

Hiroyoshi OHASHI\* : A note on *Hedysarum* and *Astragalus*  
(Leguminosae) with reference to  
two Himalayan species

大橋広好\* : イワオウギ属とゲンゲ属の区別について\*\*

In the course of studying the genera *Hedysarum* and *Astragalus* for our 3rd report of "The Flora of Eastern Himalaya", it became necessary to make a new combination and a new name in the two genera.

The genus *Hedysarum* has the loment against the legume of the genus *Astragalus*. This difference between the two genera is very clear and has been regarded as significant, so both are usually not compared immediately in other characters. However, the general appearances of the two are often similar to each other especially when they are in flowering stages. Although they are entirely different in the structure of flower, the differences do not seem to be understood well. Therefore, it will be worth to describe floral distinctions between *Hedysarum* and *Astragalus*.

Except for the differences in the fruit mentioned above the shapes of wings and keel-petals are one of the most reliable characters to distinguish *Hedysarum* from *Astragalus*. In *Hedysarum* the claw of wings is shorter than the lamina (usually less than 1/3 of the whole length), while in *Astragalus* that is longer (usually longer than 1/2 of the whole length). In the former the lamina of wings is narrowly elliptic and 4 to 5 times longer than broad, whereas in the latter that is ovate and 1 to 2 times longer than broad. In the former the claw of keel-petals is shorter than the half of the whole length, while in the latter that is longer than the half. Also, *Hedysarum* is distinguishable from *Astragalus* by the presence or absence of disk and dissepiment and by the shape of calyx.

Based on these distinctions between *Hedysarum* and *Astragalus* the following new combination and new name are proposed:

\* Department of Botany, Faculty of Science, University of Tokyo, Hongo 7-3-1, Tokyo. 東京大学理学部植物学教室.

\*\* 東京大学インド植物調査研究報告 No. 37.



Fig 1. Holotype of *Hedysarum strobiliferum* Baker (= *Astragalus Bakeristrobiliferus* Ohashi).

1) **Hedysarum manaslense** (Kitamura) Ohashi, comb. nov.

*Astragalus manaslensis* Kitamura in Kihara, Peoples of Nepal Himalaya 422 (1957) e typo.

*Hedysarum nepalense* Ohashi var. *subhirtellum* Ohashi in Journ. Jap. Bot. 49: 164 (1974).

var. **nepalense** (Ohashi) Ohashi, comb. nov.

*H. nepalense* Ohashi in Journ. Jap. Bot. 49: 162, fig. 1 (1974).

2) **Astragalus Bakeristrobiliferus** Ohashi, nom. nov.

*Hedysarum strobiliferum* Baker in Hook. f., Fl. Brit. Ind. 2: 146 (1876) e typo (Fig. 1).

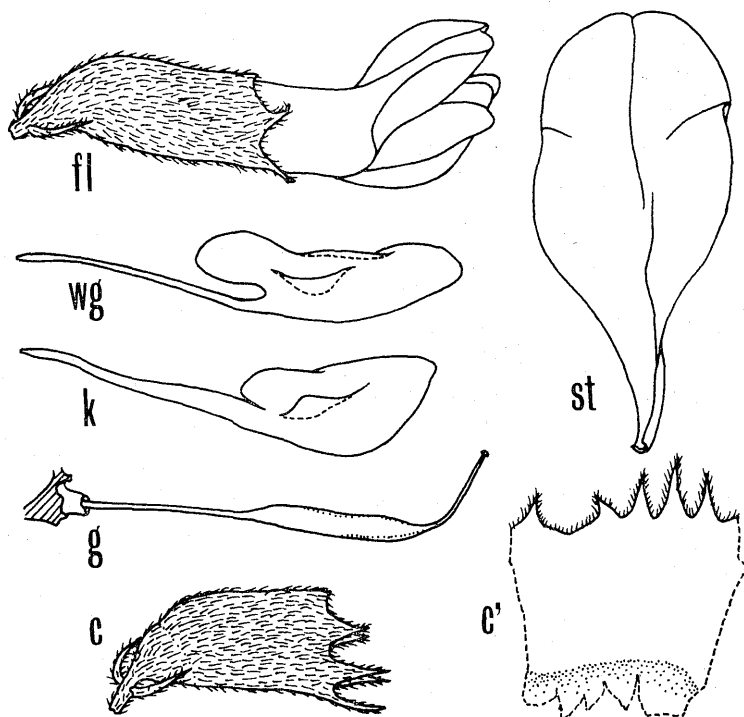


Fig. 2. Flower of *Astragalus Bakeristrobiliferus* Ohashi. fl: a flower, st: standard, wg: wing, k: keel-petal, g: pistil with the disk at the base, c: calyx with the bracteoles on the pedicel, c': calyx from inside showing the shape of calyx-lobes. All  $\times 5$  and drawn from the holotype.

*Astragalus chlorostachys* Lindley sensu B. Fedtschenko in Act. Hort. Petrop. 19: 340 (1902).

*Hedysarum strobiliferum* Baker was named based on the specimen collected by Falconer in 1864 in Kashmir. The species is very characteristic especially in having densely flowered racemes with broadly ovate, cuspidate bracts, hence the young inflorescences of the species form strobilaceous features. However, the species belongs definitely to *Astragalus* because of the presence of minutely toothed calyx, long-clawed wings and keel-petals, distinct disk, and clear but imperfect septum in the ovary. Among the Himalayan species of the genus, the species is doubtlessly referable to the member of the subgenus *Phaca* (L.) Bunge by its perennial habit, with basifixed hairs, free stipules, elongated and densely flowered racemes, and naked stigmas. However, in the subgenus as well as the genus *Astragalus* the species is not identified as any hitherto known species. B. Fedtschenko (1902) determined it as *Astragalus chlorostachys* Lindley, but the species differs clearly from the Falconer's specimen in the habit, number and size of leaflets, shape of the bracts and length of racemes. Therefore, though based on only one known specimen, I regard it as a distinct species and named it as *Astragalus Bakeristrobiliferus*.

\* \* \* \*

東部ヒマラヤの植物第3報の中に発表を予定しているマメ科を調べていた際にイワオウギ属の植物がゲンゲ属で記載されていた例とその逆の場合とに出会った。この両属間では他にも同様な間違いの例がいくつか知られている。両属は果実のちがいによって区別されるが、花期にはしばしばよく似ていて不完全な標本によっては区別しにくいこともある。イワオウギ属は節莢をもち、イワオウギ連に属すが、ゲンゲ属はいわゆる莢または豆果 (legume) をもち、コマツナギ連に属する。この特徴が違いとして非常に重要であると考えられているため、普通これ以外の形質によって両属を区別することはあまり行われていない。しかし、翼弁と竜骨弁の形は非常にはっきりと異なっており、両属の区別点として最も重要な形質と思われる。イワオウギ属の翼弁ではつめは全体の1/3以下の長さであり、弁 (lamina) は狭長楕円形で長さは幅の4-5倍あるが、ゲンゲ属では翼弁のつめは全体の半分より長く、弁は卵形で長さは幅と同長あるいはそれ以上でかつ2倍以下である。また竜骨弁においてもイワオウギ属のつめは全長の半分以下であり、ゲンゲ属では半分以上である。その他萼の形、蜜腺の有無、ゲンゲ属ではしばしば子房の中に不完全な仮隔壁がみられることなども果実がない場合の区別点となる。