

# NOTES ON THE FLORA OF TAIWAN (7)—

## Three New Legumes<sup>(1)</sup>

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**Abstract:** One new species, *Ormosia hengchuniana* Huang, Huang & Yang, one new record *Eriosema chinense* Vogel, and one new naturalized species, *Clitoria falcata* Lam. are reported here.

### INTRODUCTION

Our intensive collection of legumes around Hengchun peninsula of southern Taiwan made it possible for us to propose three new taxa.

### TAXONOMIC TREATMENT

1. *Eriosema chinense* Vogel in Nov. Act. Nat. Cur. xix Suppl. I. 31. 1843; Hook. f. Fl. Brit. India 19. 1879; Bentham, Fl. Australiensis 2: 268. 1864; Trimen, Handbook Fl. Ceylon 2: 81. 1894; Wang & Tang, Illust. Princ. Pl. China, Legum. 701. 1955; Anonymous, Iconographia Cormophytorum Sinicorum 2: 508. 1972

猪仔笠 Fig. 1

An erect herb, 5–20 cm tall; stems terete, whitish hairy. Leaves simple, oblong-lanceolate, 2.3–2.5 cm long, 5–7 mm wide, the apex obtuse with apiculate ending, the base obtuse to round, the margin entire, long hairy, appressed white hairy on both surfaces; petioles 2 mm long, articulate; stipule linear, about 1 cm long. Flowers 1–3, yellow, axillary racemose; calyx-lobes triangular, shorter than tube, loosely covered with whitish long hairs; corolla covered with long whitish hairs outside; standard 7–8 mm long, 6 mm wide, with keel-like auricles at base, the wings with claws, 2 mm long, the 2 keels fused with claws, 2 mm long; stamens diadelphous; anthers monomorphic; stigma terminal, stout at base; fruit elliptic, slightly flat, 0.8–1 cm long, with long hairs; seeds brown, 1–2, with linear hilum.

Distributed in the Philippines, N. Australia, Queensland, E. Bengal, Burma, India, Vietnam, Malacca, China (Kwangtung, Kwangsi, Yunnan, Kueichou); Taiwan, growing among the grasses at the Kengting National Park along east coast.

PINGTUNG CO.: Chufongpi, K. C. Yang 3854; Chialoshui, K. C. Yang 3855.

This species is similar to *E. himalaicum* Ohashi and still left the question for future study (Ohashi, 1966). We decided to accept this name after the senior

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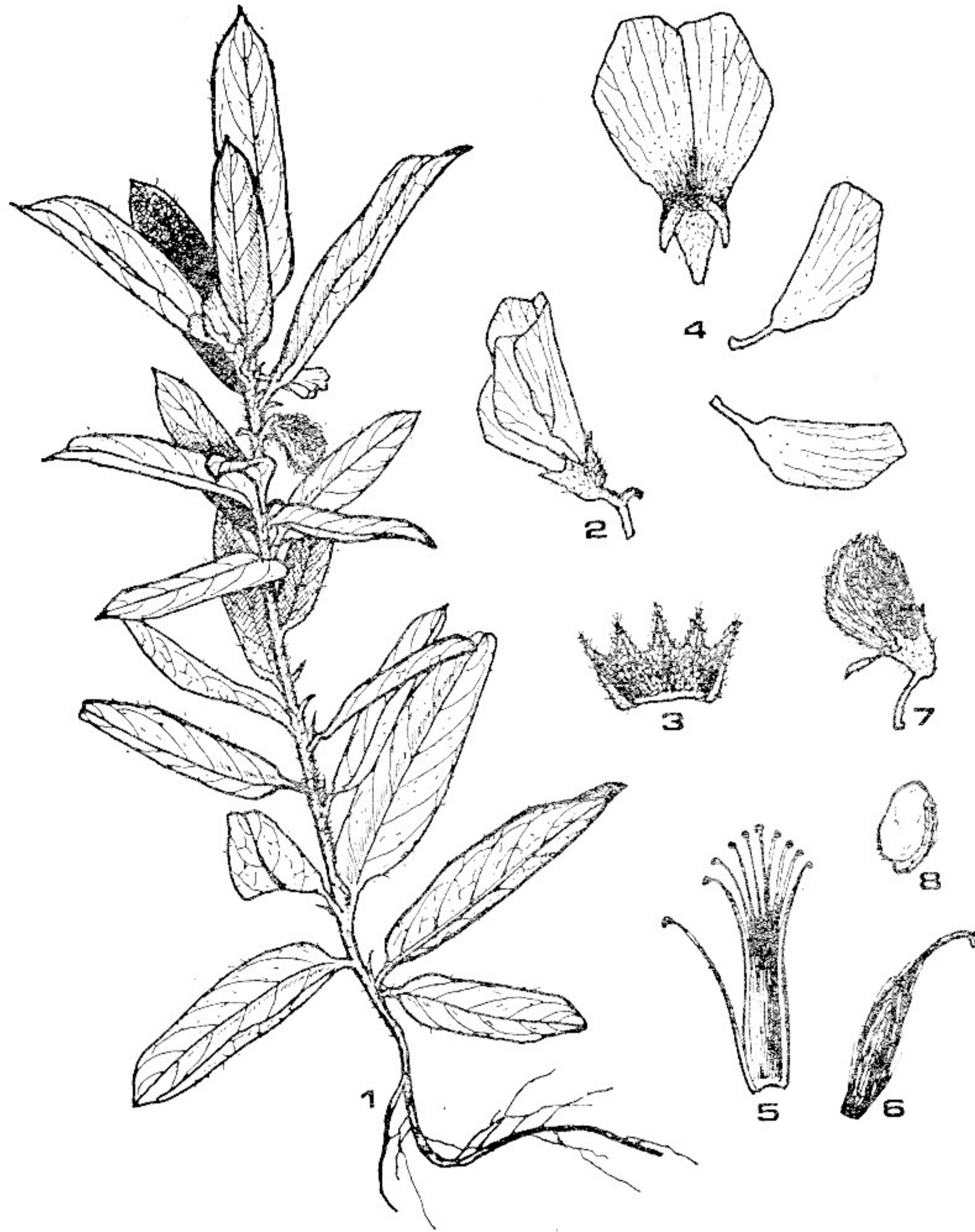


Fig. 1. *Eriosema chinense* Vogel (Yang 3854).

1. Habit; 2. Flower; 3. Calyx; 4. Corolla; 5. Stamens;  
6. Pistil; 7. Pod; 8. Seed.

author had examined many specimens kept at Rijksherbarium, Leiden on August 20, 1989 since it belongs to one of the polymorphic species with wide range of geographical variation. The tuber is used for medicinal purpose.

2. *Ormosia hengchuniana* T. C. Huang, S. F. Huang et K. C. Yang, *sp. nov.*

恒春紅豆樹 (新名稱) Fig. 2

*O. emarginata* sensu Ho in Journ. Taiwan Mus. 36(2): 1, 1983; Ohashi *et al.* in Sci. Rep. Tohoku Univ. 4th ser. (Biol.) 38: 325, 1984; Huang & Huang in *Taiwania* 32: 87, 1987; *non* (Hook. & Arn.) Benth.

*Arbor* sempervirens, ad 8 m alta; ramulis juvenioribus novellis adpresse aureo-pubescentibus. *Folia* imparipinnata alterna; foliolis 7, raro 5 vel 9 apice acuto ad obtuso, basi acuta ad rotundata vel leviter emarginata, pare primo oblongo ad oblongo-lanceolato 1.5—4 cm longo et 0.8—2 cm lato, pare terminali obovato-lanceolato

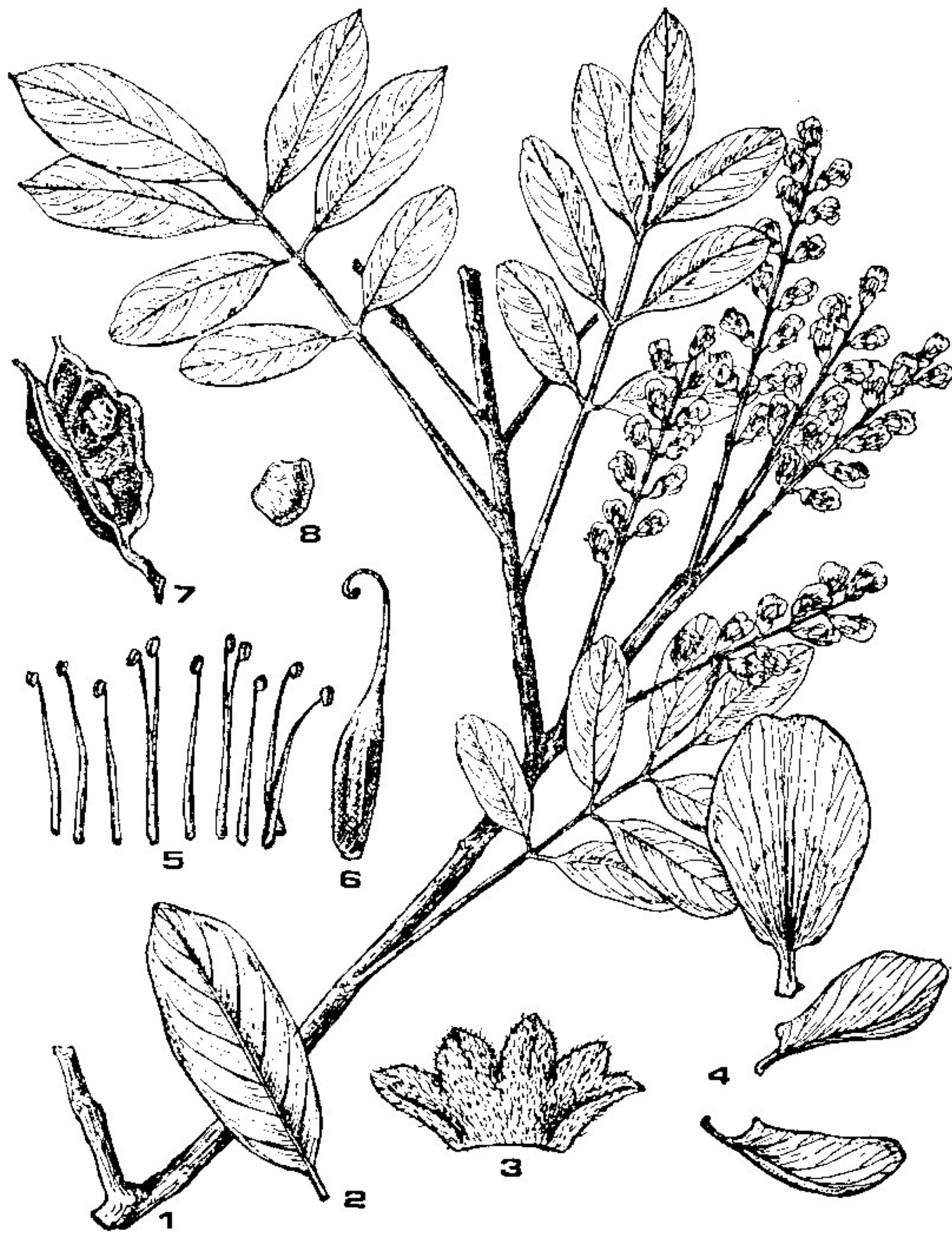


Fig. 2. *Ormosia hengchuniana* Huang, Huang & Yang.

1. Fruiting branch; 2. Leaf; 3. Calyx; 4. Corolla; 5. Stamens; 6. Pistil;  
7. Pod; 8. Seed. (7, 8 Huang & Huang 13533; 1, 2, 3, 4, 5, 6 Yang 3846)

4–12 cm longo et 1.5–3 cm lato, subtus aureo pubescente juventute; petiolulis pulvinatis. *Inflorescentia* racemosa terminalis vel raro axillaris dense aureo-pubescentis; calyx campanulatus dimidium corollae aequans 5-lobatus, lobis late ovatis 0.3 mm longis aureo-pubescentibus, tubo 2 mm longo; corolla rubro-purpurata 1 cm longa, unguibus 2 mm longis, vexillo 8–9 mm lato emarginato, apice latiore quam basi, ala obovata, apice latiore quam basi, carina oblonga; stamina 10 libera vel duabus partibus basi connata; pistillum logipilosum secus sutram; gynophorum fructiferum 3–5 mm longum; stigma terminale, reflexo introrsum bilobata glabra. *Legumen* 1–3 segmentibus, compresso-oblongum, stipite 3–5 mm longo, gynophoro 3–5 mm longo; semina angulata pallida rubra, hilo 3–4 mm longo.

Haec species nova *O. emarginatae* (Hook. & Arn.) Benth. similis sed legumine

mesocarpio tenui, ramulis juvenioribus aureo-pubescentibus, foliolis 7–9 tenuibus apice acutibus, calyce pubescente, corolla rubro-purpurata, ovario longipiloso secus sutram et hilo linearo differt.

Habitat in sylvis montium margineum vel rivulum inter 200–500 m supra mare in penninsula Hengchunia.

PINGTUNG DISTRICTUS: in sylvis sempervirentibus monte Nanrenshan, K. C. Yang 3846 (Holotypus in Herb. TAI), 3847, T. C. Huang 14033, Huang & Huang 13533, Huang & Wu 14678, S. F. Huang 1822, M. T. Kao 9526; in Motan, Chung 4929.

An evergreen small tree, up to 8 m high, young branchlets with golden yellowish hairs. Leaves odd-pinnate, alternate, pubescent beneath with golden yellowish hairs when young; leaflets opposite, (5-)7(-9), the apex acute to obtuse, the base acute to round or slightly emarginate, the first pairs oblong to oblong-lanceolate, 1.5–4 cm long, 0.8–2 cm wide, the terminal one obovate-oblongate, 4–12 cm long, 1.5–3 cm wide, with golden yellowish hairs beneath when young; petiole pulvinous. Inflorescence terminal (rarely axillary) racemes, with golden yellowish hairs; calyx campanulate, half as long as corolla, 5-lobed, the lobes broad ovate, about 3 mm long, covered with golden yellowish hairs, the calyx tube 2 mm long; corolla reddish purple, 1 cm long, with claws 2 mm long, the standard 8–9 mm wide, apex wider than base, emarginate at apex, the wing obovate with midrib veins, wider above, the keels oblong, free with 1(-2) unequal auricles at base, with midrib veins along margin; stamens 10, free or two pairs fused at base of filaments; pistils hairy on ovary suture, the gynophore, 1.3 mm long, the stigma terminal, reflexed inwardly, bilobed dehiscent, glabrous. Fruits 1–3-seeded, flatly oblong when 2–3-seeded, the fruiting stalk 3–5 mm long, the gynophore 3–5 mm long in fruit. Seeds angled, pale red; hilum 3–4 mm long.

Endemic, found only in the Hengchun Peninsula of the southern part of Taiwan at altitudes of 200 to 500 m high along forest margin or stream bank.

PINGTUNG CO.: Motan, Chung 4929; Nanrenshan, S. F. Huang 1822, Kao 9526, K. C. Yang 3846 (Holotype, TAI), 3847, Huang 14033, Huang & Huang 13533, Huang & Wu 14678.

This new species differs from *O. emarginata* (Hook. & Arn.) Benth. by its thinner mesocarp; trunk not bright green; young branchlets and leaves with golden yellowish hairs; leaflets (3-)7–9, thinner and acute apex; corolla reddish purple with different shape; ovary with long hairs along suture; stigma reflexed inwardly bilobed dehiscence and seed with longer hilum whereas the latter has thick mesocarp; trunk, young branchlets and leaves bright green and glabrous; leaflets 3–5(-7); calyx pubescent only at margin; corolla pink; ovary glabrous; stigma folded vertically, apical dehiscence and seeds with shorter hilum.

This new species was first treated as *O. emarginata* by Ho (1983), subsequently adopted by Ohashi *et al.* (1984) and Huang and Huang (1987) with certain reservation. In July 1989, Mr. K. C. Yang collected for the first time the flower material from Nanrenshan. Meanwhile T. C. Huang collected a fruiting specimen (Huang 14352) with seeds of *O. emarginata* at Victoria Park, Hong Kong on August 31, 1989. A comparison between the two species clarifies the long unsolved question.

For the local users, the following key is given.

#### Key to the species

1. Trunk not green and not smooth; branchlets and young leaflets pubescent;

leaves chartaceous, lanceolate, obtuse, the apex acute to acuminate; calyx hairy all over; mesocarpus thinner; hilum 3-4 mm long; stigma reflexed inwardly, bilobed dehiscent, larger (Taiwan).

- 2. Leaflets 3-5(-7), the apex acuminate with obtuse tip; corolla white, 1.5-2 cm long; stigma pubescent; ovary densely hairy; fruiting stalk 7-10 mm long; seed round.....2. *O. formosana*
- 2. Leaflets (5-)7-9, the apex acute with emarginate tip; corolla reddish purple, 1 cm long; stigma glabrous; ovary hairy along suture; fruiting stalk 3-5 mm long; seed angled.....3. *O. hengchuniana*
- 1. Trunk shinning green and smooth; branchlets and young leaflets glabrous; leaves coriaceous, oblanceolate, the apex emarginate; calyx hairy only on margin; mesocarp thicker; hilum 2 mm long; stigma vertically folded, apical dehiscent, small (Asia except Taiwan).....*O. emarginata*

3. ***Clitoria falcata*** Lam., Encycl. Meth. Bot. 2: 51. 1876; Fantz, Ann. MBG. 67(3): 584-595. 1981. 鎌刀莢蝶豆 (新名稱) Fig. 3

A herbaceous vine; stem 2 mm thick, pubescent, the internodes 7-17 cm long. Leaves trifoliolate, oblong elliptic to ovate, the apex obtuse, mucronate, the base obtuse to rotund, 5-5.5 cm long, 2.5-3.5 cm wide, dark green and glabrous above, pale and densely pubescent below, the veins weakly raised above, prominently raised below, primary veins 6-7 pairs, obliquely ascending; petiole 2-5 cm long, pubescent; stipules 3 mm long, broadly ovate, pubescent; stipels persistent, pubescent. Flowers cleistogamous; calyx tube 3-4 mm long, the lobe narrowly



Fig. 3. *Clitoria falcata* Lam.

lanceolate, 4—5 mm long. Pods pale brown, slightly curved, biconvex, subquadrangular, 4-costates, 3 cm long, 8—9 mm wide, enclosed in the calyx with base of fruit; seeds elliptic, slightly compressed, 3 mm long, 2 mm wide, 4—5 per pod.

Distributed in the Central America, South America, W. India and tropical Africa.

PINGTUNG CO.: Hengchun, Lung-luan Tan, *Yang 3933*.

This plant is recently naturalized and grows among the shrubs or open grassland.

According to the letter of Dr. Paul R. Fantz (1990): "I have annotated nearly 10,000 sheets of *Clitoria*. The specimen represents the first voucher I have seen on *Clitoria falcata* in Asia. This is possibly the first account of this new introduction to Asia."

For local users, the key for *Clitoria* species found in Taiwan is provided.

1. Leaflets 3; pod subquadrangular, oblong-elliptic, turgid, less than 3 cm long; seeds less than 6 per pod.....*C. falcata*
1. Leaflets 5-9; pod linear, flat, more than 5 cm long; seeds more than 6 per pod  
.....*C. ternatea*

### ACKNOWLEDGEMENTS

The Latin description improved by Dr. H. P. Nooteboom of Rijksherbarium, Leiden and an identification of *Clitoria falcata* Lam. by Dr. Paul R. Fantz, North Carolina State University are greatly appreciated.

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## 臺灣植物誌之觀察 (7)

### 叁種新豆科植物

黃增泉 楊國禎 黃星凡

### 摘 要

最近採集資料中提出叁種屬於豆科之新植物：新記錄種屬—豬仔笠(*Eriosema chinense* Vogel)、新種—恒春紅豆樹 (*Ormosia hengchuniana* Huang, Huang & Yang) 及新歸化種—鎌刀莢蝶豆 (*Clitoria falcata* Lam.)。