A new species of *Hedysarum* (Fabaceae, Hedysareae) from Xizang (Tibet), China.

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ABSTRACT: A new species of *Hedysarum* (Fabaceae, Hedysareae) was found in Tibet, China. This new species, *Hedysarum hirtifolium*, belongs to sect. *Hedysarum* and is readily distinguishable in having greenish yellow flowers, pubescent above surface of leaflets and transversely obovate laminae. So far, it is collected from only one locality in Tibet.

Keywords: Fabaceae, Hedysareae, *Hedysarum*, new species, Tibet.

Most species of *Hedysarum* have purple corolla. We found plants having yellow one of *Hedysarum* in E. Tibet. The plant should belong to sect. *Hedysarum* in having well developed stem (Fig. 1), veiiclets conspicuous and absence of prickles on leaves (Choi and Ohashi, 2004).

In the section, however, it has unique features as the following characters. Above surface of leaflets is pubescent. Leaves are transversely obovate, that is, ventral suture more or less straight and dorsal one arc(circle), with irregularly denticulate margins. Bracts are caducous, broadly ovate and longer than pedicel.

*Hedysarum hirtifolium* B. H. Choi, sp. nov.

TYPE: China. Tibet: Between Markam and Chubalung, 29° 43′32″N, 98°46′18″W, 20 July 2005 (fl, fr), Y. Endo & Y. Iokawa 536102 (holotype, IUI; isotype, TUS). Fig. 1.

*Afinis Hedysarum citrinum, H. polybotrys et H. assuriense, sed pilis in pagina superior foliolis densioribus differt.*

A perennial, up to 70 cm tall; stem erect, robust, lower part glabrous, upper one slightly pubescent, about 3 mm thick at the middle part. Stipules leaf-opposite, membranaceous, connate, pubescent outside, glabrous inside, about 1 cm long. Leaves alternate, usually 7–10 cm long; leaflets opposite, 7–8 pairs, ovate, obtuse apex, 16–20 mm long, 7–10 mm broad, pubescent hairs (about 0.4 mm long) and veinlets conspicuous above, densely pubescent beneath. Racemes 5–25 cm long including the peduncle, peduncle as long as or shorter than substanding leaves, densely pubescent; pedicels 2–3 mm long, pubescent with appressed hairs. Bracts subulate to triangular, 4–10 mm long, glabrous inside, pubescent outside, slightly longer than pedicel, caducous. Pedicel densely appressed hairs, about 2 mm long. Bracteoles subulate to narrowly triangular, usually 2 mm long, deciduous at fruit, glabrous inside, pubescent outside. Calyx 5–6 mm long, pubescent outside, rather densely appressed minute pubescent on the lobes inside, 5-teethed; tube 2.0–3.0 mm long; calyx-teeth unequal, upper and lateral teeth broadly triangular, about 1 mm long, much shorter than tube, lower most tooth narrowly triangular, about 3–4 mm long, 3 times longer than others and a little longer than tube. Corolla greenish yellow, keel-petals longer than the other petals, standard a little longer than the wings. Standard obovate, emarginate at the apex, 11–12 mm long, glabrous; wings 10.5–11.5 mm long including the claw (claw 3.0–3.5 mm long), the lamina narrowly elliptic, obtuse at the apex, auriculate at the base, the auricle usually as long as the claw; keel-petals 14–15 mm long including the claw (claw 4–5 mm long), the lamina 4–5 mm wide, obtuse or acute at the apex, shortly auriculate at the base. Androecia diadelphous, vexillar stamen about 12 mm long, the longest one among connate stamens 15–17 mm long. Gynoecia 16–18 mm long, shortly stiped, the ovary narrowly elliptic, 4–6 mm long, 2–4-ovuled, glabrous, the style glabrous. Pods 2–4-jointed, up to 4 cm long, subsessile to long stipitate, glabrous, with clear reticulation on both surfaces, both sutures with wings, wings 0.1–0.3 mm broad and irregularly denticulate; articles broadly elliptic or transversely obovate, 7–9 mm long and 5–6 mm wide.

Several species of *Hedysarum* bearing yellow corolla have

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been reported from western China (Cui ed., 1988; Xu & Choi, 2010). Among them the plant is similar to H. cirinum E. G. Baker, H. polybotrys Handel-Mazzetti, H. ussuriense Schischkin & Komarov (as H. vicoides Turczaninow) and H. taipeicum (Handel-Mazzetti) K. T. Fu (= H. vicoides Turczaninow var. taipeicum (Handel-Mazzetti) Liu ex B. H. Choi & H. Ohashi) in having yellow corolla and unequal calyx teeth, that is, the lower most tooth much longer than the others. However the plant is clearly distinguished by the hairy on above surface of leaflets (Fig. 1) against glabrous in most species of the section.
including the latter. The plant might be closely related to *H. assuriense* and *H. taipeicum* in having caducous and broadly ovate bracts (Choi and Ohashi, 1988), but it is distinguished from the taxa by calyx tube covered with appressed hairs (Fig. 2) in addition to the hairs on leaflets. The plant is also similar to *H. polybaris* and *H. alpinum* Linnaeus in having long inflorescence, but the latter species differs from the plant by its marcescent (persistent to fruits) and narrowly ovate bracts and sooth margins of laments, in addition to the hairs on leaflets. The plant also has resemblance to *H. citrinum*, but the former differs the latter in having the lower most calyx tooth 3 or 4 times longer than the others as against less than 2 times in the latter and dentate margins of laments against smooth in the latter, in addition to hairs on leaflets.

In Himalaya there are several species having yellow corolla such as *H. thiochrum* Handel-Mazzetti, *H. limitaneum* Handel-
Mazzetti, and *H. astragaloides* Bentham ex Baker (Ohashi & Tateishi, 1975). However the plant is easily distinguished from the latter species by its unequal calyx teeth and bract shapes together with hairs on leaflets and pod shapes.

In the section *Hedysarum*, a few species have hairs on the above surface of leaflets such as *H. campylolarpon* H. Ohashi, *H. falconeri* Baker, *H. kumaonense* Bentham ex Baker, *H. pseudoastragalus* Ulbrich and *H. taoriparum* B. H. Choi & H. Ohashi (Ohashi & Tateishi, 1975; Choi & Ohashi, 1988) which are all distributed in W. China and Himalaya. However, these species are not allied to the plant in having flowers purple and calyx teeth subequal.

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**Literature Cited**


