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Jovetia Guéd., a New Genus in the Rubiaceae Ixoreae

By

Michel GUÉDÈS *)

With 10 Figures

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Summary

The new Malagasy genus *Jovetia* is described along with its two known species, *J. humilis* and *J. erecta*.

In K. SCHUMANN'S (1897) system of the Rubiaceae the tribe Ixoreae belongs to the subfamily Coffeoideae. Its ovary locules have only one ovule each. The latter is often fastened to a placenta, or rather a funicular outgrowth, itself attached to the septum above, below or at mid-length. The ovule is anatropous with its micropyle looking downwards and its raphe ventral. The fruit is a berry or a drupe. It has been pointed out, however, that this classification is probably not entirely natural. Some genera with many ovules in each locule may belong here in view of the whole of their characters.

In the course of a study of Malagasy Ixoreae, three collections have been found of closely related plants undoubtedly belonging to that tribe in SCHUMANN'S sense, but sufficiently distinct from known genera to warrant the creation of a new genus. This is here described and named *Jovetia*, after Dr. P. JOVET, sometime Director, Centre national de Floristique (C. N. R. S.), Paris.

The *Jovetia* species are undershrubs with two kinds of shoots, long and short. Only short shoots are fertile. They bear dimerous whorls of minute ovate leaves (4—6 mm long in *J. humilis*), with margins thickened below (Fig. 4) and a short petiole. The upper cuticle is thick, and the lamina coriaceous. More or less appressed short hairs are seen above and on the thickened margins, as also on the petiole and stipules, here longer, especially inside stipules. The lower surface of the lamina has a thinner cuticle made

*) 11, rue Edgar Quinet. 37-TOURS. France.

into a dense mat of papillae, with longish protruding hairs. The interesting xerophytic leaf anatomy will be studied elsewhere. Interpetiolar stipules are triangular and meet in petiole axils (Fig. 5).

Flowers are axillary and solitary (Fig. 1, 3). They are sheltered by subterminal leaves on short shoots. As a rule two whorls of leaves and a further one of obvious primordia are found above the "fertile" well-developed pair of leaves (Fig. 2). The short shoot probably resumes its growth afterwards.

Flowers (Fig. 3) are practically sessile, but with two prophylls (bracteoles) at right angles to the subtending leaf. These prophylls are reminiscent of small leaves but instead of having stipules they are simply joined below by two membranes. A cup-shaped calycle thus encloses the base the inferior ovary.

The latter is topped by the tetramerous calyx with relatively well-developed and rather foliaceous sepals (about 1 mm high), two of them opposite the bracteoles, slightly unequal, joined at base into a minute tube about 0.2 mm high. The long corolla tube (4—4.5 mm), more or less widened above, terminates in four spread and even reflexed corolla lobes, alternating with the sepals. Corolla lobes are asymmetric owing to contorted aestivation.

Four sessile anthers are fixed a little below the sinuses between the corolla lobes, in such a way as to protrude from the tube about half of their length (Fig. 6). They are introrse, hastate below, their zone of insertion being just above their lower cleft, on their dorsal side (Fig. 7). Connectives are slightly apiculate.

A long style is borne by the ovary, its base surrounded by a disc (Fig. 9). The two stigmas are exerted. In most fully opened flowers they are still appressed to each other. At that time, anther locules are empty, flowers are thus clearly protandrous. When the stigmas are spread apart, they are found to be half-rounded in section, with a row of collecting short papillae around their flat inner surface (Fig. 10).

There are two median locules to the inferior ovary. Each is filled with an ovule fastened in a somewhat various fashion to a placenta or funicular outgrowth, in turn attached to the septum above. Longitudinal sections reveals that the ovule has its micropyle below, and since it is inserted above, it is but hardly anatropous, its short raphe being somewhat lateral.

In all investigated flowers, I found one ovule only per locule, but Pr. J.-F. Leroy (Laboratoire de Phanérogamie, Muséum d'Histoire naturelle, Paris), who was kind enough to examine the same material, said he also found two-ovuled locules. This, possibly a monstrosity, is anyway of interest in view the modern concept of the tribe, with multi-ovuled genera.

The fruit is a berry, still enclosed below by the prophyllar whorl, and topped by the persisting calyx.

The better known species, named *Jovetia humilis*, is a prostrate under-shrub from calcareous rocks of the Cap Sainte-Marie and its surroundings.

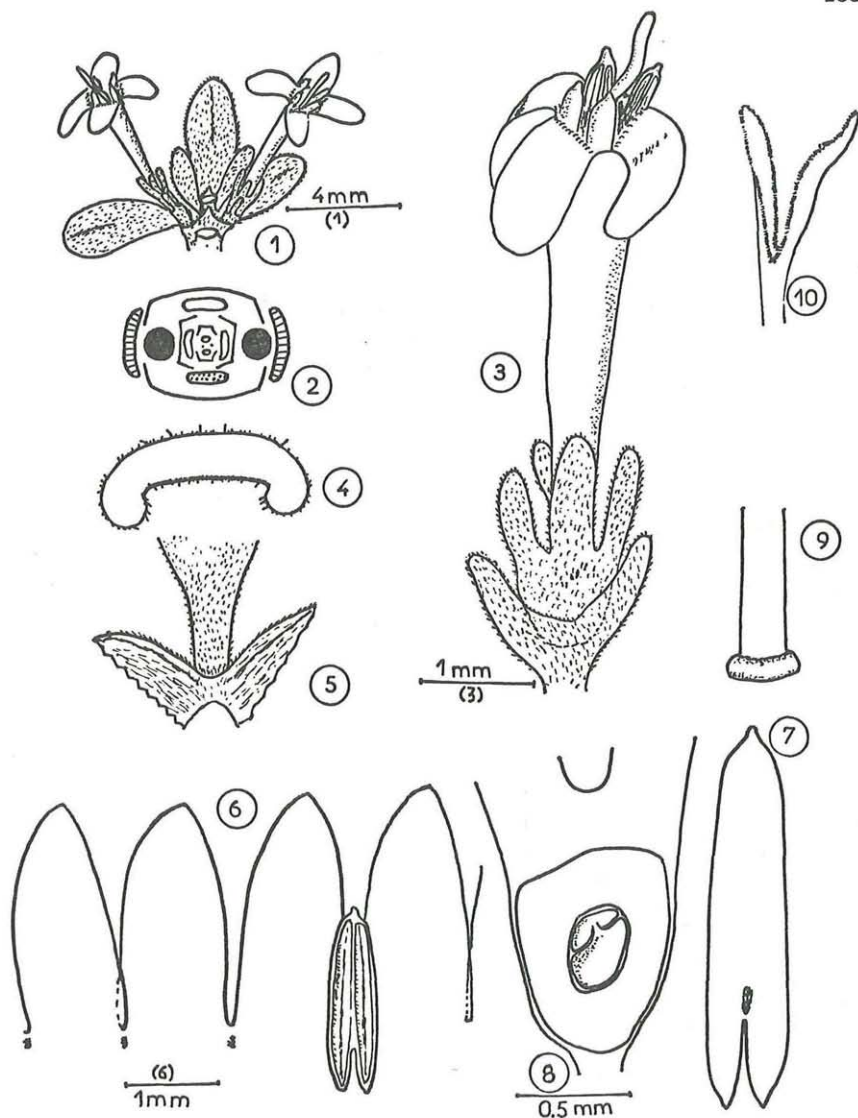


Fig. 1—10. *Jovetia humilis* (Holotypus). Fig. 1. Tip of a fertile short shoot. Front leaves of the whorls below and above the fertile one removed. Fig. 2. Diagram of sam. "Fertile" leaves hatched, flowers as black dots. The upper leaf removed in Fig. 1 is dotted. Fig. 3. Flower, with prophylls (bracteoles) as cu p-shaped calycle. Fig. 4. Scheme of leaf section. Abaxial (dorsal) surface below. Fig. 5. Meeting of interpetiolar stipules in petiole axil. Stipules are torn longitudinally on both sides. Fig. 6. Corolla laid flat. Inside view. Three anthers removed, with their insertion zones noted below sinuses. One anther left. It is already empty. Fig. 7. Dorsal view of an anther, showing its insertion zone just above its lower cleft. Fig. 8. Dissection of an ovary locule, showing the sole ovule attached to the placenta. Fig. 9. Style base with disc. Fig. 10. Stigmas spread apart.

The bark is ashy owing to the sloughing off of air-filled dead cells. The corolla is deep yellow with a tinge of orange. Fruits are red. The plant is known from collections by H. HUMBERT and R. CAPURON (5—7th March 1955, N° 29261) and R. CAPURON (27th January 1963, N° 22556-SF).

The other *Jovetia*, also with an ashy bark, is erect and has more widened corolla tubes. The corolla is white. Minute stipules are often found between sepal lobes. It is closely related to the first species, but appears to deserve species rank, and is named *J. erecta*. It has been collected on the Plateau de la Table, east of Tuléar, by R. CAPURON (25th March 1961, N° 20174-SF).

These taxa are formally described below.

Jovetia Guéd. Gen. nov. Rubiaceae Ixoreae.

Suffrutex ramis dimorphis. Rami longiores mox nudi, breves foliatis ramos ferentes. Folia opposita-decussata, minuta, ovata. Lamina coriacea, margine integro incrassata. Petiolus brevissimus. Pagina superior, margo et petiolus pilis brevissimis plus minusve appressis obtecti. Pagina inferior dense papillosa, sparsioribus pilis longioribus munita. Stipulae interpetiolares triangulares, in axillas petiolorum procedentes, pilosae, extra paulo longis pilis plus minusve appressis, intra longis appressis pilis munitae. Internodia ramorum breviorum brevissima.

Flores fere sessiles, solitarii, axillares, in axillas duorum oppositorum subterminalium foliorum ramorum breviorum.

Bracteolae duae laterales, elongatae, basi connatae, pilis brevibus, plus minusve appressis munitae. Calyx tubo brevior. Sepala quattuor, parum inaequalia, foliacea, incrassata, pilis brevibus plus minusve appressis munita. Corolla tubo elongato fauce plus minusve dilatata, petala quattuor, radiata vel recurvata. Aestivatio recte contorta. Stamina quattuor, sessilia. Antherae apiculatae, hastatae, parum sub fauce insertae, ex parte exsertae. Stylus elongatus, basi disco cinctus. Stigmata dua exserta, in sectione transversali semicircularia, papillis brevibus margine munita. Biologia proterandra.

Ovarium inferum, biloculare. Loculi mediani, uniovulati. Ovula placentae affixa. Placenta septo supra affixa. Micropyle infera. Raphe brevissima, ventralis vel lateralis. Fructus baccatus, apice calycis coronulam ferens, basi bracteolis connatis cinctus. Semina dua.

Madagascar.

Species typica: *Jovetia humilis* GUÉD.

Jovetia humilis GUÉD. Sp. nov.

Suffrutex prostrata. Cortex cinerea. Folia 4—6 mm longa. Petiolus 1.5 mm longus. Bracteolae et sepala 1 mm longi. Sepala exstipulata. Corolla tubo parum apice dilatato, atroflava, plus minusve crocea. Fructus baccatus ruber. Albumen ruminatum.

Madagascar. Cap Sainte-Marie. In saxis calcareis. H. HUMBERT & R. CAPURON (H. HUMBERT, Pl. Madagascar, 9ème voyage, 1955. N° 29261, 5—7 mars.) R. CAPURON (N° 22556-SF, 27 juillet 1963).

Holotypus (ex HUMBERT, N° 29261) in Herb. Mus. Parisiensis.

Jovetia erecta GUÉD. Sp. nov.

Suffrutex erecta. Cortex cinerea. Folia ca. 10 mm longa. Corolla tubo apice perspicue dilatato, alba. Sepala in sinubus saepe minutis stipulis munita Fructus ignotus.

Madagascar. Plateau de la Table, a l'est de TULÉAR. R. Capuron (N° 20174-SF, 25 mars 1961).

Holotypus (ex CAPURON, supra) in Herb. Mus. Parisiensis.

Although *Jovetia* is original on account of the whole of its features, most of them are found separately in one genus of the tribe or the other. The sole species of *Psilanthus* HOOK. fil. for example has a foliated and persisting calyx, half-exserted stamens and its flowers, admittedly much bigger and pentamerous, are axillary and solitary. The only *Gardeniopsis* MIQ. on the other hand, has its flowers solitary or in twos just below the tips of the shoots.

Literature

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Autor(en)/Author(s): Guedes [Guédès] Michel

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