

New taxa and nomenclatural changes in *Rhynchosia* Lour. and *Eriosema* (DC.) Reichb. (Leguminosae-Papilionoideae-Phaseoleae) from Madagascar and the Comoro Islands

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Summary: *Baukea* Vatke is considered to be a synonym of *Rhynchosia* Lour., and a new name, *Rhynchosia baukea* Du Puy & Labat, is given for the replaced synonym *Baukea insignis* Vatke. *R. chapelieri* Baillon is lectotypified. Morphological characters support the description of new species and subspecies of *Rhynchosia* and *Eriosema*: *Rhynchosia androyensis* Du Puy & Labat from southern Madagascar, *R. leandrii* Du Puy & Labat from western Madagascar and the Comoros, *R. versicolor* Baker subsp. *imerinensis* Du Puy & Labat and *Eriosema betsileense* Du Puy & Labat from central Madagascar.

Résumé : *Baukea* Vatke est mis en synonymie avec *Rhynchosia* Lour. et un nouveau nom, *Rhynchosia baukea* Du Puy & Labat, est publié pour *Baukea insignis* Vatke. *R. chapelieri* Baillon est lectotypifié. L'étude des caractères morphologiques permet la description de nouvelles espèces et sous-espèces de *Rhynchosia* et *Eriosema* : *R. androyensis* Du Puy & Labat du Sud de Madagascar, *R. leandrii* Du Puy & Labat de l'Ouest de Madagascar et des Comores, *R. versicolor* Baker subsp. *imerinensis* Du Puy & Labat et *Eriosema betsileense* Du Puy & Labat du Centre de Madagascar.

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Rhynchosia Lour. is a large genus of about 200 species occurring throughout the tropics and subtropics (LACKEY 1981): 12 species are known from Madagascar, of which 5 are endemic and a sixth, *R. leandrii* Du Puy & Labat, is known elsewhere only from the Comoros. They mostly occur at low altitudes (up to 1000 m) in western and southern Madagascar, in areas with a pronounced dry season, except for *R. versicolor* Baker which is widespread in the Central Plateaux. The closely related genus *Eriosema* (DC.) Reichb. includes about 130 species, also occurring throughout the tropics and subtropics (LACKEY 1981). Of the 5 species known from Madagascar, 3 are endemic. They mostly occur in the Central Plateaux.

The genus *Baukea* was described by VATKE (Linnaea 43: 104-105, 1881) to include a single species, *Baukea insignis* Vatke. It does not appear to differ fundamentally from the genus *Rhynchosia*, and it is especially close to *R. madagascariensis* R. Viguier and *R. androyensis* Du Puy

& Labat. The similarities to *Rhynchosia* are numerous, including its ovary with 2 ovules, its style with a slender base and thickened apex, its free vexillary (upper) stamen, its yellowish flowers scattered singly along the inflorescence axis, its calyx with an elongated lower tooth, its seeds with a small, central hilum, the presence of gland dots on its leaflets, calyces, ovaries and pods, and the absence of bracteoles. Although the flowers are unusually large and elongated, and the pods somewhat larger than in other species, there appears to be no reason to maintain *Baukea* as a separate genus. The anthers have a few basal hairs, but these also occur in other species of *Rhynchosia*.

The name *Baukea insignis* cannot be transferred into *Rhynchosia*, as *Rhynchosia insignis* (O. Hoffm.) R.E. Fries (Wiss. Ergebn. Schwed. Rhod.-Kongo-Exped. 1: 95, 1914) has already been used for an African species. A new name has therefore been given, but it is still based on the type specimen and description of *Baukea insignis* Vatke (1881).

Rhynchosia baukea* Du Puy & Labat, *nom. nov.

Baukea insignis Vatke, Linnaea 43: 104-105 (1881), non *Rhynchosia insignis* (O. Hoffm.) R.E. Fries (1914).—Type: Hildebrandt 3036, Madagascar, Mojanga [Mahajanga], 15°43'S, VI.1879, fl. (holo-, not located; iso-, P).

Rhynchosia maxima Bojer, Hort. Maurit.: 105 (1837), *nom. nud.*

Baukea maxima Baillon, Bull. Mens. Soc. Linn. Paris 1: 383 (1883), *nom. superfl. illegit.*

TYPE.—As for *Baukea insignis* Vatke.

SELECTED SPECIMENS EXAMINATED.—MADAGASCAR: Decary 15392, nord-est de Majunga, 12.VI.1940, fl., fr. (K, MO, P); D.J. & B.P. Du Puy & J. Raharilala M325, Mahajanga (Majunga) Province, ca. 9 km north of Mahajanga, on the coast near the airport, amongst disturbed vegetation, 15°39'S-46°21'E, 8.IX.1989, fl. (K, MO, P, TAN, WAG); Morat 987, route de Marovoay à Mitsinjo (Ouest), X.1964, fl. (P); Peltier 1102, Majunga, à la sortie de la ville, 19.IX.1959, fl. (BR, P, TAN).

Rhynchosia androyensis* Du Puy & Labat, *sp. nov.

Species distincta caulibus lignosis circa 3 m altis, brachyblastis conspicuis; foliis parvis 3-foliolatis. Inflorescentia pauciflora, floribus magnis, vexillo pubescenti. Legumina aequaliter puberula, aliquot albis pilis basi inflatis sed longibus pilis vestitis.

TYPE.—D.J. & B.P. Du Puy & P. Ravonjiarisoa M120, S Madagascar, Toliara (Tulear) Province, near Route Nationale 10, ca. 12 km NW of Ampanihy, 24°37'S-44°41'E, 310 m, 30.I.1989, fl., fr. (holo-, K; iso-, K, MO, P, PRE, TAN).

A perennial, woody climber to ca. 3 m tall; stems twining, pubescent when young, soon becoming woody and purple-brown, with numerous raised, pale lenticels and developing short, contracted side shoots (brachyblasts). Leaflets 3, the terminal triangular-ovate to rhomboid or narrowly so, 10-28 × 8-16 mm, rounded to slightly cordate basally, the apex obtuse to rounded, densely covered in small, yellow gland dots and pubescent mainly on the veins beneath; stipules ca. 2 mm long, ovate; stipels minute.

Racemes 1.5-8 cm long, lax, few-flowered (1-6 flowers), not branched. Flowers 14-18 mm long, bright yellow, the standard with a green basal eye surrounded by a few reddish rays, strongly veined red-brown behind, the wings bright yellow, the keel pale green stained brown near the tip. Calyx large, 8-11 mm long, pubescent and with short, swollen-based glandular hairs; teeth longer than the tube, oblong-elliptic, the lower tooth longer than the others, the upper pair fused to near the apex. Standard reflexed, pubescent and with minute swollen-based glandular hairs but not gland-dotted behind; wings shorter than the keel. Anthers with a few basal hairs. Ovary pubescent and with some short, white, swollen-based hairs.

Pods club-shaped to oblong, compressed, slightly curved, $23-30 \times 8-9$ mm, thinly pubescent and usually with a few scattered, short, swollen-based hairs, pale brown, splitting into 2 spiralling valves, the valves straw-coloured within. Seeds 1 or 2, compressed-reniform, ca. $6 \times 4 \times 2.5$ mm, red-brown, sometimes slightly mottled.

PARATYPES.—MADAGASCAR: *Bosser* 3721, Ifotaka (Sud), XI.1952, fl. (P); 4169, *ibid.*, XI.1952, fl. (TAN); 4197, *ibid.*, XI.1952, fl., fr. (P); 10189, Ambovombe, ferme vétérinaire, X.1956, fl. (P, TAN); *Croat* 31347, along route nationale n°10 between Ejeda and Ampanihy at P.K. 200-250, 200-250 m, 15.II.1975, fl. (MO, TAN); *Decary s.n.*, Antsanira, 12.XII.1917, fl. (P); *s.n.*, Ambohitsy, X.1917, fl. (P); 2677, Ambovombe, 28.IV.1924, fl. (P); 3299, district d'Ambovombe, Ifotaka, 21.X.1924, fl. (P); 3428, Ambovombe, 30.XI.1924, fl. (P, PRE, WAG); 3818, district d'Ambovombe, Antanimora, 13.V.1925, fl. (MO, P, WAG); 4544, province de Fort-Dauphin, Antanimora, 25.VII.1927, fl. (MO, P); 8951, Androy, Imangory, 25.V.1931, fl. (K, P); *Descoings* 236, Antanimora, II.1955, fl. (TAN); 1462, Ambovombe, I.1956, fl. (TAN); *D.J. & B.P. Du Puy & P. Ravonjariisoa* M142, Toliara (Tulear) Province, ca. 6 km east of Tsihombe, route nationale 10 to Fort Dauphin (Taolañaro), $25^{\circ}17'S-45^{\circ}25'E$, 140 m, 5.II.1989, fl. (K, MO, P, PRE, TAN); *Du Puy, Cribb, Andriantiana & Ranaivojaona* M872, 50 km west of Taolañaro (Fort-Dauphin), near village of Ankapoka, $24^{\circ}59'34"S-46^{\circ}30'35"E$, 75 m, 9.II.1995, fl. (K, L, MO, NY, P, PRE, TAN); *Humbert* 14140, bassin de réception de la Mananara, affluent du Mandrare, col d'Ambato et pentes orientales du Vohipaly, vers 400 m, II.1934, fl. (P); *Humbert & Capuron* 28880, Androy, environs d'Antanimora, 20-25 km au SSE, 200-500 m, 6-9.II.1955, fl. (MO, P); *Keraudren-Aymonin & Aymonin* 24811, Sud, entre Ampanihy et Ambovombe, X.1970, fl. (P); 24849, Sud, route Amboasary – Fort-Dauphin, X.1970, st. (P); *Lam & Meeuse* 5444, s.loc., s.d. (P); *Malcomber & Leeuwenberg* 1095, NE of Amboasary, near Hazofotsy, $24^{\circ}50'S-46^{\circ}32'E$, 100 m, 27.XI.1991, fl., fr. (K, MO, TAN); *Peltier* 1447, district d'Ambovombe, Tsiombe, 22.XI.1959, fl. (P, TAN); 2571, Ampanihy, 24.VIII.1960, fl., fr. (K, MO, P); *Peltier* 2793, Antanimora, pentes du Vohitsioka, 13.II.1961, fl. (P, TAN); 2868, Tranoroa, 15.II.1961, fl. (P); 5961, Antanimora, 4.IV.1966, fr. (K, P); *Paulian de Félice* 128, Tsihombe, XII.1951, fl. (TAN); *Richard* 42, Hazofotsy, 3.I.1971, fl., jfr. (K).

R. androyensis most closely resembles *R. madagascariensis* R. Viguier, which has a very similar calyx, but may also be confused with *R. caribaea* (Jacq.) DC. which has flowers almost as large. It is characterised by its woody habit with brachyblasts, its small leaves, its racemes with few, large flowers, its pubescent standard petal and its pods with a fine, uniform pubescence of normal and usually also a few short, swollen-based, white hairs but lacking longer hairs.

This species is only known from southern Madagascar, occurring from the lower Mandrare River valley westwards to near the Linta River (in the area enclosed by Ampanihy, Antanimora, E of Amboasary and Cap Sainte Marie). It occurs in xerophytic scrubland and disturbed bushland, on sand or basaltic soil, at up to ca. 400 m altitude. It is recorded as flowering from July to April, particularly during January and February.

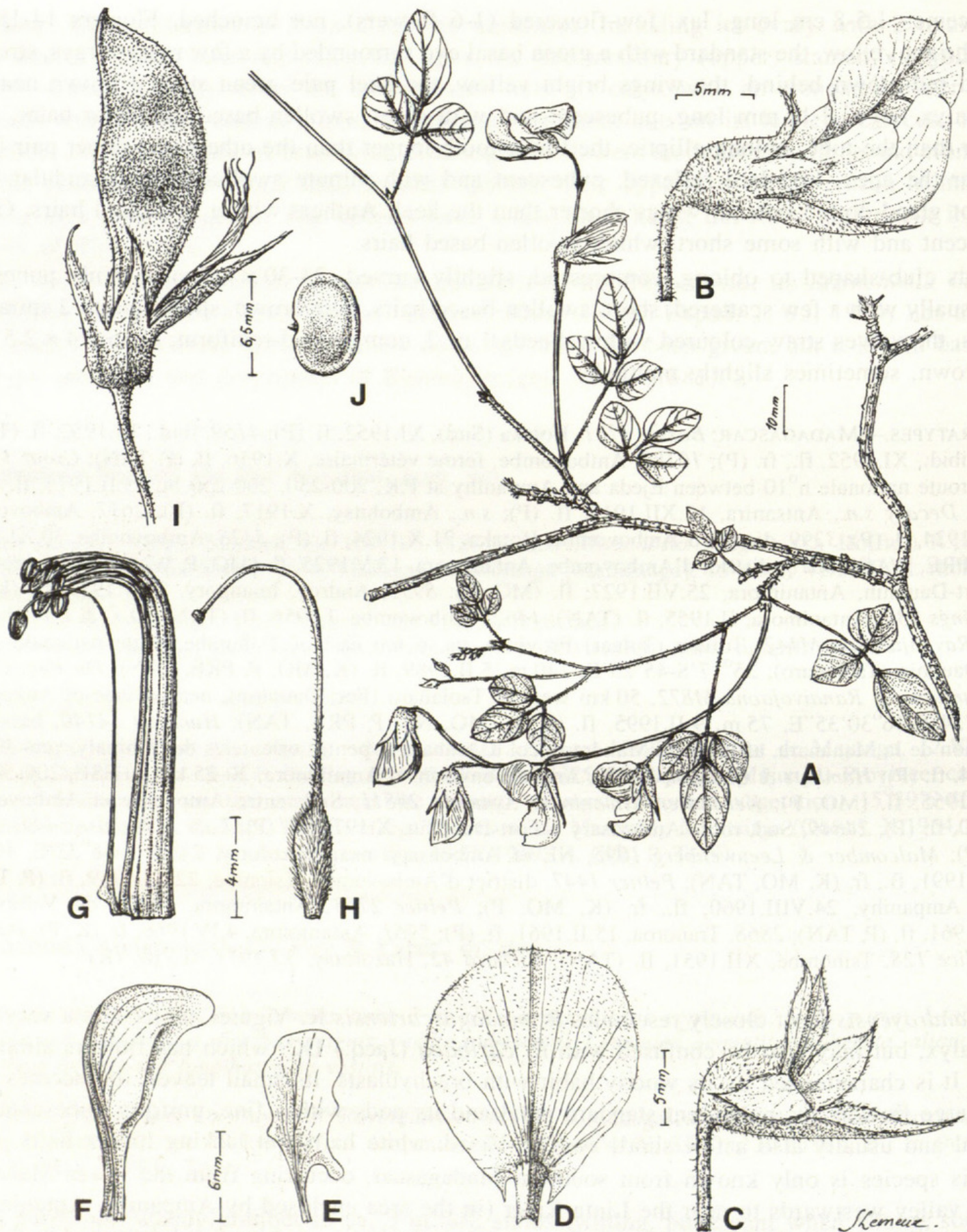


Fig. 1.—*Rhynchosia androyensis*: A, flowering habit; B, flower; C, calyx; D, standard petal; E, wing; F, keel; G, stamens; H, ovary (from D.J. & B.P. Du Puy & P. Ravonjarihoa M142); I, pod; J, seed (from D.J. & B.P. Du Puy & P. Ravonjarihoa M120).

The specific epithet refers to the Androy region of southern Madagascar, where the majority of known collections originated.

Rhynchosia chapelieri Baillon

Bull. Mens. Soc. Linn. Paris 1: 387 (1883).

R. denisii R.Viguier, Notul. Syst. (Paris) 14: 176 (1952).—Type: *Perrier de la Bâthie 16323*, Montagne des Français près de Diego Suarez, IV.1924, fr. (holo-, P).

LECTOTYPE (chosen here).—*Bernier 247*, Diego Suarez [Antsiranana], s.d., fl., jfr. (P; iso-, P).

Of the 3 syntypes of *R. chapelieri* Baillon, only one of them (*Bernier 247*) corresponds closely with the type description, particularly in the presence of young pods. This specimen must therefore be chosen as the lectotype. The pods are submembranaceous and flat, identical to those of *Perrier de la Bâthie 16323*, the holotype of *R. denisii* R.Viguier, which is therefore considered to be a later synonym. The other two syntypes (*Chapelier s.n.* and *Boivin 2236-bis*), which both lack pods, belong to the much more widespread species now named *R. leandrii* Du Puy & Labat (which was previously known as *R. chapelieri*).

Rhynchosia leandrii Du Puy & Labat, *sp. nov.*

R. chapelieri Baillon, Bull. Mens. Soc. Linn. Paris 1: 387 (1883), pro parte, lecto. exclu., sensu auct. mult.
R. heterotricha Boivin, nom. nud. in sched.

A *R. chapelieri* Baillon *differt leguminibus viridulis velutinis dehiscentibus margine superiore, valvibus interne cupreis, seminibus duobus externe cyaneo-nitidis.*

TYPE.—*D.J. & B.P. Du Puy & J. Andriantiana M504*, W Madagascar, Province of Majunga (Mahajanga), Bemaraha Massif, south-eastern end, behind the eastern escarpment, ca. 14 km west of Marerano, 19°04'S-45°03'E, ca. 500 m, 20.III.1990, fl., fr. (holo-, K; iso-, K, L, MO, NY, P, PRE, TAN, WAG).

A perennial, climbing herb or subshrub to ca. 3 m tall, often forming dense, tangled clumps of interlaced stems; stems twining, finely pubescent, becoming woody and up to ca. 3 cm in diameter. Leaflets 3, the terminal broadly triangular-ovate (deltoid), 50-90 × 60-110 mm, the base broad and truncate, the apex abruptly short-acuminate, sparsely gland-dotted and thinly pubescent mainly on the veins above and beneath, deep green and oily above, paler beneath.

Racemes 10-20 cm long, dense, the flowers often paired, often with secondary branches towards the base, mostly axillary but sometimes also terminal and combined into a compound, leafy inflorescence, the axis densely yellow pubescent. Flowers 8-9 mm long, yellow-brown, the standard yellowish but strongly stained red-brown and with many fine red-brown veins in front and behind and with a small brown basal eye, the wings bright yellow, the keel yellow-green tinged brown. Calyx 3-4 mm long, shortly but densely yellow pubescent; teeth triangular, about

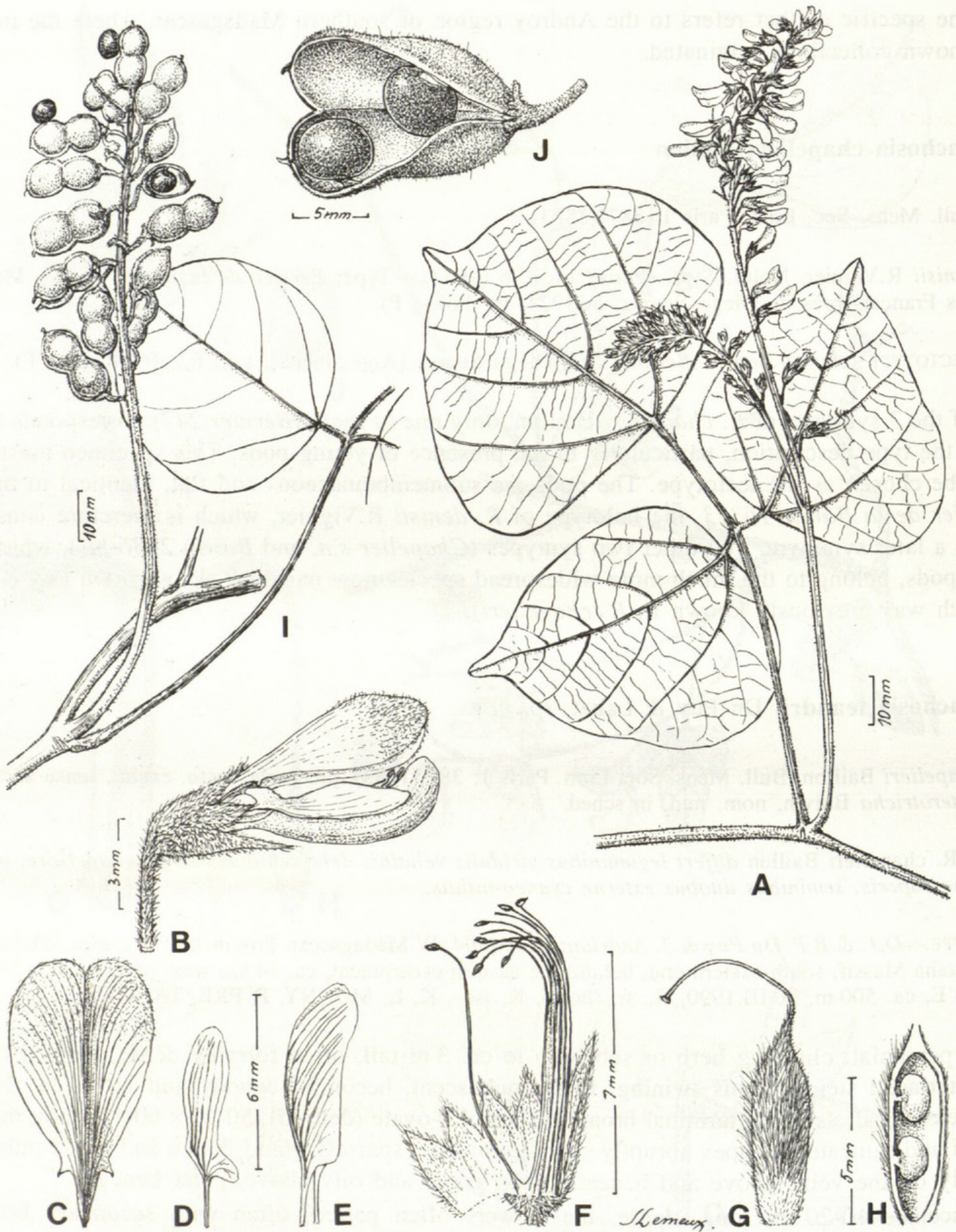


Fig. 2.—*Rhynchosia leandrii*: A, flowering habit; B, flower; C, standard petal; D, wing; E, keel; F, stamens and calyx; G, ovary; H, ovules (from D.J. & B.P. Du Puy & J. Andriantiana M504); I, fruiting habit; J, pod and seeds (from Dorr et al. 3455).

as long as the tube. Standard narrow, densely pubescent mainly towards the apex behind; wings shorter than the keel. Ovary densely and shortly pubescent and with many longer, rather stiff hairs.

Pods in dense, pedunculate infructescences, persistent, oblong, compressed, $14-18 \times 8-9$ mm, very shortly but densely velvety pubescent with scattered long, spreading hairs, but without swollen-based hairs, pale olive green when mature, opening along the upper margin and becoming boat-shaped, copper brown within, the seeds persistent and attached to the upper margin. Seeds (1 or) 2, broadly ellipsoidal, $4-5 \times 3.5-4 \times 3-3.5$ mm, deep navy blue, very glossy, with a pale hilum.

PARATYPES.—MADAGASCAR: *Boivin* 2236 bis, Nossi Bé, s.d., fl. (P, syntype of *R. chapelieri* Baillon); 2733, Diégo-Suarez, s.d., fr. (P); *Bosser* 8173, Sahamaloto, ouest du lac Alaotra, VI.1955, fr. (P, TAN); *Chapelier s.n.*, Madagascar boréal, s.d., fl. (P, syntype of *R. chapelieri* Baillon); *Decary* 18903, district de Sakaraha, Lambomakandro, 3.III.1943, fl. (P); *Dorr et al.* 3455, Antananarivo Province, 14 km SE of Ambaravarana (71 km NW of Tsiroanomandidy), 10.I.1985, fr. (K, MO, P, TAN); *Jardin Botanique de Tananarive* 3280, lac Alaotra (MEN-62), s.d., fr. (P); 4349, lac Alaotra (E-12), s.d., fl. (P); 5418, Befandriana Nord, Ampotamainty, 29.X.1942, fr. (P); *Leandri* 824, Tsingy de Bemaraha (9ème réserve), Tsiandro, 10.II.1933, fl. (P); 880, *ibid.*, X-XII.1933, fl. (P); *Leandri & Saboureaux* 2830, Antsingy, vers Bevary, E d'Antsalova, 400-600 m, 27.I-5.II.1960, fr. (K, MO, P, WAG); *Morat* 2136, Horombe, Andiolava, II.1965, fl. (TAN); *Peltier* 1089, Ambodimanga, km 364 route de Majunga, 18.IX.1959, fr. (K, MO, P, TAN); *Perrier de la Bâthie* 554, Firingalava, IV.1898, fl. (P); 554bis, Morataitra, rive droite de la Betsiboka en amont de son confluent avec l'Ikopa, IV.1899, fl. (P); 554bis, *ibid.*, VI.1899, fr. (P); 4362, Boïna, Haute Bemarivo, IV.1907, fl., fr. (P); *Seyrig* 617, environs Ampandrandava, entre Bekily et Tsivory, crêtes est, vers 1100 m, IV.1943, fl. (P); 826 (also in *Jardin Botanique de Tananarive* 6404), environs Ampandrandava, entre Bekily et Tsivory, région de Moraharivo au SE d'Ampandrandava, vers 1000 m, VIII.1944, fr. (P).—COMORO ISLANDS: *Boivin s.n.*, Mayotte, Pamanri, XI.1850, fr. (P); *Labat & Pascal* 2723, Mayotte, près du village de Choungui, $12^{\circ}57'30''\text{S}-45^{\circ}07'35''\text{E}$, 300 m, 12.IV.1996, fl., jfr. (K, MO, P).

R. leandrii closely resembles *R. chapelieri* except when pods are present, and has until now been known under this latter name. *R. leandrii* is easily recognised in fruit by its oblong, coriaceous, minutely velvety, pale green pods opening along the upper margin to expose a copper-coloured interior with 2 deep blue, glossy seeds, while the pods of *R. chapelieri* are purse-shaped, thin-textured and membranous, finely and thinly pubescent, and are probably indehiscent. Both *R. leandrii* and *R. chapelieri* have large, broad leaflets with truncate bases and abruptly short-acuminate apices, brownish flowers and a uniform, dense, short pubescence on the stems, inflorescences, calyces and standard petals.

R. leandrii is widespread but uncommon throughout the western region of Madagascar, particularly in the Boina and the Bemaraha Massif (also recorded from Lac Alaotra, but possibly introduced there), and it is also recorded from the Comoros. It occurs in open woodland, woodland margins and on exposed rock outcrops, on limestone, at (100-)300-800 m altitude. It is recorded as flowering from December to April, but probably also flowers at other times of the year. In the western region of Madagascar, *R. leandrii* is known under the vernacular names of “Hazovongy” or “Masonamboaromotra”.

This species is dedicated to Jacques Leandri, in recognition of his outstanding contributions to Malagasy floristic and systematic botany, particularly through his collections from the Bemaraha Massif in which *R. leandrii* occurs.

Rhynchosia versicolor Baker

J. Linn. Soc., Bot. 20: 132-133 (1883).

R. rhodophylla Baker, J. Linn. Soc., Bot. 20: 133 (1883).—Type: *Baron 771*, Central Madagascar (holo-, K; iso-, P).

R. trichocephala Baker, J. Linn. Soc., Bot. 22: 465 (1887).—Type: *Baron 3393*, Madagascar (holo-, K; iso-, P).

TYPE.—*Parker s.n.*, Madagascar, Ambohimanga (holo-, K).

R. versicolor is usually a suberect to scrambling subshrub, the shoots often with axillary and terminal inflorescences, with only a few shoots climbing or twining. The density of the indumentum is also variable, and in particular the presence of swollen-based, yellowish bristles on the pods and inflorescence axis. This latter character varies with the distribution and allows the separation of two distinct subspecies as follows:

Pod, ovary and inflorescence axis with swollen-based, yellow, bristly hairs present amongst the white, silky hairs without a swollen base; stems often short and not twining, generally giving a suberect, shrubby habit, although often also with some shoots elongated and scrambling or twining; terminal leaflet usually triangular-ovate with a broad, flat base (deltoid) subsp. **versicolor**

Pod, ovary and inflorescence axis silky hairy with white hairs only (no swollen-based hairs); young stems predominantly slender and twining, giving a distinctly climbing habit; terminal leaflet ovate with a rounded base subsp. **imerinensis**

R. versicolor subsp. **versicolor**

Subsp. *versicolor* occurs throughout the southern and western parts of the Central Plateaux (mainly in the Betsileo and Bara regions), from Antsirabe and the south-western portion of the Ankaratra Massif to the Andringitra and Isalo Massifs.

R. versicolor subsp. **imerinensis** Du Puy & Labat, *subsp. nov.*

A subspeciei typica differt distincto scandente habitu, caulibus juvenilibus praecipue gracilibus volubilibus que; foliis cum foliolo apicali ovato basi rotundato; ovario legumineque et rachidi inflorescentiae argenteis pilis solum ornatis.

TYPE.—*Perrier de la Bâthie 16840*, Madagascar, Manerinerina sur le Tampoketsa [d'Ankazobe] entre l'Ikopa et la Betsiboka, 1500 m, XII.1921, fl., fr. (holo-, P; iso-, K, P).

PARATYPES.—MADAGASCAR: *Baron 873*, Central Madagascar, s.d., fr. (K); *984*, *ibid.*, fl. (K); *1149*, *ibid.*, fr. (K); *Benoist 1282*, Manjakatampo, 28.X.1951, fl. (TAN); *1283*, *ibid.*, fl. fr. (P); *1320*, *ibid.*, 26.V.1951, fl. (P); *Bosser 914*, Fenoarivo, route de Beanana, VI.1951, fl. (TAN); *7843*, Tampoketsa d'Ankazobe, P.K. 120 route de Majunga, IV.1955, fl., fr. (P, TAN); *11071*, Iarinandriana, 40 km de Tananarive, IV.1957, fl., fr. (TAN); *13184*, environs de Tananarive, Iarinandriana, P.K. 35 route du sud, VII.1959, fl. (TAN); *Cam-*

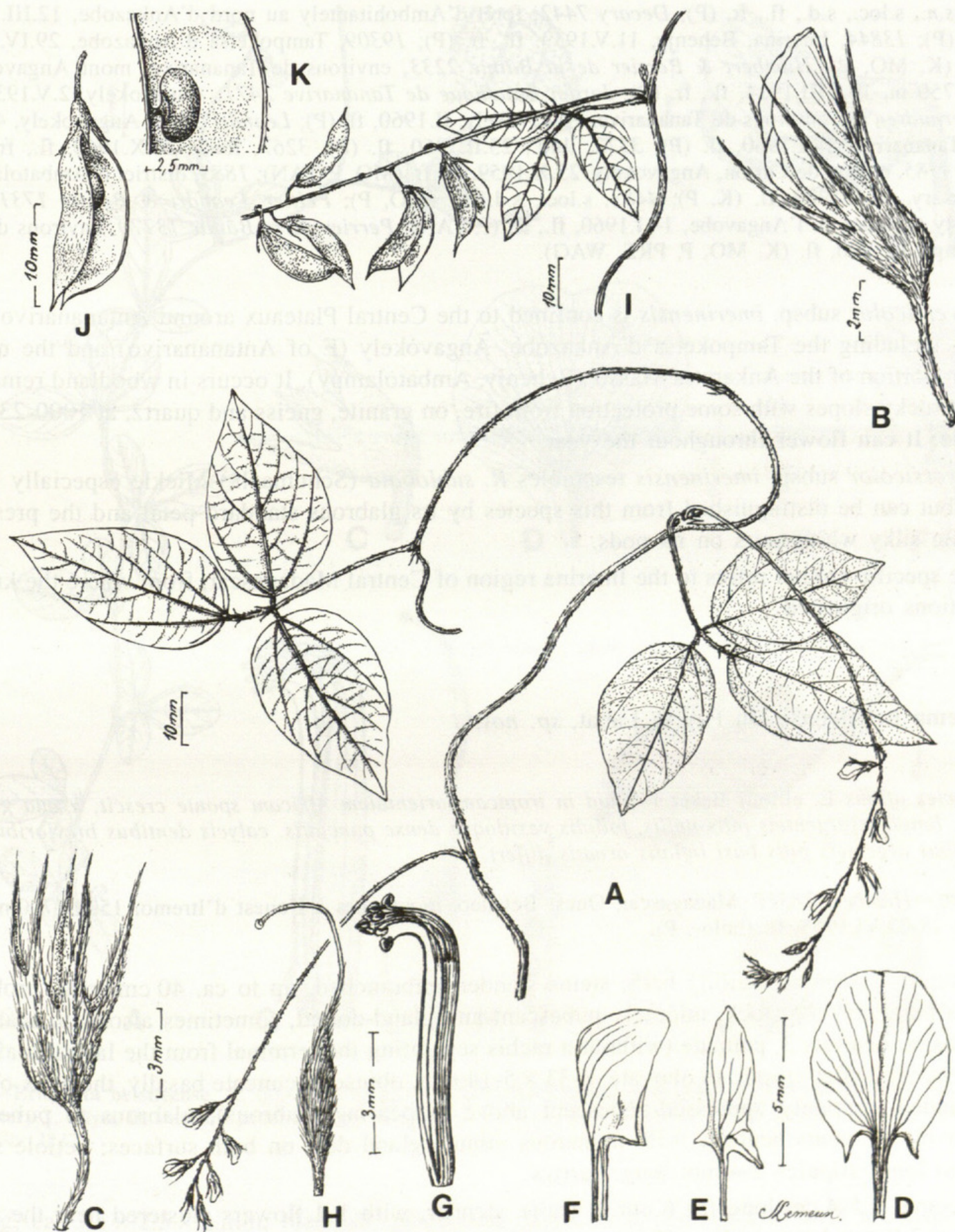


Fig. 3.—*Rhynchosia versicolor* subsp. *imerinensis*: A, flowering habit; B, flower; C, calyx; D, standard petal; E, wing; F, keel; G, stamens; H, ovary; I, fruiting habit; J, pod; K, seed (from Perrier de la Bâthie 16840).

penon s.n., s.loc., s.d., fl., fr. (P); *Decary 7442*, forêt d'Ambohitantely au nord d'Ankazobe, 12.III.1930, fl., fr. (P); *13844*, Imerina, Behenjy, 11.V.1939, fl., fr. (P); *19309*, Tampoketsa d'Ankazobe, 29.IV.1943, fl., fr. (K, MO, P); *Humbert & Perrier de la Bâthie 2233*, environs de Tananarive, mont Angavokely, 1500-1750 m, 10.VIII.1924, fl., fr. (P); *Jardin Botanique de Tananarive 2471*, Angavokely, 2.V.1937, fl. (P); *Keraudren 56*, environs de Tananarive, Angavokely, II.1960, fl. (P); *Leandri 2565*, Angavokely, 40 km E de Tananarive, 14.I.1960, fl. (P); *3172*, *ibid.*, 25.II.1960, fl. (P); *3267*, *ibid.*, 20.X.1960, fl., fr. (P); *Peltier 1185*, canton de Carion, Angavokely, 25.X.1959, fl., fr. (MO, P, TAN); *1883*, district d'Ambatolampy, Amboasary, 14.II.1960, fl. (K, P); *4483*, s.loc., s.d., fl. (MO, P); *Peltier, Leandri & Bosser 1731*, Angavokely, sommet de l'Angavobe, 14.I.1960, fl., fr. (P, TAN); *Perrier de la Bâthie 13770*, environs d'Ambatolampy, V.1920, fl. (K, MO, P, PRE, WAG).

R. versicolor subsp. *imerinensis* is confined to the Central Plateaux around Antananarivo (Imerina), including the Tampoketsa d'Ankazobe, Angavokely (E of Antananarivo) and the north-eastern portion of the Ankaratra Massif (Behenjy, Ambatolampy). It occurs in woodland remnants and on rocky slopes with some protection from fire, on granite, gneiss and quartz, at 1000-2300 m altitude. It can flower throughout the year.

R. versicolor subsp. *imerinensis* resembles *R. sublobata* (Schumach.) Mickle especially in its pods, but can be distinguished from this species by its glabrous standard petal and the presence of some silky white hairs on its pods.

The specific epithet refers to the Imerina region of Central Madagascar, from where the known collections originated.

Eriosema betsileense* Du Puy & Labat, *sp. nov.

Species affinis E. elliotii Baker f. *quod in tropicam orientalem Africam sponte crescit, a qua gracile habitu, longibus argenteis pilis nullis, foliolis vexilloque dense punctatis, calycis dentibus brevioribus, leguminibus argenteis pilis basi inflatis ornatis differt.*

TYPE.—*Humbert 28317*, Madagascar, Ouest Betsileo, montagnes à l'ouest d'Itremo, 1500-1700 m, 17-22.I & 18-22.VI.1955, fl. (holo-, P).

A small, perennial, trailing herb; stems slender, unbranched, up to ca. 40 cm long, probably from a perennial rootstock, minutely pubescent and gland-dotted, sometimes also with scattered short hairs. Leaflets 3, palmate (without a rachis separating the terminal from the lateral leaflets), the terminal leaflet elliptic to obovate, 8-33 × 5-14 mm, obtuse to cuneate basally, the apex obtuse to rounded, minutely appressed-pubescent above (appearing glabrous), glabrous to pubescent mainly on the veins beneath, with numerous minute gland dots on both surfaces; petiole short, 2-5 mm long; stipules 2-4 mm long, narrow.

Racemes 1.5-4 cm long (to 6 cm in fruit), slender, with 1-4 flowers clustered near the apex. Flowers 7-8 mm long, yellow. Calyx ca. 4 mm long, sparsely pubescent and gland-dotted; teeth triangular, shorter than the tube. Standard with short hairs and densely gland-dotted behind; keel gland-dotted.

Pods oblong, compressed, 12-15 × 6-7 mm, with gland-dots, short, swollen-based hairs and many long, fine, yellowish hairs, dark brown, splitting into 2 spiralling valves. Seeds (1 or) 2,

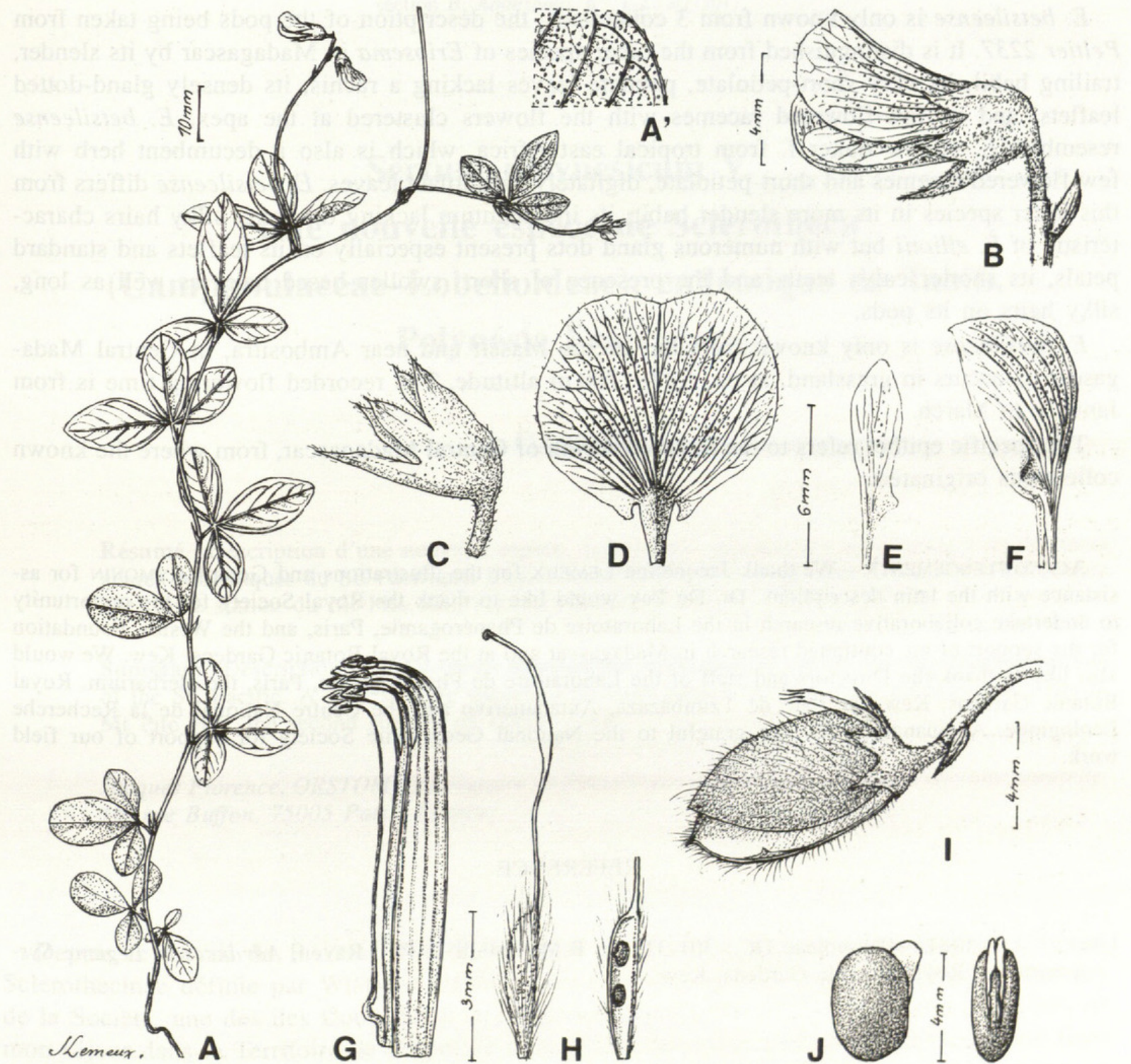


Fig. 4.—*Eriosema betsileense*: A, flowering habit; A', leaflet undersurface with gland dots (from Humbert 28317); B, flower; C, calyx; D, standard petal; E, wing; F, keel; G, stamens; H, ovary (from Peltier 2175); I, pod; J, seed (from Peltier 2237).

oblong, ca. $3.5 \times 2.5 \times 2$ mm, blackish, glossy, the hilum long and acentric with a conspicuous white aril.

PARATYPES.—MADAGASCAR: *Peltier* 2175, Anjoma (district d'Ambositra), 20.III.1960, fl. (P); 2237, Sandrandahy (district de Fandriana), rive gauche de la Mania, 22.III.1960, fr. (K, P, TAN).

E. betsileense is only known from 3 collections, the description of the pods being taken from *Peltier* 2237. It is distinguished from the other species of *Eriosema* in Madagascar by its slender, trailing habit, its very short-petiolate, palmate leaves lacking a rachis, its densely gland-dotted leaflets, and its few-flowered racemes with the flowers clustered at the apex. *E. betsileense* resembles *E. elliotii* Baker f. from tropical east Africa, which is also a decumbent herb with few-flowered racemes and short-petiolate, digitately trifoliate leaves. *E. betsileense* differs from this latter species in its more slender habit, its indumentum lacking the long, silky hairs characteristic of *E. elliotii* but with numerous gland dots present especially on its leaflets and standard petals, its shorter calyx teeth, and the presence of short, swollen-based hairs as well as long, silky hairs on its pods.

E. betsileense is only known from the Itremo Massif and near Ambositra, in Central Madagascar. It occurs in grassland, at ca. 1300-1700 m altitude. The recorded flowering time is from January to March.

The specific epithet refers to the Betsileo region of Central Madagascar, from where the known collections originated.

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