Stipules triangular, 4–5 mm long, acuminate, persistent; stipels ca. 2 mm long.

Inflorescence a terminal, pseudoracemose, densely flowered, cylindrical or ovate, 2–9 cm long, 1–2 cm wide. Pedicels hairy, 4–5 mm long in flower, 5–6 mm long in fruit, hooked at apex. Bracts persistent, broadly ovate with long acuminate to caudate apex, 6–8 mm long, grayish, abaxial surface glabrescent but densely long glandular and not glandular hairs along margin. Calyx 5-lobed, densely hairy with long glandular, eglandular, and short hooked hairs, ca. 7 mm long; tube 1 mm; lobes unequal, upper 2-toothed, teeth ca. 1 mm long, the 3 lower lobes linear, ca. 6 mm long, ciliate with long patent hairs. Corolla rosy, purple or violet, 5–6 mm long, included within calyx; standard obovate, sub sessile, 4–5 mm wide; wings sessile, 2 mm wide; keel-petals long clawed. Ovary 2 mm long, 2-ovulate; style ca. 4.5 mm long.

Pods blackish when mature, glabrous, with 1–2 articles; articles ovate, swollen, reticulate, ca. 3 mm long, 2 mm wide; seeds brownish, ca. 1.4 mm long, 1 mm wide, 0.5 mm thick.

Distribution: Tropical regions of Asia and Australia. Asia: India, Nepal, Sikkim, Bhutan, Myanmar, Thailand, Cambodia, Laos, Vietnam, Malesia, southern China, Taiwan, Japan (southern Ryukyus) and Pacific Isl.

Representative specimens examined: CHINA.
Guangxi. R. C. Ching 7243 (A); S. K. Lau 4386 (GH).
Guangdong. C. O. Levine 364 (GH); S. K. Lau 821
In the original description *Hedysarum lagopodioides* L. was recorded as "Habitat in China. Osbeck."

Desvaux (1813) cited *Hedysarum lagopodioides* L. in his *Uraria*, but did not propose a definite combination before 1826.

Candolle (1825) based his combination on *H. lagopoides* Burm. f., i.e., *U. lagopoides* (Burm. f.) DC. He cited the Linnaeus’s name as “An *Hedys. lagopodioides*, Linn. spec. 1057” after the citation of Burmann’s name suggesting a doubt on the identity between the two. Later, Prain (1897) defined both as identical, but he adopted *U. lagopoides* (Burm. f.) DC. Merrill (1910) clarified nomenclature related to these names and retained the earliest epithet in *Uraria*. He (1923) adopted *U. lagopodioides* (L.) Desv., although the name was attributed to Don as the author of the name in error (Merrill 1910).

Van Meeuwen (1961) considered for the first time the author of the name *Uraria lagopodioides* (L.) Desv. as “(L.) Desv. ex DC. (1825)”. Chun and Chang (1965) were also attributed the name to “(L.) Desv. ex DC.” in China. Verdcourt (1979) regarded that *Uraria lagopodioides* (L.) Desv. was published by Candolle (1825), because “Candolle made an erroneous emendation of Linnaeus’ epithet which undoubtedly is wrongly spelt”. He proposed an emendation for use *Uraria lagopodioides* (L.) Desv. ex DC. [emend. Verdc. 1979]. However, he did not notice on Burman’s name and Merrill’s treatment. Candolle (1825) proposed his combination apparently based on Burman’s name as mentioned above, and his treatment is interpreted that he excluded Linnaeus’ name at the same time. We consider therefore that Candolle’s name should be cited as *Uraria lagopodioides* DC., neither *U. lagopodioides* (Burm. f.) DC., *U. lagopodioides* (L.) Desv. ex DC. nor *U. lagopodioides* (L.) DC. Schindler (1928 on page 365) adopted “*U. lagopodioides* (L.) Desv. in Journ. de bot. I (1813) 122”, but Desvaux (1813) cited only “*Hedysarum Lagopodioides*” on page 123. Accordingly, the name was not correctly published in 1813. The correct nomenclature for *U. lagopodioides* (L.) Desv. was published first by Merrill (1910, 1923) and Sanjappa (1992), although they did not consider *Hedysarum lagopodioides* Burm. f. as superfluous.


**[Figs. 8–12]**


Fig. 8. Uraria neglecta Prain. Lectotype of U. hamosa Wall. var. formosana Matsum. (TI).


Fig. 9. Holotype of *Uricia fujianensis* Y. C. Yang & P. H. Huang (PE).
syn. nov.  


Perennial herbs, erect, rarely prostrate, 40–70 cm tall; stems densely brownish spreading pubescent. Leaves 3-foliolate, sometimes 1-foliolate; petioles (1–)3–7 cm long, densely hairy; rachis 1–2 cm long. Stipules triangular, caudate, 15–20 mm long, 3–5 mm wide, persistent; stipels sublinear, ca. 4 mm long. Terminal leaflets ovate-oblong or ovate to broadly ovate, rarely orbicular, 3–8 cm long, 2.5–5 cm wide, apex obtuse or emarginate, with acumen 1–2 mm long, base obtuse to rounded, upper surface appressed pubescent, glabrescent except on nerves, lower surface densely appressed pubescent; lateral nerves prominent, 10–14 on each side of midrib, ascending, extending to margin, prominently reticulate nerved; lateral leaflets 2–4.5 cm long, 2–3 cm wide.

Inflorescence a terminal or sometimes terminal and axillary, pseudoraceme, densely flowered, 6–40 cm long, ca. 2 cm wide, rachis densely patent hairy with long white glandular hairs (1–2 mm long) and short brown hairs. Bracts early deciduous, broadly ovate, long acuminate, 9–18 mm long, 4–5 mm wide, densely appressed sericeous outside, glabrous inside, densely ciliate. Pedicels geminate, hairy as inflorescence rachis, 6–7 mm long in flower, 10–12 mm long and upper part upwardly incurved in fruit. Calyx ca. 5 mm long, densely hairy as pedicel, tube 1.5–2 mm long, lobes narrowly triangular, subequal, 2.5–3 mm long. Corolla white, yellow, purple, 4–6 mm long; standard rounded, emarginate or suborbicular, 3–6 mm long; wings subsessile, ca. 4 mm long, 3 mm wide; keel petals curved, claw 1.5–2 mm long, almost as long as standard. Stamens diadelphous. Ovary 6–9 ovulate, glabrous, shorter than or as long as style.

Pods glabrous, with 4–9 articles; seeds brownish, ca. 2 mm long, 1.4 mm wide, 1 mm thick.

Distribution: India, Nepal, Bangladesh, China and Taiwan.


*Uraaria neglecta* Prain was characterized by oblong not cordate leaflets, long dense cylindrical racemes, and subequal lower calyx-lobes (Prain 1897) and it has been known from India and Nepal (Ohashi 1979). It had been included in *U. lagopodioides* (L.) Desv. in Wallich, Cat. no. 5676D, or *U. rufescens* (DC.) Schindl. as *U. hamosa* Wall. in Wallich, Cat. no. 5681C or *U. lagopus* DC. in Baker (1876). On the other hand, Matsumura (1899) described a variety *U. hamosa*, var. *formosana* Matsum. (Fig. 8), from Taiwan based on differences in the leaflets, racemes, pedicels, calyx and pods in comparison with *U. hamosa* described by Baker (1876). This variety is the same as *Uraaria neglecta*. The variety was regarded by Schindler (1928) as *Christia campanulata* (Benth.) Thoth. as *Lourea campanulata* Benth., but by Hosokawa (1932) as a distinct species of *Uraaria*, *U. aequilobata* Hosok. Hosokawa (1932) distinguished it from *U.
Fig. 10. Holotype of *Uraria longibracteata* Y. C. Yang & P. H. Huang (PE).

Hedysarum pictum Jacq., Collectanea Bot. 2: 262 (1788); Icon. Pl. Ran. 3: 13, tab. 567 (1793).

Doodia picta (Jacq.) Roxb., Fl. Ind. ed. 2, 3: 368 (1832).

Uraria linearis Hassk. in Flora 25, Beibl. 2(48): 61 (1842).

Perennial herbs, 0.5–2 m tall, erect; stems scabrid with dense hooked hairs. Leaves variable, lowest 2 or 3 leaves 1–5 foliolate with orbicular or broadly ovate leaflets 1.5–3 cm long, succeeding 1–3 leaves 3-foliolate with narrowly ovate leaflets 4–10 cm long 1–2 cm wide, then succeeding upper leaves 5–9 foliolate with linear-oblong leaflets; upper leaflets 7–25 cm long, 0.7–2.5(–4) cm wide, coriaceous, rounded or subcordate at base, obtuse at apex, upper surface glossy, often variegated with whitish central line, lower surface distinctly veined, pale and slightly pubescent, principle lateral nerves 9–11 on each side of midrib, ascending, looped within margin; tertiary nerves reticulate, inconspicuous. Petioles 6–11 cm long (3–7 cm in the lower part); pulvinus 2 mm long, hairy. Stipules widely triangular, 10 mm long, long acuminate; stipels similar, ca. 2 mm long.

Inflorescence a pseudoraceme, terminal, densely flowered, 10–70 cm long, 1.3–2 cm wide; rachis densely hairy with straight and hooked hairs. Peduncles 0–5 cm long, rachis long white hairy with patent hooked hairs. Pedicels geminate, 4–6 mm long in flower, with long white hairs and patent hooked hairs, slightly accrescent, 5–9 mm long and reflexed upward in fruit. Bracts linear, 10–25 mm long, 2–5 mm wide, acuminate to ciliate, early deciduous. Calyx ca. 5 mm long, tube 2 mm, densely hairy, 5-lobed; lobes unequal, with long spreading hairs; the two upper ca. 2.5 mm long, almost free; 3
Fig. 11. *Urania neglecta* Prain. Zhejiang, H. Y. Zou 715 (A).

Fig. 12. Inflorescence of *Urania neglecta* Prain. Jiangxi, S. K. Liu 4413 (A).
Fig. 13. *Umbria picea* (Jacq.) Desv. ex DC. Taiwan. R. Price 608 (1).

lower lobes longer, 2–4 mm long. Corolla pink or pale blue, 5–6 mm long; standard obovate, 7–8 mm long, 5 mm wide, long clawed; wings 6.5–7 mm long, as long as keel-petals. Ovary about half as long as style, 5-ovulate.

Pods blackish, glossy, with 3–5 articles; articles 3–3.5 mm long, 3 mm wide; seeds blackish, reniform, ca. 2.5 mm long, 2 mm wide.

Distribution: Tropical Africa, Asia and Australia. Asia: Pakistan, Sri Lanka, India, Nepal, Sikkim, Bhutan, Bangladesh, Myanmar, Thailand, Cambodia, Vietnam, southern China, Taiwan, Japan (southern Ryukyus) and Malaysia.

Representative specimens examined: CHINA. Guangxi. C. Mayon s. n. (K). Taiwan. G.W. Playfair 293 (K); R. Price 608 (TI). Yunnan. M. P. Delavay s. n. 13 June 1887 (K).

The figure 19 in table 5 was cited by Desvaux (1813) in the text as "Hedysarum pictum, crinitum, Lagopodioides et l’ Uraria cercifolia, Desv. (Fig. 19)". In Index Kewensis the figure was referred to U. pica, and van Meeuwen (1961) regarded it as U. cercifolia Desv. ex DC. We agree that the figure is an inflorescence and a pod of U. cercifolia. Schindler (1928) attributed the figure to U. lagopodioides, but van Meeuwen (1961) erroneously mentioned U. cercifolia as a synonym of U. pica. We regard the figure as U. cercifolia and the species is treated as a synonym of U. lagopodioides in this paper.


[Fig. 14–16]


[Hedysarum hamosum Roxb., Hort. Bengal.: 57 (1814), nom. nud.].

Doodia hamosa Roxb., Fl. Ind. ed. 2, 3: 367 (1832) [Type: from E. India. Wallich 5681B (K)].


Perennial herbs or subshrubs, erect or often procumbent, rarely climbing, ca. 1 m tall. Stems slender, numerous, minutely pubescent. Leaves 3-foliolate, mixed with 1-foliolate, rarely almost all 1-foliolate; leaflets ovate or elliptic, terminal one 4–10 cm long, 2–5 cm wide, lateral ones smaller, apex acute, obtuse, emarginate or rounded-mucronate, base rounded or cordate, upper surface glabrescent except on nerves, lower surface uniformly appressed hairy; principal lateral nerves prominent on lower surface, 11–15 on each side of midrib, ascending, ter-
tiary nerves connect lateral nerves. Petioles 1.5–3 cm long; rachis 1–1.5 cm long, petiolules 1 mm long. Stipules 8–13 mm long, broadly triangular at base, caudate, adaxially pubescent, ciliate; stipels similar, 3–5 mm long.

Inflorescence a pseudoraceme, rarely panicle, more or less loosely flowered, 8–25 cm long, rachis with densely patent hooked hairs mixed with longer straight white glandular hairs. Bracts broadly ovate, ca. 2 mm long, ciliate with patent long hyaline hairs. Corolla pale blue or violet; standard broadly obovate, as long as wings. Ovary 2–3 times shorter than style, hairy, 5–8 ovulate.

Pedicels geminate, with long glandular hairs but without hooked hairs, 5–6 mm long and ascending in flower, reflexed upward in fruit. Calyx campanulate, hairy with long glandular hairs, tube ca. 1 mm long; lobes subequal, ca. 2 mm long, ciliate with patent long hyaline hairs. Corolla pale blue or violet; standard broadly obovate, ca. 6 mm long, subsessile; wings subsessile, ca. 6 mm long, curved at top; keel petals curved at apex, narrowly clawed, as long as wings. Ovary 2–3 times shorter than style, hairy, 5–8 ovulate.

Pods brownish, with 5–7 articles, minutely hairy, exserted from calyx; articles ca. 2.5 mm long, 2.2–2.5 mm wide. Seeds brown, almost quadrate, ca. 2 mm long, 1.7 mm wide, 1.2 mm thick.

Distribution: Sri Lanka, India, Sikkim, Bangladesh, Myanmar, Thailand, Cambodia, Laos, Vietnam, Indonesia, and southern China.


Urarial lagopodioides or U. neglecta (Schindler 1928).
Fig. 15. Inflorescence of *Uraria rufescens* (DC.) Schindl. Guangxi. R. C. Ching 7566 (A).

Fig. 16. Pods of *Uraria rufescens* (DC.) Schindl. Guangdong. T. W. Tak & W. K. Chow 14186 (A).
Fig. 17. Isolectotype of *Uraria hamosa* Wall. var. *sinensis* Hems. China. Ichang. A. Henry 2361 (GH).

wide, clawed, with a brownish stain at base; wings curved, short clawed; keel petals with long claw, ca. 7 mm long, apiculate at apex, claw ca. 2.5 mm long. Ovary 6–7 ovulate, 6

mm long, hairy; style 7 mm long.

Pods with 5–7 articles, with glandular hairs especially on sutures, glabrescent; articles ca. 3 mm long, 2.5 mm wide; seeds yel-
lowish, ca. 2.5 mm long, 1.8 mm wide, 1.4 mm thick.

Distribution: Bhutan and China.

Representative specimens examined: CHINA. Guangdong. Tsand & al. 3223 (NA), 15094 (USNC). Guizhou. Y. Tsiang 6556 (A), 6755(A); S. W. Teng 90715 (A). Hainan. Liang 66560 (A, K). Hupeh. Ichang. Henry 2361 (CAL and GH isolecotype, K lectotype), Henry 3137 (K syntype of Uraria hamosa Wall. var. sinensis Hemsl.). Sichuan: Liang 66560 (K); Schneider 837 (GH); H. Smith 1799 (A); Wilson 2935 (A). Yunnan. Forrest 20581 (A), 66560 (K); Schneider 837 (K); d’Alleizette s. n., 7, 1908 (P); Cavalerie 1453 (K, P); Delavay 1959 (P); Ducloix 569 (P), 3755 (P), 7399 (P); Forrest 14824 (K, P), 20581 (A, K); Howell 93 (P); Maire 23 (P), 236 (P); Rock 6954 (P), 6963 (GH, P), Ten s. n., 1920 (P); Henry 9434 (A), 9434A (A, CAL), 13481 (A); McLaren’ collectors u.114 (A); K. M. Feng 2707(A); J. Murata & F. Yamazaki 9024 (TI, TUS), J. Murata & F. Yamazaki 9113 (TI, TUS); F. Maekawa 25752 (TUS). Xizhang. R. P. Soulie 1059 (A, NA); K. Wong 15041 (K); Monbeig s. n., 17.8.1909 (K, P).

Uraria hamosa Wallich. var. sinensis Hemsl. was characterized by Hemsley (1887) in having obovate, rotund leaflets, lax flowered pseudoraceme and long pedicels. There are two syntypes in Kew, i.e. Henry 2361 and Henry 3137. We select Henry 2361 (Fig. 17) as lectotype, because this specimen shows long pedicels clearer than another syntype.

Excluded species described from China


Uraria latisepala Hayata, Icon. Pl. Formos. 3: 70 (1913) [Type: Taiwan. Mt. Tohozan, ad 6500 ped. Alt. T. Kawakami & S. Sasaki s.n. 6 Oct. 1909 (TI holo)]. This is a synonym of Christia campanulata (Benth.) Thoth.

Conclusion

Our results are shown in comparison with those of Yang and Huang (1981, 1995) as in Table 1.

Table 1. List of Chinese Uraria by Yang and Huang (1981, 1995) and the present study

<table>
<thead>
<tr>
<th>Yang and Huang (1981, 1995)</th>
<th>Present study (new treatment in bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urariopsis brevissima Y. C. Yang &amp; P. H. Huang</td>
<td>Uraria cochinchinensis Schindl.</td>
</tr>
<tr>
<td>Urariopsis cordifolia (Wall.) Schindl.</td>
<td>Uraria cordifolia Wall.</td>
</tr>
<tr>
<td>Uraria clarkei (Clarke) Gagnep.</td>
<td>(synonym of U. lacei)</td>
</tr>
<tr>
<td>Uraria crinita (L.) Desv. ex DC.</td>
<td>Uraria crinita (L.) Desv. ex DC.</td>
</tr>
<tr>
<td>Uraria lacei Craib</td>
<td>Uraria lacei Craib</td>
</tr>
<tr>
<td>Uraria lagopodioides (L.) Desv. ex DC.</td>
<td>Uraria lagopodioides (L.) Desv.</td>
</tr>
<tr>
<td>Uraria fujianensis Y. C. Yang &amp; P. H. Huang</td>
<td>Uraria neglecta Prain</td>
</tr>
<tr>
<td>Uraria picta (Jacq.) Desv. ex DC.</td>
<td>Uraria picta (Jacq.) Desv. ex DC.</td>
</tr>
<tr>
<td>Uraria rufescens (DC.) Schindl.</td>
<td>Uraria rufescens (DC.) Schindl.</td>
</tr>
<tr>
<td>Uraria longibracteata Y. C. Yang &amp; P. H. Huang</td>
<td>(synonym of U. neglecta)</td>
</tr>
<tr>
<td>Uraria sinensis (Hems.) Franch.</td>
<td>Uraria sinensis (Hems.) Franch.</td>
</tr>
</tbody>
</table>
We would like to thank the directors and staff of the herbaria listed at the beginning of this paper for loan or access to their collections. We are grateful to D. E. Boufford, A. Brach and E. Wood (Harvard University Herbaria), G. Lewis, B. Schrire and L. Rico Arce (K), X. Y. Zhu (PE) and J. Murata (TI) for their help in our herbarium works and for references.

References


大橋広好, 五百川 裕，P. ディホン：中国のマメ科フジボガサ属


U. aequilobata は Yang and Huang (1981) では広布種 Uraria lagopodioides (L.) Desv. ex DC. の異名とされているが、これは Huang and Ohashi (1977) の扱いと同じである。さらに広西省からも1新種 Uraria guangxiensis W. L. Sha が追加されているが、これは中国植物誌41巻（1995）に記録されていない。これらの記録を整理してみると、台湾を含めて中国にはフジボガサ属として11種、Urariopsis として2種が認められていることとなる。本研究ではフジボガサ属と Urariopsis の中国産全種について再検討を試みた。

まず始めに属についてみると、われわれは Urariopsis はフジボガサ属と同一属と考える（De Haas et al. 1980, Dy Phon 1987, Ohashi 2005). したがって中国のフジボガサ属は合計13種があることになる。