

中南半岛紫金牛科植物志预报

胡启明

(中国科学院华南植物研究所, 广州 510650)

J. E. Vidal

(Laboratoire de Phanerogamie, Museum national d'Histoire naturelle, 16 rue Buffon, 75005 Paris)

摘要 紫金牛科是一个典型的热带分布科, 中南半岛种类非常丰富。Pitard(1930)在“Flore Generale de L' Indochine”中记录了6属109种。此后, 对这一地区的种类无人作过全面深入的研究。最近作者在编研《柬埔寨、老挝和越南植物志》的过程中, 对紫金牛科作了全面的修订, 被确认的种类增加到7属142种, 其中包括紫金牛属(*Ardisia*), 酸藤子属(*Embelia*)和杜茎山属(*Maesa*)的30个新种, 10个新变种, 另外还有紫金牛属的6个新组合。本文报道这些新类群、新组合。

关键词 中南半岛; 紫金牛科; 新类群

TOWARDS A REVISION OF THE MYRSINACEAE OF INDOCHINA

Hu Chiming

(South China Institute of Botany, Academia Sinica, Guangzhou 510650)

J. E. Vidal

(Laboratoire de Phanerogamie, Museum national d'Histoire naturelle, 16 rue Buffon, 75005, Paris)

Abstract The Myrsinaceae is a richly represented family in tropical and subtropical Asia. In Indochina, Pitard (1930) revised the family for Lecomte's Flore Generale de L'Indochine and recognized 109 species in 6 genera, but since then there has been little work on this interesting group from this area. This paper is a precursor to the account of the Myrsinaceae in the "Flore du Cambodge du Laos et du Vietnam". Thirty new species and ten new varieties are described in *Ardisia* (*A. aciphylla* var. *touranensis*, *A. applanata*, *A. asymmetrica*, *A. baviensis*, *A. caloneura*, *A. chinensis* var. *stenophylla*, *A. clemensii*, *A. crotonifolia*, *A. dumicola*, *A. fasciculifolia*, *A. filipendula*, *A. gracilentia*, *A. illicioides*, *A. interjacens*, *A. lamdongensis*, *A. lucidula*, *A. macrosepala* var. *schmidii*, *A. merrillii* var. *rosea*, *A. nhatrangensis*, *A. nhatrangensis* var. *glaucescens*, *A. nhatrangensis* var. *neurophylla*, *A. paradoxa*, *A. pitardii*, *A. prolifera*, *A. prunifolia*, *A. quangnamensis*, *A. rapaneifolia*, *A. ravidia*, *A. rhodochroa*, *A. rubescens* var. *oblongifolia*, *A. rubescens* var. *puberula*, *A. silvestris* var. *appressa*, *A. suboppositifolia*, *A. vidalii*, *A. vidalii* var. *orbicularis*, *A. vietnamensis*), *Embelia* (*E. cuneata*) and *Maesa* (*M. cambodiana*, *M. kerrii*, *M.*

laevis). Six new combinations are proposed in *Ardisia* (*A. crenata* subsp. *crassinervosa*, *A. crenata* subsp. *mouretii*, *A. obtusa* var. *montana*, *A. perpendicularis* var. *balansana*, *A. prionata* var. *linearifolia*, *A. quinquegona* var. *salicifolia*). The new taxa and new combinations are alphabetically arranged under the appropriate genus.

Key words Indochina; Myrsinaceae; New taxa

Ardisia O. Swartz

Ardisia is the largest genus of Myrsinaceae, in Lecomte's Flore Generale de L'Indo-Chine, Pitard (1930) recognized 77 species. After the present author's revision, the number of species increased to 104, of which 61 are endemic to this area.

Ardisia aciphylla Pitard in Lecomte, Fl. Gen. I.-C. 3: 861. 1930, p. p. (subg. *Crispardisia*).

TYPE: Vietnam. Phu Khanh, Poilane 4048 (lectotype, P).

In describing *A. aciphylla*, Pitard cited 3 specimens collected from Phu Khanh (Nhatrang), Tourane and Quangtri respectively, but unfortunately, they are not identical. Here the Nhatrang specimen (Poilane 4048), which matches the original description best, is designated as the lectotype of *A. aciphylla*; the specimen from Tourane (Poilane 7510) is treated as a variety of this species, while the specimen from Quangtri (Poilane 11908) is described as new (cf. *A. vietnamensis*). Thus a revised description for *A. aciphylla* is needed:

var. *aciphylla*

Shrub to 2m high; branchlets slender, terete, glabrous. Leaves alternate; leaf blade elliptic-lanceolate, 5.5–10 × 1.2–2.5cm, apex acuminate, base cuneate, subentire but with 4–7 slightly notched marginal glands on each side, finely chartaceous, glabrous, with scattered colourless, ± raised glands on lower surface; lateral nerves 5–18 pairs, curved-ascending, meeting in an intramarginal vein near the edge; veins prominent beneath. Petiole 2–5mm, glabrous. Inflorescence subumbellate, 6–8-flowered, terminal on special flowering branches, these 10–20cm long, each bearing 4–5(–7) leaves on the upper one-third. Bracts elliptic, c. 3mm, glabrous. Pedicel 5–8mm, lengthening to 1–1.2cm in fruit. Calyx c. 3mm, glabrous, sparsely punctate; lobes ovate, c. 2.5mm, acute, ± overlapping at base. Corolla pink, deeply lobed; lobes oblong-lanceolate, 5–5.5mm, acute, punctate. Anthers c. 5mm, acute, punctate on back. Ovary glabrous; style c. 4mm; ovules c. 8, in one series on placenta. Fruit globose, c. 7mm in diameter.

Distribution and Ecology. *Ardisia aciphylla* var. *aciphylla* is known only from the type material collected from Phu Khanh (Nhatrang) of Vietnam, growing in evergreen forest.

var. *touranensis* C. M. Hu & J. E. Vidal, var. nov. **TYPE:** Vietnam, Lien Chien, near Tourane, Poilane, 7510 (holotype, P).

A var. *aciphyllae* foliis margine distanter grosse sinuato-crenatis, pedicellis longioribus, sub fructu ad 2cm longis differt.

Leaves narrowly elliptic-lanceolate, $7-10 \times 1.2-2$ cm, narrowed to both ends, margin scalloped-crenate, with scattered black glands on lower surface; lateral nerves 10-12 pairs; intramarginal vein inconspicuous or lacking; veinlets obscure. Pedicel c. 2cm in fruit. Calyx split almost to base, lobes ovate, c. 3.5mm, acute, black-punctate.

Distribution and Ecology. Endemic to central Vietnam, known only from the type material collected from Lien Chien, near Tourane, alt. 1000m, in evergreen forest.

Ardisia applanata C. M. Hu & J. E. Vidal, sp. nov. (subg. *Akosmos*). TYPE: Vietnam, Gia Lai-Cong Tum: Kontom, alt. 1000m, in evergreen forest, Poilane 32235 (holotype, P; isotype, IBSC).

Species nova *A. micrantherae* Pitard similis, sed ab ea floribus minoribus, petalis vix punctatis, fructibus depresso-globosis differt.

Small tree to 6m high, 25cm in diameter; branchlets angulate, delated at insertion, densely rusty scaly when young, latter greyish, wrinkled with longitudinal lines. Leaves alternate, narrowly elliptic to elliptic-oblancheolate, $4-11 \times 2-3.5$ cm, base cuneate-attenuate, apex shortly acuminate, entire, firmly chartaceous, glabrous above, covered with minute appressed rusty scales beneath; glandular dots many, \pm raised on both surfaces when dry; lateral nerves 18-23 pairs, with shorter and thinner intercalated pairs, subparallel, departing at an angle about 75° , curved-ascending and anastomosing near edge, not forming an uniform intramarginal vein; veinlets \pm conspicuous beneath. Petiole 4-8mm, initially lepidote. Inflorescence compound-subumbellate, rusty lepidote, 2-4cm, in axils of leaves near apex of branches, often appearing a terminal flat-topped panicle due to the subtending leaves reduced and caduous, primary branches 10-25mm, secondary rays 3-5mm, each bearing a subumbellate cluster of 4-8 flowers. Pedicel 1-3.8mm, puberulous. Calyx c. 1mm, split nearly to base; lobes ovate-triangular, margin whitish, ciliolate. Corolla c. 2.5mm, deeply lobed; lobes ovate, c. 2×1.5 mm, acute or \pm obtuse, with a few pellucid glandular dots and short stripes. Anthers narrowly ovate, c. 1.8mm, acute. Ovary glabrous; style c. 1.5mm; ovules many, in 3 series on placenta. Fruit depressed globose, c. 7mm in diameter.

Distribution and Ecology. Endemic to central Vietnam, Province Gia Lai-Cong Tum and Thauh Hoa, in evergreen forest, alt. 1000m. Flowering in March; fruiting in September.

Remarks. *Ardisia applanata* is closely related to *A. micranthera* Pitard, but can be easily recognized by the smaller flowers, the corolla-lobes almost not punctate and the depressed globose fruit. From *A. tinctoria* Pitard and *A. pitardii* C. M. Hu & Vidal, it differs particularly by the leaves without an uniform intramarginal vein.

Paratype. Vietnam, Thanh Hoa: Dac kiet, Poilane 1841 (P).

Ardisia asymmetrica C. M. Hu & J. E. Vidal, sp. nov. (subg. *Crispardisia*). TYPE: Vietnam, Quang Nam-Da Nang: Bana, near Tourane, alt. 1000–1500m, 26 Feb., 1939. Poilane 29087 (holotype, P).

Ab aliis subgeneris speciebus foliis basi asymmetricis, longe petiolatis diversa.

Shrub 0.3–1.5m high. Stem erect, not branched, \pm puberulous with short capitate hairs on upper part. Leaves alternate; leaf blade elliptic, 13.5–21.5 \times 6.5–11cm, apex \pm acute, base obtuse or subrounded, asymmetric, subentire or obscurely crenulate, narrowly recurved, with 8–12 marginal glands on each side, chartaceous, upper surface glabrous, lower surface densely puberulous with short hairs; lateral nerves 10–12 pairs, departing at an angle about 60°, meeting in an indistinct intramarginal vein near the edge; veinlets obscure. Petiole 2.5–6cm, puberulous. Inflorescence lateral, subumbellate, puberulous with short capitate hairs. Peduncle 1–2cm; primary rays 10–15mm; pedicel 10–18mm. Calyx c. 3.5mm in fruit, split to 3/4 of its length; lobes ovate-triangular, puberulous without, glandular ciliate, sparsely punctate. Fruit globose, 7–7.5mm in diameter.

Distribution and Ecology. Endemic to central Vietnam, in forest, alt. 1000–1500m. Fruiting in February.

Remarks. This new species is unique among the species in the subg. *Crispardisia* in having leaves asymmetric at base and long-petiolate.

Paratype. Vietnam, Quang Nam-Da Nang, Poilane 31455(P); Binh Tri Thien, Mt. Bani, in the main coast range about 25km from Tourane, on forest trail below summit hotel, J. & M. S. Clemens 4289(P).

Ardisia baviensis C. M. Hu & J. E. Vidal, sp. nov. (subg. *Akosmos*). TYPE: Vietnam, Ha Son Binh: Mt. Bavi, alt. 800–1200m, 2 June, 1918, F. Fleury 37788 (holotype, P; isotype, IBSC). Fig. 1.

Ardisia yunnanensis auct. non Mez: Pitard in Lecomte, Fl. Gen. I.—C. 3: 825. 1930.

Species nova *A. yunnanensi* Mez similis, sed ab ea floribus maioribus, stylis ante anthesin haud exsertis, foliorum nervis lateralibus paucioribus nervo intramarginali confluentibus differt.

Small tree 6–8m high; branchlets angulate, dark brown, sparsely covered with appressed rusty scales when young. Leaves alternate, oblong-elliptic to elliptic-oblongate, 9–18 \times 3–5.5cm, base cuneate, apex acuminate, margin entire or faintly undulate above middle, chartaceous, glabrous, upper surface \pm rusty lepidote especially on midrib; glandular dots numerous, colourless, \pm raised on both surfaces when dry; lateral nerves 15–22 pairs, with shorter intercalated pairs, subparallel, departing at an angle about 75°, then curved-ascending,

meeting in a looped intramarginal vein; veinlets \pm distinct beneath. Petiole 3–5mm, initially lepidote. Inflorescence compound-subumbellate, in axils of leaves or reduced leaves near apex of branches, sometimes appearing a terminal panicle, sparsely lepidote. Peduncle 2–5cm; primary rays 6–20mm, each bearing an umbel of 3–5 flowers; pedicel 2–4mm, sparsely lepidote. Calyx c. 1.5mm, split to $2/3$ of its length lobes triangular, 1–1.25mm, acute, minutely ciliate. Corolla pink, c. 3mm; lobes ovate, c. $2.25-2.75 \times 1.5-1.8$ mm, acute, not punctate. Anthers ovate, c. 1.75mm, apiculate, not punctate. Ovary glabrous; style c. 3mm; ovules many, in 2 series on placenta.

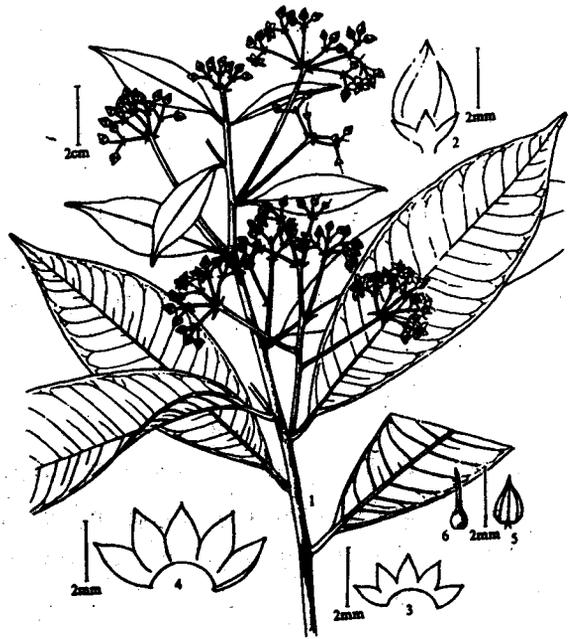


Fig. 1 *Ardisia baviensis* C. M. Hu & J. E. Vidal (Fleury 37788)

1. Flowering branch; 2. Flower bud; 3. Calyx opened up;
4. Corolla opened up; 5. Stamen; 6. Pistil

Distribution and Ecology. Endemic to northern Vietnam, growing in evergreen forest at altitude 800–1200m. Flowering June–July.

Remarks. *Ardisia baviensis* is most closely related to *A. yunnanensis* Mez, but is easily separated by the larger flower, the style not exerted prior to anthesis, the lateral nerves of leaves meeting in an intramarginal vein near the edge.

Paratypes. Vietnam, Ha Son Binh: Mt. Bavi, 800–1200m, Petelot 2412 (US), 2415, 7136 (P, US); ibidem, in forest, Balansa 3926 (P); ibidem, Moung Thou, Petelot 5976 (P, GH), 2366, 6476(GH, US).

Ardisia caloneura C. M. Hu & J. E. Vidal, sp. nov. (subg. *Crispardisia*). TYPE: Laos, Vientiane: Pak Mumeng, alt. 1100m, 22 April, 1932, Kerr 21205 (holotype, P; isotype, K).

Species foliorum nervis lateralibus utrisecus c. 20-paribus, procul a margine in glandulis marginalibus magnis elongatis sensim incrassatis insignis.

Shrub c. 1m high; branches glabrous. Leaves crowded towards apex of branches, subverticillate; leaf blade oblong-elliptic to oblong-lanceolate, $22-27.5 \times 4.5-7$ cm, apex acute, base cuneate, margin crisped-crenate, subcoriaceous, glabrous above, rusty puberulous on nerves of lower surface; lateral nerves c. 20 pairs, with shorter intermediates, irregularly spaced, impressed above, strongly raised beneath, curved-ascending, apart 3–4

mm from the edge thickened into elongate marginal glands; reticulation of veins and veinlets prominent on both surfaces. Petiole c. 5 mm, glabrous. Inflorescence subumbellate, many-flowered. Peduncle c. 5 cm, densely rusty puberulous. Bracts oblong, 4–5 mm, acute or obtuse, sparsely puberulous dorsally. Pedicel 1–2 cm, rusty puberulous. Calyx 3.5–4 mm, split to 3/4 of its length; lobes ovate-elliptic, c. 2.5 mm wide, obtuse or \pm acute, slightly puberulous or glabrescent, with a few large glands, not ciliate. Corolla pink, c. 8 mm; tube less than 1 mm; lobes elliptic-lanceolate, c. 4 mm broad, acute, with a few rounded or elongate glands near apex. Anthers lanceolate, c. 6.5 mm, apiculate, with 2–3 black glands on back. Ovary glabrous; style c. 5 mm; ovules 5–6, in one series on placenta.

Distribution and Ecology. Known only from the type material collected from Vientiane of Laos, growing in forest, alt. c. 1100 m. Flowering in April.

Remarks. *Ardisia caloneura* is unique among the species of subg. *Crispardisia* in having leaves with about 20 pairs of lateral nerves, which apart 3–4 mm from the edge and thickened into large, elongate marginal glands.

Ardisia chinensis Benth. var. *stenophylla* C. M. Hu & J. E. Vidal, var. nov. (subg. *Akosmos*). TYPE: Vietnam, Quang Ninh: Ha cai, in swampy thicket, W. T. Tsang 28986 (holotype, IBSC; isotype, P, GH).

A var. *chinensi* foliis lanceolatis, minus quam 1.8 mm latis differt.

Leaves lanceolate, 4–9 \times 0.8–1.7 cm, tapering to both ends, the ratio of breadth to length being 4.5–5.3.

Distribution and Ecology. This variety is endemic to Prov. Quang Ninh of north Vietnam, growing in thicket on steep slopes or in swampy thickets. Flowering May–June.

Paratypes. Vietnam, Quang Ninh: Ha cai, W. T. Tsang 28986 (IBSC, P, GH); ibidem, Tien-yen, Ho Young Shan W. T. Tsang 30696 (IBSC, P).

Ardisia clemensii C. M. Hu & J. E. Vidal, sp. nov. (subg. *Crispardisia*). TYPE: Vietnam, Binh Tri Thien: Tourane, 100 km south of Hue, summit of ridges, Clemens 3483 (holotype, P).

Species nova *A. harmandii* Pitard persimilis, sed ab ea foliis latioribus, sepalis late ovatis manifeste dextrosum tegentibus differt.

Shrub 0.25–1 m high; branches terete, glabrous, reddish brown. Leaves spirally arranged, \pm crowded towards nodes; leaf blade linear, 7–12 \times 0.3–0.7 (0.9) cm, apex \pm acuminate, base narrowly cuneate, margin subentire and narrowly recurved, marginal glands 9–13 on each side, inconspicuous, firmly chartaceous, glabrous, with slightly raised glands on lower surface; lateral nerves 10–15 pairs, departing at an angle about 30°, meeting in an intramarginal vein near the edge; veins obscure. Petiole 5–10 mm, glabrous.

Inflorescence subumbellate, terminal on special flowering branches, these rather slender, 6–13cm long, with 3–4 leaves towards apex. Bract oblong-ovate, 2–4mm, glabrous, black punctate. Pedicel 5–8mm, glabrous. Calyx split almost to base; lobes broadly ovate, c. 1mm, apex rounded, overlapping at base. Corolla pink, 3.5–4mm, deeply lobed; lobes elliptic, obtuse, black-punctate. Anthers c. 3mm, acute, sparsely punctate on back. Ovary glabrous; style c. 2mm; ovules c. 5, in one series on placenta. Fruit not known.

Distribution and Ecology. Endemic to central Vietnam, growing in thickets on summit of ridges. Flowering in April.

Remarks. *Ardisia clemensii* is closely related to *A. harmandii* Pitard, but can be easily recognized by its distinctly imbricate calyx-lobes. From *A. ensifolia* Walker, which it superficially resembles, it differs by its inflorescence being terminal on leafy branches and by its imbricate calyx-lobes.

Paratypes. Vietnam, Binh Tri Thien: Tourane, Clemens 3490 (P); ibidem, Hue au Mekong, Harmand 5479 (P).

Ardisia crenata Sims in Curtis's Bot. Mag. 45: Pl. 1950 (1818). (subg. *Crispardisia*).

Ardisia crenata is widely distributed in Japan, China and through Indochina extends to Malay Peninsula and Indonesia. Here three subspecies are recognized:

Key to the subspecies

1. Axis of inflorescence 0–0.5cm at anthesis, usually simple or with 1–2 branches.
 2. Calyx-lobes ovate to oblong-ovate, not or scarcely overlappingsubsp. *crenata*
 2. Calyx-lobes broadly ovate or suborbicular, distinctly overlapping at basesubsp. *crassinervosa*
 1. Axis of inflorescence 1–2cm at anthesis, with 4–5 branchessubsp. *mouretii*
- subsp. *crenata*

The type is based on a cultivated plant from China. Plants from China and Japan (the type subspecies) have thinner leaves and small calyx with spreading lobes, while those from Hainan and South-East Asia mostly have subcoriaceous leaves and larger calyx with lobes overlapping at base, which was described by E. H. Walker as *A. crassinervosa*. Although there are intermediates between the two extremes, it appears to have a geographical basis. They might well be treated as subspecies of the one broad species.

subsp. *crassinervosa* (Walker) C. M. Hu & J. E. Vidal, comb. et stat. nov. Basionym: *Ardisia crassinervosa* Walker, Philipp. J. Sc. 73: 86, fig. 14 (1940). TYPE: China, Hainan, W. T. Tsang 674 (UC).

Leaves subcoriaceous or coriaceous. Inflorescence subumbellate; primary axis 0–0.5cm, simple or with 1–2 branches. Calyx-lobes broadly ovate or suborbicular, distinctly overlapping at base.

Distribution and Ecology. Described from Hainan of southern China but it is more

common and widely distributed in Vietnam, Laos, Cambodia and Malay Peninsular, growing in thicket and clearings of forest, alt. 200–1000m. Flowering December to January of the following year; fruiting September to December.

subsp. *mouretii* (Pitard) C. M. Hu & J. E. Vidal, comb. et stat. nov. Basionym: *Ardisia mouretii* Pitard in Lecomte, Fl. Gen. I.-C. 3: 864 (1930). TYPE: Vietnam, Ha Nam Ninh, Mouret 98 (lectotype, P).

Leaves chartaceous to firmly chartaceous. Inflorescence corymbose-umbellate, primary axis 1–2cm, usually with 4–5 branches. Calyx-lobes oblong-ovate, not overlapping at base.

Distribution and Ecology. Northern Vietnam; Hong Kong and Hainan of southern China, growing in thickets. Flowering in July.

Ardisia crotonifolia C. M. Hu & J. E. Vidal, sp. nov. (subg. *Crispardisia*). TYPE: Vietnam, Quang Nam-Da Nang, near the village Mang Bra, in forest, 500–600m, 26 Feb., 1941, Poilane 31798 (holotype, P).

Species affinis *A. pedali* Walker et *A. nhatrangensi* C. M. Hu & J. E. Vidal, a quibus pedicellis pedunculo longioribus, foliis tenuiter chartaceis, longe petiolatis differt.

Shrub 20–25cm high. Stem terete, ± tortuous and rusty lepidote near apex. Leaves crowded at nodes and apex of stem, appearing subverticillate; leaf blade narrowly elliptic to elliptic-lanceolate, 9.5–18 × 2.5–4.8cm, apex acuminate, base long-attenuate, remotely undulate-crenate, with 4–6 marginal glands on each side, chartaceous, glabrous, olive-green when dry, sparsely lepidote on lower surface, not punctate; lateral nerves 10–13(–16) pairs, departing at an angle about 60°, meeting in an irregular intramarginal vein near the edge; veins slightly prominent on both surfaces when dry. Petiole slender, 15–25mm, initially rusty lepidote. Inflorescence subumbellate, simple, lateral, in axis of reduced leaves near apex of stem, sparsely puberulous. Peduncle 4–8mm. Pedicel 10–13mm. Flowers not known. Calyx c. 3.5mm in fruit, split near to base; lobes ovate-triangular, acute, not ciliate, dotted with black glands. Fruit globose, c. 6mm in diameter, black punctate.

Distribution and Ecology. Endemic to central Vietnam, growing in forest, alt. 500–1800m. Fruiting in February-March.

Remarks. *Ardisia crotonifolia* is related to *A. pedalis* Walker and *A. nhatrangensis* C. M. Hu & J. E. Vidal, But can be easily recognized by its inflorescence with pedicel longer than peduncle, and the leaves with long petioles.

Paratype. Vietnam, Prov. Quang Nam-Da Nang, alt. 500–600m, in forest, Poilane 29415 (P.)

Ardisia dumicola C. M. Hu & J. E. Vidal, sp. nov. (subg. *Bladhia*). TYPE: Vietnam, Quang Ninh, Damba, W. T. Tsang 30110 (holo-, IBSC; iso-, P; GH). Fig. 2

Species affinis *A. silvestri* Pit. et *A. interjacenti* C. M. Hu & J. E. Vidal, a quibus foliis minoribus, basi cuneatis vel breve attenuatis, distincte petiolatis, nec longe attenuatis sessilibusque differt.

Small shrub. Stem erect, 10–18cm high, upper part densely rusty pubescent. Leaves subopposite or subverticillate near apex of stem; leaf blade elliptic to narrowly elliptic, 8–18×3–7.5cm, apex acute, base cuneate or sometimes shortly attenuate, minutely serrulate-denticulate, chartaceous, upper surface glabrous except the impressed puberulous midrib, lower surface densely on midrib and sparsely on nerves covered with patent rusty short hairs, densely and minutely punctate on both surfaces; lateral nerves 10–14 pairs, departing at an angle about 50°, curved-ascending and anastomosing near the edge. Petiole 2.5–4 cm, crisp-winged, densely rusty pubescent. Inflorescence subumbellate-paniculate, in axils of reduced leaves, 5–7.5cm including the peduncle, rusty puberulous, 1× branched; branches 5–15mm in fruiting time, each bearing a subumbellate cluster of 2–3 flowers. Bracts linear, c. 2mm. Flower not known. Pedicel 5–7mm in fruit. Calyx split to near base; lobes ovate, c. 2mm, apex acute, minutely puberulous, obscurely punctate. Immature fruit globose, 5–6mm in diameter, punctate, sparsely rusty puberulous.

Distribution and Ecology. Endemic to Vietnam (North), growing in thicket, on clayey soil.

Remarks. *Adisia dumicola* resembles *Adisia silvestris* and *A. interjacens*, from both it can be distinguished by its smaller elliptic leaves, which is cuneate or shortly attenuate at base and distinctly petiolate.

Paratype. Vietnam, Quang Ninh: W. T. Tsang 26885, 29506, 30110, 30414 (IBSC, P, GH).

Adisia fasciculiflora C. M. Hu & J. E. Vidal, sp. nov. (subg. *Pimelandra*). TYPE: Vietnam, Bac Thai, in forest, alt. 1200m, June 1939, Petelot 2371 (holotype, US). Fig. 3.

Species nova *A. aberranti* (Walker) C. Y. Wu & C. Chen subsimilis, sed ab ea inflorescentiis simplicibus, pedicelis longioribus differt.

Shrub c. 1.5m high; branchlets terete, sparsely glandular. Leaves alternate, ± crowded towards the nodes, narrowly elliptic to elliptic-lanceolate, 10–20×3–6cm, base broadly

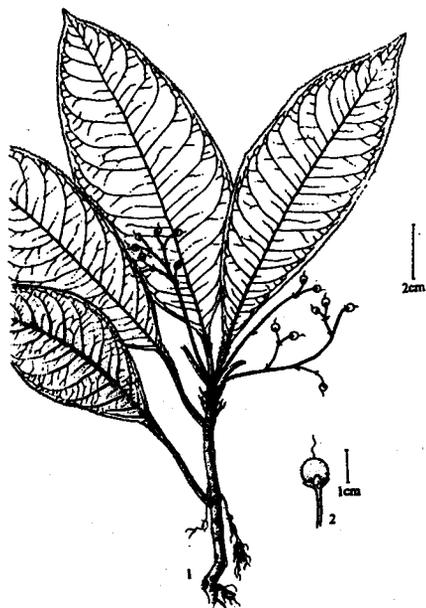


Fig. 2 *Adisia dumicola* C. M. Hu & J. E. Vidal
1. Plant ×2/3; 2. Fruit ×3
(W. T. Tsang 30110)

cuneate or obtuse, apex acuminate, entire or obscurely undulate, chartaceous, glabrous, sparsely punctate on both surfaces; lateral nerves 12–16 pairs, slender, departing at an angle about 60° , curved-ascending and anastomosing near edge; veins obscure. Petiole 5–10mm, \pm glandular. Flowers 2–3 fascicled in axils of leaves; pedicel 13–18mm, \pm glandular. Calyx c. 2mm, split nearly to base; lobes ovate, acute, with thick glandular dots near apex, minutely glandular ciliate. Corolla c. 7mm; tube c. 1.5mm; lobes lanceolate, with glandular stripes. Anthers lanceolate, c. 6.5mm, not punctate; filaments very short, fused with corolla tube. Ovary ovoid, \pm glandular; style slender, c. 7mm. Fruit not known.

Distribution and Ecology. Known only from the type material collected from Bac Thai (Bac Kan) of N Vietnam, growing in forest, alt. 1200m. Flowering in June.

Remarks. *Ardisia fasciculiflora* is superficially similar to *A. aberrans* (Walker) C. Y. Wu & C. Chen, but can be easily distinguished by its simple, fasciculate inflorescence and longer pedicels.

***Ardisia filipendula* C. M. Hu & J. E. Vidal, sp. nov. (subg. *Crispardisia*). TYPE:** Vietnam, Ha Son Binh, Mt. Bavi, in forest, Balansa 2692 (holotype, P).

Planta ab omnibus speciebus subgeneris ramis floriferis pendulis apicem versus foliis parvis duobus vel tribus intracta, inflorescentia pilosa recedens.

Shrub c. 1m high. Stem erect, terete, except specialized flowering branches not branched, new growth rusty puberulous; flowering branches very slender, 10–13cm long, c. 1mm in diameter, \pm puberulous, pendulous, with 2–3 leaves at apex. Leaves subverticillate on the upper part of stem, elliptic- or oblong-oblancoate, $20-24 \times 6-7$ cm, apex shortly acuminate, base long attenuate, margin obscurely crenate, chartaceous, glabrous, with scattered small glandular dots and some larger ones near the edge; lateral nerves 15–18 pairs, impressed above, strongly raised beneath, departing at an angle about 80° , curved-ascending and anastomosing near the edge, not forming a uniform intramarginal vein; veinlets beautifully reticulated, prominent on both surfaces. Petiole stout, c. 1.5cm. Leaves on flow-



Fig. 3 *Ardisia fasciculiflora* C. M. Hu & J. E. Vidal
1. Flowering branch; 2. Flower bud; 3. Calyx opened up;
4. Corolla opened up; 5–6. Stamen; 7. Pistil. (Petelot 2371)

ering branches sessile, lanceolate, 4.5–6.5 × 1.2–2.2cm, base rounded, tip blunt. Inflorescence an abbreviated raceme, terminal on flowering branches and concealed by the apical leaves. Peduncle 5–9mm; bract lanceolate, 4–5mm, midvein prominent, pilose; rachis 3–8mm, bearing 3–4 flowers, sometimes with a branch at base; the branch (if present) 5–9mm, bearing 1–2 flowers. Pedicel 1.5mm, lengthening to 10–12mm in fruit. Flowers not known. Calyx c. 4.5mm in fruit, split to near base; lobes lanceolate, 4–6 veined, pilose dorsally, ciliate. Fruit globose, c. 6mm in diameter, with black glandular striations.

Distribution and Ecology. A rare species known only from the type material collected from Mt. Bavi, Prov. Ha Son Binh of northern Vietnam, growing in forest.

Remarks. *Ardisia filipendula* is perhaps the most distinctive member of subgenus *Crispardisia*. It can be recognized instantly by its inflorescence terminal on pendulous specialized flowering branches, which has only 2–3 small bracteal leaves at apex.

Ardisia gracilentia C. M. Hu & J. E. Vidal, sp. nov. (subg. *Akosmos*) TYPE: Vietnam, Braian, pres de Djiring, Poilane 24384 (holotype, P; isotype, IBSC).

Species nova *A. quinquegonae* Bl. similis, sed ab ea inflorescentibus bifloris, pedicelis filiformis, ovulis 5, 1 seriatis differt.

Small tree, 3–4m high. Branchlets terete, grey, delated at insertion, new growth densely rusty scaly puberulous. Leaves alternate, elliptic to oblong-elliptic, 3.5–7.5 × 1.5–3cm, base broadly cuneate, apex acuminate, entire, upper surface glabrous, lower surface ± rusty lepidote, not punctate, chartaceous; lateral nerves numerous and fine, subparallel, all equaling in thickness, meeting into an intramarginal vein near the edge; veinlets ± prominent on lower surface. Petiole 0.4–0.9mm, densely rusty lepidote when young. Inflorescence subumbellate, usually 2-flowered, lateral on branchlets of the current year's growth. Peduncle very slender, 15–30mm, ± scaly puberulous. Bract ovate-lanceolate, 0.5–0.75mm. Pedicel 9–12mm, filiform. Calyx c. 0.75mm, split to 2/3 of its length; lobes triangular, acute, obscurely punctate, minutely ciliolate. Corolla rosy, c. 2mm, deeply lobed; lobes ovate, c. 1.8 × 1.25mm, acute, with a few orange glandular dots. Anthers lanceolate, c. 1.8mm, scarcely punctate. Ovary glabrous; style c. 1.5mm; ovules 5, in one series on placenta. Fruit not known.

Distribution and Ecology. Endemic to S Vietnam, known only from the type material collected from Braian, pres de Djiring, in forest, altitude 1500–1700m. Flowering in February.

Remarks. *Ardisia gracilentia* is closely related to *A. quinquegonae* Bl., from which it differs by its 2-flowered inflorescence, filiform pedicels and the ovary with only 5 ovules in one series on placenta.

Ardisia illicioides C. M. Hu & J. E. Vidal, sp. nov. (subg. *Tinus*). TYPE: Vietnam, Quang

Nam-Da Nang: Ba Na, near Tourane, alt. 1000–1200m, 28 Feb., 1939. Poilane 29152 (holotype, P; isotype, IBSC). Fig. 4.

Species nova *A. elliptica* Thunb. similis, sed ab ea floribus minoribus, foliis angustioribus haud obovatis differt.

Shrub or small tree, 2.5–6m high; branchlets \pm angulate, deep reddish brown, sparsely lepidote near apex when young, greyish, wrinkled with longitudinal lines in age. Leaves spiralled, narrowly elliptic to elliptic-lanceolate, 7–13 \times 2–4cm, base attenuate, apex acuminate, margin entire and slightly recurved, firmly chartaceous or subcoriaceous, glabrous, dull green above, paler and covered with rusty appressed minute scales beneath; lateral nerves slender, 12–14 pairs, departing at an angle about 60°, curved-ascending near the edge, not forming intramarginal vein; veinlets almost invisible. Petiole 1–1.5(–2)cm. Inflorescence lateral, subumbellate, glabrous, simple or with 1–2 rays. Peduncle slender, 2–4cm; primary rays (if present) 6–8mm; umbels 4–8-flowered. Pedicel 5–8mm. Calyx c. 1.5mm, split to middle; lobes depressed orbicular, c. 1.8mm broad, apex broadly rounded and sometimes mucronate, imbricate. Corolla deeply lobed; lobes ovate, 3 \times 2.5mm, acute, not punctate. Anthers c. 2.5mm, apiculate, not punctate. Ovary glabrous; style c. 2.5mm; ovules many, in 2 series on placenta. Immature fruit depressed globose, c. 4mm in diameter, with thick glandular dots and short lines.

Distribution and Ecology. Endemic to central Vietnam. In evergreen forest, alt. 1000–1200m. Flowering in February; fruiting July–August.

Remarks. This new species resembles *A. elliptica* Thunb. in sepals coalescent at the lower half, but can be easily distinguished by its smaller flowers and narrowly elliptic to elliptic-lanceolate leaves.

Paratype. Vietnam, Prov. Quang Nam-Da Nang: Ba Na, near Tourane, 1200m, Poilane 7165 (P).

Ardisia interjacens C. M. Hu & J. E. Vidal, sp. nov. (subg. *Bladhia*). TYPE: Vietnam,

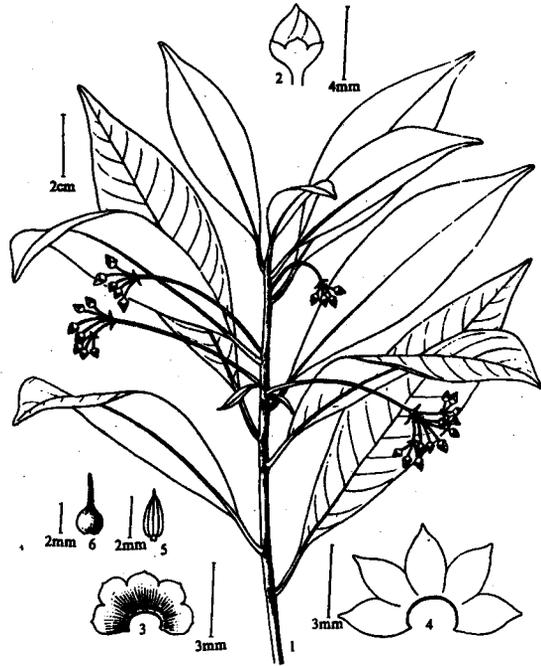


Fig. 4 *Ardisia illicioides* C. M. Hu & J. E. Vidal

1. Flowering branch; 2. Flower bud; 3. Calyx opened up; 4. Corolla opened up; 5. Stamen; 6. Pistil. (Poilane 29152)

Quang Nam-Da Nam, Poilane 31511 (holotype, P).

species affinis *A. silvestri* var. *appressae* C. M. Hu & J. E. Vidal, sed ramis inflorescentiae longioribus, nervis laterioribus foliorum paucioribus (12–15 jugis), foliis subtus pilis patentibus ferrugineis obtectis differt.

Small shrub 0.5–1m high. Stem erect, to 0.8cm in diameter, usually not branched, ± puberulous when young. Leaves 5–6 whorled at apex of stem but subopposite below; leaf blade elliptic-oblong to elliptic-obovate, 20–35×7–13cm, apex shortly acuminate, base long-attenuate and decurrent, sessile, margin minutely serrulate-denticulate, upper surface rusty puberulous on midrib and lateral nerves, lower surface more densely covered with patent rusty short hairs on nerves; glandular dots numerous, obscure or ± raised on both surfaces when dry; lateral nerves 12–15 pairs, curved-ascending, anastomosing near the edge; veinlets prominent on lower surface. Inflorescence paniculate, in axils of upper leaves, 3.5–7.5cm long, with a spread c. 2cm at base, densely rusty puberulous, 1×branched; branches 5–10mm, each bearing a subumbellate cluster of 4–6 flowers. Pedicel c. 2mm. Calyx split to base; lobes ovate-triangular, c. 1mm, acute, minutely puberulous and punctate, ciliolate. Corolla deeply lobed; lobes ovate, c. 2.25×1mm, sparsely punctate. Ovary ± puberulous, style c. 1mm; ovules c. 5, in one series on placenta. Fruit globose, c. 6mm in diameter, bright red when mature.

Distribution and Ecology. Endemic to central Vietnam. In forest on humid places, alt. 500m. Flowering in March; fruiting December–February of the following year.

Remarks. At first glance *A. interjacens* looks very similar to *A. silvestris* var. *appressa*, but a closer examination revealed that in *A. interjacens* the branches of the inflorescence are much longer, and the leaves covered with patent hairs on the lower surface.

Paratype. Vietnam, Prov. Quang Nam-Da Nam, Poilane 31592 (P).

Ardisia lamdongensis C. M. Hu & J. E. Vidal, sp. nov. (subg. *Akosmos*). TYPE: Vietnam, Lamdong, Poilane 30786 (holotype, P).

Species similis *A. quinquegonae* Bl. et *A. tinctoriae* Pitard, a quibus differt floribus maioribus, ad 4 mm longis, nervis lateralibus foliorum paucioribus.

Shrub to 2m high. Branchlets densely covered with irregular peltate rusty scales. Leaves alternate, narrowly elliptic-lanceolate, 4.5–8×1.5–2cm, apex acuminate, base cuneate, margin entire, chartaceous, with numerous minute ± pellucid glandular dots, upper surface glabrous, lower surface densely rusty lepidote, midrib narrowly impressed above, raised and densely scaly puberulous beneath; lateral nerves 15–18 pairs, with shorter and thinner intercalated pairs, departing at an angle about 60°, slightly raised on both surfaces, not forming intramarginal vein; veinlets invisible. Petiole 5–6mm, densely rusty puberulous. Inflorescence subumbellate, 2–4-flowered, in axils of leaves, densely rusty puberulous.

Peduncle 1.5–2.5 (–3) cm. Bract linear-lanceolate, 1.5–2 mm, rusty puberulous. Pedicel 10–12 mm, lengthening to 2 cm in fruit, densely rusty puberulous. Calyx c. 1.5 mm, split to near base; lobes ovate-lanceolate, sparsely puberulous and obscurely punctate, distinctly ciliate. Corolla 4–4.5 mm, deeply lobed; lobes c. 4 mm, \pm acuminate, not punctate or with 1–3 black glandular dots. Anthers lanceolate, c. 3 mm, scarcely punctate. Ovary glabrous; style c. 3 mm; ovules 6–8, in 1 series on placenta. Fruit not known.

Distribution and Ecology. Known only from the type material collected from massif Bi Doup, in forest, at altitude 2287 m. Flowering October–November.

Remarks. *A. lamdongensis* is superficially similar to *A. quinquegona* and *A. tinctoria*, from these it is separated by its much larger flowers and the leaves with few pairs of lateral nerves.

***Ardisia lucidula* C. M. Hu & J. E. Vidal, sp. nov. (subg. *Akosmos*). TYPE:** Vietnam, Quang Ninh, NE of Mon-Cay, in thicket, W. T. Tsang 26883 (holotype, IBSC; isotype, P, GH). Fig. 5.

Species affinis *A. floridae* Pitard, a qua imprimis differt foliis punctatis, supra plus minusve lucidis, inflorescentiis paucifloris.

Shrub or small tree up to 3 m high; branchlets \pm angulate, delated at insertion, young parts and inflorescence densely fulvous tomentose by appressed scaly short hairs; branches of last year's growth subterete, blackish. Leaves alternate, elliptic to elliptic-lanceolate, 5–10 \times 2–4 cm, base cuneate, apex shortly acuminate, margin entire or faintly undulate, narrowly recurved, coriaceous, \pm shining above, with numerous appressed or sunken minute scales beneath; glandular dots many, colourless, slightly raised on both surfaces, especially conspicuous on young leaves; midrib narrowly impressed above, strongly raised beneath; lateral nerves 15–20 pairs, with shorter and thinner intercalated pairs, departing at an angle about 60°, anastomosing and meeting in a looped intramarginal vein near edge; veinlets faintly visible or obscure beneath. Petiole 5–8 mm, initially lepidote. Inflorescence lateral or sometimes appearing terminal, simple or compound. Peduncle 1–3 cm; branches (if present) 7–15 mm, each bearing a subumbellate cluster of 4–8 flowers. Pedicel 3–6 mm. Flowers white, fragrant, c. 3.5 mm. Calyx c. 1.5 mm, split nearly to base; lobes ovate, \pm obtuse, fulvous scaly and ciliolate. Corolla deeply lobed; lobes ovate, 3 \times 2 mm, acute, not punctate. Anthers ovate, c. 1.5 mm, apiculate. Ovary scaly; style c. 4 mm; ovules many in 2–3 series



Fig. 5 *Ardisia lucidula* C. M. Hu & J. E. Vidal
1. Flowering branch; 2. Calyx; 3. A part of corolla; 4. Stamen; 5. Pistil; 6. Fruit.
(W. T. Tsang 26883)

on placenta. Fruit globose, c. 5.5mm in diameter, fulvous scaly when young.

Distribution and Ecology. Endemic to northern Vietnam. In thicket or open forest, on dry clay soil. Flowering May–June; fruiting October–November.

Remarks. *Ardisia lucidula* is superficially similar to *A. florida* Pitard, but can be easily recognized by the leaves being more or less glossy on upper surface, dotted with colourless glands, and by the smaller and few-flowered inflorescence.

Paratypes. Vietnam, Prov. Quang Ninh: Ha Coi, W. T. Tsang 29476, 30549 (IBSC; P; GH).
(To be continued)