

NEW SPECIES OF APHELANDRA (ACANTHACEAE)

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In number of species and in morphological diversity, the genus Apelandra reaches its zenith in the Andean mountains of South America. While working towards a monograph of the genus, I found 29 species as yet undescribed to science. As a result of this, the following is an effort to place these novelties on record for the convenience of other taxonomists prior to the publication of the monograph in its entirety.

1. APHELANDRA FERREYRAE Wasshausen, sp. nov.

Herba; caulis parce adpresso-puberulus; lamina foliorum oblongo-elliptica, 21-25 cm longa et 6-7 cm lata, acuminata, glabra vel parce pilosa; spicae plures, oppositae, pedunculis et rachidibus puberulis, bracteis laxe imbricatis; bractee virides, oblongo-ovatae, acuminatae et apiculatae, spinuloso-serratae; bracteolae oblongae, acutae; calycis segmenta oblonga, acuta, ciliolata; corolla flava, labiis subaequalibus, labio superiore bilobato lobis obtusis, inferiore trilobo, lobis rotundatis vel emarginatis.

Herb about 50 cm high; stem terete, rather sparingly appressed puberulent; leaf blades oblong-elliptic, 21-25 cm long and 6-7 cm wide, acuminate at apex, the tip itself blunt, cuneate at base, green, entire or obscurely crenate, glabrous or sparingly pilosulous, the hairs confined chiefly to the costa and lateral veins (about 12 pairs on each side of the costa); petioles to 6 cm long, minutely pilosulous; flowers borne in several, opposite spikes, these borne in the axils of the upper leaf blades, 15-18 cm long and 10-15 mm wide, the bracts rather loosely imbricate, the rachis and peduncles (3-5 cm long), puberulent, the hairs appressed or spreading toward tip of spike; bracts oblong-obovate, 10-13 mm long, 6 mm wide, acuminate, abruptly apiculate at tip, firm, green, puberulent, 5-7-nerved from middle to within 2 mm of tip, the nerves ending in about 6 erect-spreading, spiny teeth, these slender, to 1.5 mm long; bractlets oblong, 7 mm long, 1.5 mm wide, acute, pubescent toward tip, striate-nerved; posterior calyx segment about 8 mm long and 2.5 mm wide, the others 7 mm long and 1.5 mm wide, all oblong, acute, ciliolate toward tip, striate-nerved; corolla yellow, minutely pubescent, 2-2.5 cm long, the tube 2-3 mm wide at base, gradually enlarged to 6 mm at mouth, slightly curved, the lips subequal, the upper one obovate, 4-5 mm long and 6-10 mm wide, 2-lobed, the lobes 2-4 mm long, 3-5.5 mm wide, obtuse at apex, the lower lip 3-lobed, the middle lobe 4-7 mm long and 5-7 mm wide, the lateral lobes

similar but smaller, all rounded or emarginate at apex; stamens included; filaments 1 cm long, pubescent; anthers 3 mm long; ovary glabrous below, pubescent at tip; style about as long as the stamens, rather sparingly pilosulous; capsule not seen.

Type. R. Ferreyra 4333 (holotype US), Peru, Huánuco: Puento Tulumayo, between Tingo María and Divisoria, 700-750 m alt, 24 Jul 1948.

Distribution. Dense forests, Amazonian Peru in the departments of Loreto and Huánuco.

PERU. LORETO: Between Yurimaguas and Balsapuerto (lower Río Huallaga basin), 135-150 m alt, 26-31 Aug 1929, Killip & A. C. Smith 28254 (US). HUÁNUCO: Huánuco, Río Monzón, near Tingo María, 700 m alt, 21 Jun 1953, Ferreyra 9303 (US); Tingo María, marshy forest, 5 Aug 1940, Asplund 12745 (S); Leoncio Prado, 5 km S of Tingo María, 672 m alt, 4 Jul 1969, Schunke 3271 (F, US).

Aphelandra ferreyrae is closely affiliated with *A. parviflora*, a Colombian species. It is easily separated from *A. parviflora* by its green leaf blades and larger floral parts. In *A. parviflora* the leaf blades are purple beneath, the corolla 1.5 cm long or less, the bractlets lance-subulate and 3.5 mm long, and the calyx segments barely 6 mm long. In contrast, the corolla of this new Peruvian species is 2-2.5 cm long, the bractlets oblong and 7 mm long, and the calyx segments 7-8 mm long. This species is named in honor of Sr. Ramon Ferreyra, of the University of San Marcos, in recognition of his invaluable service to Peruvian botany.

2. APHELANDRA HAPALA Wasshausen, sp. nov.

Herba; caulis sursum dense strigosus; lamina foliorum elliptica, acuminata, supra glabra, subtus dense hirsuta; spicae terminales, pedunculatae, laxae, rhachidibus et pedunculis strigillosis; bracteae triangulares-ovatae, 8 mm longae et 5 mm latae, acuminatae et minute mucronatae; bracteolae triangulares-ovatae, acuminatae; calycis segmenta oblongo-ovata, striato-nervata, ciliolata; corolla aurantiaca, hirtella, labio superiore erecto, bilobato, lobis obovatis, abrupte acuminatis, labio inferiore 3-lobato, labio medio elliptico, lobis lateralibus obtusis.

Herb, 1.2-1.8 m high; stems subquadrangular, densely strigose above, the hairs yellowish-brown; leaf blades elliptic, 19-23 cm long, 8-9 cm wide, acuminate at both ends, the upper surface olivaceous, subnitid, glabrous, the lower surface yellowish-green, densely hirsute, the costa and lateral veins (11-13 pairs) conspicuous beneath, densely strigose; petioles (unwinged portion) 3-4 cm long, sparingly strigose; flowers borne in a terminal, peduncled, lax, spike, 10-12 cm long (without corollas), 2 cm wide, the peduncle 6-6.5 cm long, both rachis and peduncle densely strigillose with yellowish hairs; bracts triangular-ovate, 8 mm long and 5 mm wide at base, slenderly acuminate, terminating in a small spine, entire, glabrous toward base within, otherwise hirsutulous with

yellowish hairs, ciliolate; bractlets triangular-ovate, 8 mm long and 4 mm wide, abruptly and slenderly acuminate, spine-tipped, rounded at base, somewhat carinate, striate-nerved, sparingly hirtellous, the margins ciliolate; calyx segments oblong-ovate, spine-tipped, glabrous or minutely and rather sparingly puberulent, striate-nerved, the nerves callose below, the margins ciliolate, the posterior segment 12 mm long, 4.5 mm wide, abruptly acuminate, the anterior and lateral pairs 12 mm long, 2.5-4 mm wide, acute; corolla orange, hirtellous, 4.5-5.2 cm long, the tube 3.5 cm long, 3.5 mm wide at base, 6 mm wide at mouth, the upper lip erect, 17 mm long, 2-lobed, the lobes obovate, 6 mm long and 5 mm wide, short-acuminate, the lower lip 14 mm long, 3-lobed, the middle lobe elliptic, 12 mm long and 6 mm wide, the lateral lobes 14 mm long, 4 mm wide, all obtuse; stamens about equalling the corolla in length; anthers 6 mm long, mucronulate at base; ovary 4 mm long, glabrous; capsule not seen.

Type. R. Ferreyra 1670 (holotype US, isotype GH), Peru, Loreto: Divisoria, 1,600-1,800 m alt, 28 Feb 1947.

Distribution. Known only from the type locality.

A. hapala superficially resembles A. luyensis. In A. luyensis though, the leaf blades are finely serrate and spine-tipped and the corollas scarlet with yellow tubes. In A. hapala, the leaf blades are entire and the corollas orange.

3. APHELANDRA CAMPII Wasshausen, sp. nov.

Suffrutex; caules teretes, glabri; lamina foliorum elliptica vel oblonga, acuminata (apice ipso obtuso), basi angustata, in petiolum decurrens, glabra vel parce puberula; spicae axillares et terminales, pedunculatae, pedunculis glabris; bracteae obovatae, 8 mm longae, 6 mm latae, apice obscure trilobatae, cuneatae, glabrae, intra glandulo-punctatae; bracteolae lanceolatae, striato-nervatae, glabrae; calycis segmenta lanceolata, subaequalia, striato-nervata, glabra; corolla lutea vel crenea, 2.8 cm longa, glabra, labio superiore bilobato, lobis rotundatis, labio inferiore 3-lobato, lobis obtusis vel rotundatis.

Suffrutescent, 1.5-2 m high; stems terete, glabrous; leaf blades elliptic to oblong, 13-14 cm long and 4.4-4.8 cm wide, acuminate (the tip blunt), gradually narrowed from above middle and attenuate at base, entire, submembranaceous, the upper surface deep-green, glabrous or sparingly and inconspicuously puberulous, the lower surface pale green, glabrous, black-punctate, the costa and lateral veins (11-13 pairs) slightly raised, glabrous, more conspicuous beneath than above; petioles (unwinged portion) 1.5-3 cm long, glabrous or sparingly puberulous; flowers borne in short, few-flowered, pedunculate spikes, these axillary and terminal, 2-3 cm long, 1 cm wide (without corollas) forming a thyrse, the peduncles 1.5-4 cm long, glabrous; bracts obovate, pale cream-green, 8 mm long, 6 mm wide, obscurely 3-lobed at apex, cuneate at base, glabrous, glandular-punctate, net-veined, the margins entire, reddish; bractlets lanceolate, 5 mm long, 1.5 mm wide, striate-nerved,

subhyaline, glabrous; calyx segments lanceolate, 5-6 mm long, striate-nerved, subhyaline, glabrous, the posterior segment 2 mm wide, acute, the anterior pair 1 mm wide, the lateral pair 0.5 mm wide, both pairs mucronulate at tip; corolla yellow or pale cream, 2.8 cm long, glabrous, the tube suberect, 25 mm long, 2 mm wide at base, 5 mm at mouth, the upper lip 2.5 mm long, the lobes 2 mm long and 1 mm wide, rounded, the lower lip 3-lobed, the middle lobe 2.5 mm in diam, the lateral lobes 2.5 mm long and 2 mm wide, all obtuse or rounded; stamens reaching the tip of the upper lip; anthers 2 mm long, arachnoid at tip; capsules elliptic, light brown, 10 mm long, 2.5 mm in diam, nitid, minutely pitted; seeds 2.5 mm long, 3 mm wide at base, muricate.

Type. W. H. Camp E-1371 (holotype US, isotype NY), Ecuador, Zamora-Chinchepe: Cordillera Cutucú, east-trending slope from top of ridge down toward the Itzintza, 1,440-1,740 m alt, 17 Nov-5 Dec 1944.

Distribution. Rare, in underbrush at edge of forest, in Ecuador and Peru.

PERU. HUÁNUCO: Río Tulumayu, affluent of Río Huallaga below Tingo María, hacienda LaVega, 1,000 m alt, 23 Oct 1947, Fosberg 28846 (US).

Aphelandra campi is perhaps nearest in relationship to A. jacobinioides Lindau, but differs markedly in that its leaves and bracts are much smaller and narrower, and, that its corolla and corolla lips are considerably shorter.

4. APHELANDRA LATIBRACTEATA Wasshausen, sp. nov.

Frutex; caulis parce puberulus; lamina foliorum elliptica vel oblonga, breviter acuminata, basi angustata, in petiolum decurrens, glabra; spica 1 vel plures, terminales, subsessiles, pedunculis et rachidibus glabris vel puberulis; bracteae rubrae, obovatae, 16-18 mm longae, 12-13 mm latae, apice rotundatae; bracteolae oblongae, acutae, extus puberulae; calycis segmenta triangulares, subaequalia, acuta, ciliolata; corolla (immatura) subalba, puberula, labio superiore erecto, bilobato, labio inferiore 3-lobato, labio medio carente lobis lateralibus oblongis, obtusis.

Shrub 0.6-1.2 m high; stems minutely puberulent; leaf blades elliptic to oblong, 30-34 cm long, 9-11 cm wide, short-acuminate, narrowed at base and decurrent on the petiole, moderately firm, glabrous or the costa and lateral veins (11-13 pairs) bearing a few appressed hairs, the margins entire; petioles to 1.5 cm long, canaliculate, minutely puberulent; spikes stout, one or several, terminal, subsessile, 12.5-14 cm long, 2.5-3 cm broad, the peduncle about 1 cm long, it and the rachis glabrous or minutely and sparingly puberulent; bracts red, obovate, 16-18 mm long, 12-13 mm wide, rounded at apex, glabrous, subhyaline, striate-nerved, the margins entire; bractlets oblong, 10 mm long, 3.5 mm wide, acute, striate-nerved, minutely puberulous without; calyx segments triangular, subequal, 8-10 mm long, the posterior segment 3.5 mm wide near base, the anterior pair 3 mm wide, the lateral pair 2.5 mm wide,

all acute, striate-nerved, glabrous or minutely and inconspicuously puberulous, the margins ciliolate; corolla (immature) whitish, puberulent, 3 cm long, the tube 1.5 cm long, 4 mm wide at base, enlarged to 7 mm at mouth, the upper lip erect, 1-1.5 cm long, 2-lobed, the lower lip 3-lobed, the middle lobe missing, the lateral lobes oblong, about 5 mm long, 2 mm wide, obtuse; stamens almost reaching the upper lip; anthers 5 mm long, pubescent; stigma infundibular, 3 mm wide.

Type. R. Ferreyra 1908 (holotype US), Peru, Huánuco: Leoncio Prado, Río Supte, near Tingo María, 700-800 m alt, 9 Mar 1947.

Distribution. Known only from around the type locality.

PERU. HUÁNUCO: Puerto Inca, Bosque Nacional de Iparia, 500-600 m alt, 12 Dec 1968, Schunke 2863 (F, US).

Aphelandra latibracteata is not nearly allied to the other species. It superficially resembles A. liboniana from southern Brazil, however, this species has shorter leaf blades, much longer bract, and a larger, yellow (red toward apex) corolla.

5. APHELANDRA CUSCOENSIS Wasshausen, sp. nov.

Suffrutex; caulis deorsum glaber, sursum parce sericeo; lamina foliorum haud lobata, elliptica, acuminata, basi angustata, serrata, venis spina terminatis, strigosa; spica solitaria, terminalis, rhachidi strigosa; bracteae rubrae, ellipticae, acutae, spinuloso-dentatae, sericeae; bracteolae lanceolatae, aristatae; calycis segmenta oblongo-lanceolata, apice acuminata, glabra, striato-nervata, ciliolata; corolla (immatura) coccinea, apice sericea.

Suffrutescent shrub about 1 m high; stems glabrous below, the upper portions sparingly sericeous, the hairs spreading, about 2 mm long; leaf blades elliptic, 30 cm long and 9.5 cm wide, acuminate, narrowed from middle or slightly below middle to a long-attenuate base, serrate, the veins terminating in sharp spines, 3-4 mm long, the upper surface sparingly strigose, the hairs about 1.5 mm long, the lower surface rather densely strigose, the hairs whitish, 1.5 mm long, subappressed, those of the costa and veins (about 18 pairs) spreading horizontally, the venation not very prominent but more so beneath than above; petioles about 5 mm long, strigose, the hairs spreading; spikes solitary, terminal, 12 cm long and 4 cm broad, moderately dense, the peduncle about 1.5 cm long, strigose, the rachis densely sericeous; bracts red, elliptic, about 35 mm long and 15 mm wide, acute, subchartaceous, conspicuously sericeous without, the margins spinose-toothed, the teeth (about 10 pairs) produced by the continuation of the lateral veins, successively larger and more spinose toward apex, the spines ascending, 3-4 mm long; bractlets lanceolate, 3.2 cm long, 4 mm wide, aristate, carinate, the keel puberulous and sericeous, subhyaline, striate-nerved; calyx segments oblong-lanceolate, the posterior segment 2.8 cm long and 3.5 mm wide, the anterior pair 2.6 cm long and 3 mm wide, the lateral pair 2 cm long and 2 mm wide, all long-acuminate at apex, glabrous, striate-nerved,

subhyaline, the margins ciliolate; corolla (immature) about 3.5 cm long, red, densely sericeous at tip, the hairs yellowish.

Type. C. Vargas 15415 (holotype US), Peru, Cusco: Quispicanchi, 520 m alt, 14 May 1964.

Distribution. Known only from type locality.

Apelandra cuscoensis may be allied to A. rubra Wasshausen, which differs in its smaller (20 mm long), ovate, and acuminate bracts.

6. APHELANDRA PERUVIANA Wasshausen, sp. nov.

Frutex; caules quadrangulares, pilosi; lamina foliorum oblongo-elliptica, 20-23 cm longa, 6.5-10.5 cm lata, acuminata, cuneata, subtus glabrescens in costa et venis parce pubescens, marginibus undulato-dentatis, dentibus curvis et spinis terminalibus; spicae densae, terminales, solitariae, 6-7 cm longae, rachidibus pilosis; bracteae laxae imbricatae, lanceolatae, subfalcatae, pilosae, marginibus repando-crenatis, ciliatae; bracteolae lanceolatae, subfalcatae, striato-nervatae; calycis segmenta subaequalia, striato-nervata; corolla purpurea, glanduloso-pilosa, labio superiore erecto, obovato, bilobato, labio inferiore 3-lobato, labio medio obovato, lobis lateralibus anguste ellipticis, acutis, cum labio superiore basi connatis.

Shrub; stems quadrangular, pilose, the hairs about 1 cm long; leaf blades oblong-elliptic, 20-23 cm long, 6.5-10.5 cm wide, acuminate, cuneate at base, glabrous and minutely faveolate above except the costa which is pubescent, the costa and lateral veins (14 or 15 pairs) strigillose, the lower surface otherwise glabrous or very sparingly pilosulous, the margins undulate-dentate, bordered by a pilose veinlike ridge, the teeth curved and tipped by a small spine about 0.5 mm long; petioles about 1 cm long, pilose; spike terminal, solitary, 6-7 cm long, about 2 cm in diam (excluding corollas), the bracts rather loosely imbricate and appressed, the rachis pilose; bracts lanceolate, subfalcate, 30 mm long, 4 mm wide at base, gradually narrowed to a slender tip, ending in a small spine 0.5 mm long, carinate and striate-nerved, moderately pilose, especially toward the base, the margins repand-crenate, ciliate; bractlets lanceolate, subfalcate, 25 mm long, 3.5 mm wide, acuminate, ending in a small spine, striate-nerved, pilosulous dorsally, the margins glabrous and subscarious except the tip; calyx segments unequal, striate-nerved, the nerves ending at base in a thickened callus, scarious-margined, glabrous below, pilosulous near the acuminate tip, the posterior segment narrowly lanceolate, 21 mm long, 4 mm wide at about 4 mm above base, the anterior pair linear, 19 mm long, 2.5 mm wide, the lateral pair 15 mm long, 2 mm wide; corolla purple, glandular-pilose, 6-7 cm long, the tube 4 cm long, 4 mm wide at base, narrowed to 2 mm at 7 mm above base, thence gradually enlarged to 9 mm at mouth, the upper lip erect, obovate, 20 mm long, 11 mm wide, 2-lobed, the lobes 10 mm long, 6 mm wide, oblique, acutish, the lower lip 3-lobed, the middle lobe obovate, 20 mm long, 10 mm wide, rounded, the lateral lobes narrowly elliptic, 15 mm long,

1.5-2 mm wide, acutish, partly adnate to the upper lip, the free portion about 10 mm long; stamens almost reaching the tip of upper lip; anthers 4 mm long, arcuate; ovary glabrous; style glabrous; capsule not seen.

Type. A. Weberbauer 6952 (holotype F, isotype GH), Peru, Cusco: Paucartambo, Cosñipata, 700-800 m alt, May 1914.

Distribution. Around Cusco, Peru, at elevations between 670-800 meters.

PERU. CUSCO: Paucartambo, Pilcopata-Keros, 780 m alt, 6 Mar 1964, Vargas 15249 (US); Salvacion-Cosñipata, 670 m alt, 8 Oct 1965, Vargas 16636 (US). WITHOUT EXACT LOCALITY: 1839-40, Gay s n (P).

Aphelandra peruviana is closely related to A. limbatifolia but differs markedly in the leaf blades, pubescence, and bracts. In A. limbatifolia the stems are pubescent only when young, becoming glabrous with age, the leaf blades are undulate, the bracts ovate, 15 mm long, 6 mm wide, and puberulent, the bractlets are 20 mm long, 4 mm wide and also puberulent, and the calyx segments 10-16 mm long. Contrasting to these characters, the stem of this new species is pilose, the leaf margins are dentate, the teeth ending in small spines, the bracts falcate, 30 mm long and 4 mm wide, pilose, the bractlets 25 mm long and 3.5 mm wide, and the calyx segments 15-21 mm long. The corollas of the two species appear to be nearly identical.

7. APHELANDRA JUNINENSIS Wasshausen, sp. nov.

Frutex; caules quadrangulares, parce tomentosi; lamina haud lobata, foliorum oblongo-lanceolata, 21-24 cm longa et 5.5-6.5 cm lata, acuminate, cuneata, subcrassa, coriacea, glabra, marginibus serrato-dentatis, dentibus triangularibus, spina terminatis; spicae 1 vel plures, terminales et axillares, pedunculis et rachidibus tomentosis; bracteae virides, oblongo-ovatae, acuminatae et spina terminatae, spinosae, marginibus pilosis; bracteolae triangulo-ovatae, spina terminatae, extus pilosae, ciliatae; calycis segmenta lanceolata, subaequalia, acuminata et spina terminata, glanduloso-ciliata; corolla puberula, labio superiore erecto, elliptico, bilobato, labio inferiore 3-lobato, lobis obovatis, subaequalibus, erectis, obtusis.

Shrub; stems quadrangular, sparingly tomentose; leaf blades opposite or occasionally ternate, oblong-lanceolate, 21-24 cm long and 5.5-6.5 cm wide, gradually narrowed to a slender acuminate tip, cuneate at base, thick, firm, coriaceous, irregularly serrate-dentate, the teeth broadly triangular, armed with slender spines to 2 mm long, both surfaces glabrous except the costa and lateral nerves, these sometimes sparingly tomentose, the smaller veins forming a rather conspicuous reticulation; petioles about 1 cm long, sparingly tomentose; interpetiolar bracts minute, armed with one or more straight, slender spines; spikes one to several, terminal and in the axils of the upper leaves, short, 3-5.5 cm long, slender-peduncled, the

peduncles 1.5-5.5 cm long, these and the rachis tomentose; bracts green, oblong-ovate, 12-15 mm long, about 5 mm wide, rather abruptly acuminate, armed with about 6 slender spines on each side to 3.5 mm long and terminating in a similar spine, glabrous or the costa, base, and margins pilose; bractlets triangular-ovate, 10 mm long, 3 mm wide at base, gradually narrowed to a slender point tipped by a spine about 3 mm long, pilose without, glabrous within, one margin entire, the other bearing a pair of spines, one 0.5 mm long, the other 1 mm long, ciliate; calyx segments lanceolate, subequal, 10-11 mm long, 2-3 mm wide, slenderly acuminate, spine-tipped, glandular-ciliate; corolla puberulent, 3-3.5 cm long, the tube 3 mm broad at base, narrowed to 2 mm at 7 mm above base, thence gradually enlarged to 8 mm at mouth, the upper lip erect, recurved at tip, elliptic, 7 mm long and 5 mm wide, bilobed, the lobes obovate, 2 mm long and 2.5 mm wide, mucronulate, the lower lip 3-lobed, the lobes obovate, subequal, erect, the middle lobe 3 mm long and 6.5 mm wide, the lateral lobes 4 mm long and wide, all obtuse; stamens barely exerted beyond the mouth of the corolla tube; anthers 5 mm long, 1 mm wide, acute at both ends; capsule not seen.

Type. A. Weberbauer 6537 (holotype F, isotype GH), Peru, Junín: Huancayo, valley of Pariahuanca, between Panti and Rocchac, 2,400 m alt, Mar 1913.

Distribution. Known only from the type locality.

Aphelandra juninensis is closely allied with A. macrosiphon, from Bolivia. It has, however, relatively narrower leaf blades than the Bolivian species, oblong-ovate bracts rather than lanceolate, and triangular, slenderly acuminate bractlets rather than lanceolate ones as pictured on the type sheet of A. macrosiphon by Lindau.

8. APHELANDRA WURDACKII Wasshausen, sp. nov.

Frutex; caules teretes, glabri vel parce puberuli; lamina foliorum elliptica vel oblonga, 8-11 cm longa et ad 4 cm lata, breviter acuminata, basi cuneata, serrata, dentibus spinis terminatis, glabra; spicae terminales et axillares, subsessiles, pedunculis et rhachidibus strigillosis; bracteae lanceolatae, apice acuminatae et spina terminatae, integrae, glabrae, subcoriaceae, ciliolatae; bracteolae lanceolatae, apice spina terminatae, glabrae, ciliatae; calycis segmenta lanceolata, subaequalia, acuminata et apice spina terminata, glabra, ciliata; corolla rosea, puberula, labio superiore erecto, oblongo, bilobato, apice retuso, labio inferiore 3-lobato, lobis ovatis, subaequalibus, obtusis.

Shrub 1-2.5 m high; stems terete, glabrous or minutely and inconspicuously puberulous; leaf blades elliptic to oblong, 8-11 cm long and to 4 cm wide, short-acuminate, the tip a short spine, cuneate at base, submembranaceous, serrate, the teeth rather closely set, 1-2 mm long, each terminating in sharp, straight, yellowish spines 1-2 mm long, the upper surface nitid, glabrous, the lower surface glabrous or the costa and lateral veins (8-13 pairs) sparingly and inconspicuously strigillose,

the costa and veins prominent beneath, more so than above; petioles to 5 mm long, sparingly strigillose; flowers borne in 5-6 spikes, these subsessile, terminal and in the axils of the upper leaves, 6-8 cm long, 1-2 cm wide, the peduncle about 1 cm long, both it and the rachis strigillose; bracts small, green, barely imbricate, entire, lanceolate, 6-7 mm long, 2 mm wide, acuminate and spine-tipped, glabrous, subcoriaceous, ciliate; bractlets lanceolate, 6 mm long, 1.5 mm wide, subfalcate, gradually narrowed to a slender point tipped by a spine 0.5 mm long, glabrous, striate-nerved, ciliate; calyx segments lanceolate, subequal, 7 mm long, acuminate and spine-tipped, glabrous, ciliate, striate-nerved, the posterior segment 2.5 mm wide, the anterior pair 2 mm wide, the lateral pair 1.5 mm wide; corolla pink, puberulous, 4-4.5 cm long, the tube 4 mm broad at base, narrowed to 2 mm at 7 mm above base, thence gradually enlarged to 6 mm at mouth, the upper lip erect, oblong, 9 mm long and 4 mm wide, bilobed, the lobes elliptic, 5 mm long, 2.5 mm wide, retuse, the lower lip 3-lobed, the lobes ovate, subequal, spreading, the middle lobe 4 mm long and wide, the lateral lobes 4 mm long and 3 mm wide, all obtuse; stamens almost reaching the tip of the upper lip; anthers 4.5 mm long, 1 mm wide, acute and arachnoid; capsule oblong, 11 mm long, 6 mm broad, nitid, glabrous, minutely pitted; seeds dark brown, rugose, 3 mm in diam.

Type. J. Wurdack 1487 (holotype US, isotypes K, P), Peru, Amazonas: Chachapoyas, 1-2 km W of Molinopampa, along Río Ventilla, 2,350-2,400 m alt, 23-25 Jul 1962.

Distribution. Known only from around the type locality.

PERU. AMAZONAS: E of Leimebamba, 3,000 m alt, 20 Aug 1943, Evinger 496 (US).

Distantly related to Aphelandra tillettii Wasshausen, of Peru, A. wurdackii differs in having smaller and narrower leaf blades, shorter spikes, lanceolate bracts, and puberulous corolla.

9. APHELANDRA TILLETII Wasshausen, sp. nov.

Frutex; caules teretes, glabri; lamina foliorum haud lobata, elliptica vel oblonga, breviter acuminata, basi cuneata, serrata, dentibus spinis terminatis, glabra; spicae terminales et subterminales, laxae; bracteae triangulo-ovatae, apice acuminatae et cuspidatae, glabrae, glanduloso-punctatae, subcoriaceae; bracteolae lanceolatae, apice spina terminatae, glabrae; calycis segmenta subulata, subaequalia, acuminata et apice spina terminata, glabra, ciliata; corolla basi aurantiaca vel coccinea, supra lutea, pilosa, labio superiore erecto, oblongo, bilobato, labio inferiore 3-lobato, lobo medio ovato, lobis lateralibus oblongis, obtusis.

Shrub with many ascending branches; stems terete, glabrous; leaf blades elliptic to oblong, about 15 cm long and 5-6 cm wide, short-acuminate, the tip itself a short spine, cuneate at base, firm, serrate, the teeth rather closely set, 1-2 mm long, each terminating in a sharp, ascending spine 1-2 mm long, the

upper surface grayish-green, glabrous, the lower surface similar, the costa and lateral veins (about 15 pairs) equally prominent on both surfaces; petioles 1.5-3 cm long, subquadrangular, canaliculate, glabrous; interpetiolar bracts rhombate, 8 mm long and 3 mm wide, glabrous, narrowed at apex into a long, straight, yellowish spine about 3 mm long; flowers borne in lax terminal and subterminal spikes 11-15 cm long and 0.8 mm broad (excluding corollas), the peduncles 4-4.5 cm long, glabrous, the rachis subtomentose; bracts small, green, entire, triangular-ovate, 8-9 mm long, 3-4 mm wide, acuminate, the tip itself ending in a spine, glabrous, glandular-punctate, subcoriaceous; bractlets lanceolate, 7.5 mm long, 2 mm wide, gradually narrowed to a slender point tipped by a spine 1.5 mm long, glabrous, striate-nerved, ciliolate; calyx segments subulate, subequal, 8-9 mm long, acuminate and spine-tipped at apex, glabrous, ciliate, striate-nerved, the posterior segment 2 mm wide, the anterior pair 1.5 mm wide, the lateral pair 1 mm wide; corolla orange-red at base, shading to lighter and more yellow above, pilose, about 4 cm long, the tube 2.5 mm broad at base, thence gradually and obliquely enlarged to 6 mm at mouth, the upper lip erect, oblong, 7 mm long and 3 mm wide at base, minutely bilobed, the lobes 1 mm long and wide, acute, the lower lip 3-lobed, the lobes subequal, the middle lobe ovate, 2 mm long and 2.5 mm wide, the lateral lobes oblong, 2.5 mm long, 1.5 mm wide, all obtuse; stamens just reaching the mouth of the corolla tube; anthers 5 mm long, 1 mm wide, arachnoid at tip; capsule not seen.

Type. S. Tillett 673-291 (holotype US), Peru, Amazonas: Bongará, Yambrasbamba, 40 km N of Jumbilla, 1,860-2,000 m alt, 2 Mar 1967.

Distribution. Known only from the type locality.

Distantly related to Aphelandra wurdackii Wasshausen, of Peru, A. tillettii differs in having larger and broader leaf blades, longer spikes, triangular-ovate bracts, and pilose corolla.

10. APHELANDRA DASYANTHA Wasshausen, sp. nov.

Frutex; caules teretes, strigosi; lamina foliorum haud lobata, oblonga vel ovata, breviter acuminata, basi angustata, supra strigosa, subtus strigillosa, tenuis, submembranacea, marginibus serrato-dentatis, dentibus spinis terminatis; spicae terminales et subterminales, pedunculis et rachidibus dense pilosis; bracteae lanceo-ovatae, acutae et spina terminatae, virides, strigosae, serrato-dentatae, dentibus spinis armatis; bracteolae lanceolatae, ciliatae; calycis segmenta lanceo-ovata, breviter acuminata et apice spina terminata, striato-nervata, ciliata; corolla coccinea, dense strigosa, labio superiore oblongo, erecto, bilobato, labio inferiore 3-lobato, lobo medio ovato, lobis lateralibus oblongis, obtusis.

Shrub 1-3 m high; stems terete, sparingly strigose; leaf blades oblong to ovate, 27-32 cm long, 12-14 cm wide, short-acuminate, gradually narrowed and attenuate at base, thin,

submembranaceous, the upper surface dark green, strigose, the lower surface paler green, densely strigillose, the margins serrate-dentate, the teeth to 2 cm long, tipped by a spine 1 mm long, ciliate, the costa and lateral veins (9-10 pairs) prominent, especially on the lower surface, the veinlets reticulate toward margins; petioles (unwinged portion) about 2 cm long, densely pilose; interpetiolar bracts ovate or suborbicular, 1 cm long, 6 mm wide, serrate-dentate, the teeth terminating in spines, the terminal one as much as 6 mm long; flowers borne in terminal and subterminal spikes 8-15 cm long and about 2.5 cm broad, the peduncles (about 3 cm long) and rachis densely pilose, the hairs yellowish-brown; bracts green, lance-ovate, 22 mm long, 8 mm wide (without spines), acute, terminating in a spine about 2 mm long, strigose, the margins serrate-dentate with 3 pairs of teeth, these ascending, 2 mm long, spine-tipped, the spines 3 mm long, ciliolate; bractlets lanceolate, 13 mm long, 3 mm wide, acuminate and spine-tipped, subcarinate, striate-nerved, sparingly pilose, the margins entire, ciliate; calyx segments lance-ovate, 6-7 mm long, 3.5-4 mm wide, short-acuminate and spine-tipped, the nerves callose below, striate-nerved, reticulate toward margins, puberulous, the margins ciliate; corolla red, 5-5.6 cm long, densely strigose, the hairs yellowish, the tube 4 mm broad at base, narrowed to 3 mm at 9 mm above base, thence gradually enlarged to 8 mm at mouth, the upper lip oblong, erect, 11 mm long, 5 mm wide, bilobed, the lobes ovate, 5 mm long, 2.5 mm wide, retuse, the lower lip 10 mm long, 3-lobed, the middle lobe ovate, concave, 6 mm long and 5 mm wide, obtuse, the lateral lobes oblong, 7 mm long, 3.5 mm wide, obtuse; stamens reaching the tip of the upper lip; anthers 6 mm long, 1 mm wide; capsule oblong, 15 mm long, 7 mm wide, nitid, glabrous; seeds triangular-ovate, 5 mm long, 3.5 mm broad, dark brown, muricate.

Type. Vidal-Sénége s n (holotype P), Ecuador and Peru, 1876-1877.

Distribution. Southern Ecuador and northern Peru.

PERU. AMAZONAS: Bagua Chica, 25 Jan 1877, Vidal-Sénége 4811 (P); San Carlos, 7 Feb 1877, Vidal-Sénége 4833 (P); Guayabamba, 1877, Vidal-Sénége s n (P).

Aphelandra dasyantha is not nearly allied to the other species.

11. APHELANDRA DUKEI Wasshausen, sp. nov.

Suffrutex; caules glaber vel subtomentosus, pilis sordidis, curvatis; lamina foliorum anguste lanceolata, acuminata (apice ipso obtuso), basi angustata, in petiolum decurrens, integra, glabra vel parce strigosa; spicae 1 vel plures, terminales, subsessiles; bractae ellipticae, acuminatae, marginibus parce serratae; bracteolae lanceolatae, striato-nervatae, pilosulae; calycis segmenta subaequalia, ovata vel lanceolata, glabra, subhyalina, striato-nervata; corolla coccinea, 4 cm longa, parce puberula, minute papillosa, labiis subaequalibus, oblongo-ovatis, labio superior erecto, bilobato, lobis acuminatis,

curvatis, anguste triangularibus, labio inferiore patulo, integro, acuminato.

Suffrutescent shrub about 1 m high; stems erect, glabrous to subtomentose, the hairs sordid, variously curved, the internodes 1-5 cm long, the lenticels oval to linear, 1 mm long or less; leaf blades narrowly lanceolate, 12-15 cm long and 1-2 cm wide, acuminate (the tip obtuse), gradually narrowed and decurrent on the petiole, entire, firm, the upper surface dark green, glabrous or inconspicuously strigose, the costa impressed, this and the lateral veins (11-13 pairs) often strigose, the lower surface light green, glabrous or sparingly strigose, the hairs sordid; petioles (unwinged portion) 0.5-1.5 cm long, the pubescence that of the stem; flowers borne in one or several, terminal, sessile spikes, these 9-14 cm long and 1-3 cm wide; bracts imbricate, green, elliptic, 15 mm long and 6 mm wide just above the middle, acuminate, sparingly sericeous both within and without, especially near the base, striate-nerved, bearing above the middle about 3 pairs of slender marginal teeth, these 0.5-2 mm long, spine-tipped and bearing near the middle of the dorsal surface, 2-7 small submarginal glands about 0.5 mm in diam; bractlets lanceolate, 10 mm long, 1-1.25 mm wide, striate-nerved, carinate, dorsally pilosulous; calyx segments subequal, ovate to lanceolate, 9-10 mm long, the posterior segment 2 mm wide, the lateral pair 1.25 mm wide, the anterior pair 1 mm wide, all finely striate-nerved, subhyaline, glabrous; corolla red, about 4 cm long, sparingly puberulent, minutely papillose, the tube subcylindric, 2 mm broad at base, constricted to 1.5 mm at 5 mm above base, about 4.5 mm broad at mouth, the lips oblong-ovate, 4.5-5 mm wide, subequal, the upper one erect, 10 mm long, 2-lobed, the lobes narrowly triangular, 5 mm long, 2 mm wide at base, acuminate, outwardly curved, the lower lip spreading, entire, acuminate, the tip recurved, or if 3-lobed, the lateral lobes vestigial, appearing as mere notches near the base of the upper lip; stamens exerted; capsule green, ovate, 12 mm long, 6 mm broad, acute, glabrous, minutely and inconspicuously punctate; mature seeds not seen.

Type. J. A. Duke 14397 (holotype US, isotype MO), Panama, Panama: Rio Bayano, 1-4 m above Piria, 100 m alt, 23 Sep 1967.

Distribution. Known only from around the type locality in Panama.

PANAMA. PANAMÁ: Along Pan-Am Highway, Río Canita near Janine, 24 Sep 1961, Duke 3840 (US); tributary of Río Chagres, 5 m SW of Cerro Brewster, 300 m alt, 14 Dec 1967, Lewis, Blackwell, Hawker, Little, Nowicke, & Oliver 3426 (MO).

Aphelandra dukei is perhaps nearest in relationship to A. deppeana, but differs markedly in its narrower, lanceolate leaf blades.

12. APHELANDRA HINTONII Wasshausen, sp. nov.

Suffrutex; caules subquadrangulares, glabri vel hirtelli; lamina foliorum ovata, acuminata (apice ipso obtuso), basi

angustata, in petiolum decurrens, supra strigillosa, subtus hirsuta; spicae terminales, sessiles, 8 cm longae, rachidi dense sericeus; bracteae viscidae, coloratae, ovatae, 33 mm longae et 15 mm latae, acutae, cuneatae, glanduloso-pilosae; bracteolae lanceolatae, striato-nervatae, glanduloso-pilosae; calycis segmenta lanceolata, subaequalia, glandulo-pilosa; corolla coccinea, 6.5-7 cm longa, glanduloso-pilosa, labio superiore oblongo, erecto, integro, acuto, labio inferiore patulo, 3-lobato, lobis subaequalibus, labio medio obovato, labiis lateralibus late ellipticis.

Suffrutescent shrub; stems subquadrangular, glabrous to hirtellous; leaf blades ovate, 21-25 cm long, 9.5-12.5 cm wide, acuminate (the tip obtuse), narrowed and conspicuously attenuate at base, submembranaceous, entire or shallowly crenate, the upper surface dark-olivaceous, strigillose, the lower surface brownish-green, hirsute, the costa and lateral veins (12-15 pairs) prominent on the lower surface, densely hirsute; petioles (unwinged portion) 1.5 cm long, densely hirsute; flowers borne in a short, sessile, terminal spike 8 cm long and 3.5 cm wide (without corollas), subtended by a number of small, leaf blades near the base, these ovate, 9 cm long, 3.5-4 cm wide, the bracts densely imbricate, viscid, the rachis densely sericeous; bracts ovate, 33 mm long and 15 mm wide, acute, cuneate, colored, densely glandular-pilose, prominently 3-nerved, the margins entire, ciliate; bractlets lanceolate, subcarinate, 23 mm long, 4.5 mm wide, striate-nerved near base, the veinlets reticulate above middle, glandular-pilose; calyx segments lanceolate, 19-22 mm long, subequal, striate-nerved, glandular-pilose, the posterior segment 5.5 mm wide, the anterior pair 3.5 mm wide, the lateral pair 3 mm wide; corolla red, 6.5-7 cm long, glandular-pilose, the tube erect, 5 mm wide at base, narrowed to 4 mm at 8 mm above base, thence gradually enlarged to 9 mm at mouth, the upper lip oblong, erect, 2 cm long, 5 mm wide, entire, acute, the lower lip spreading, 3-lobed, the lobes subequal, the middle lobe obovate, 2 cm long, 1.5 cm wide, obtuse or rounded, the lateral lobes broadly elliptic, 1.5 cm long, 7 mm wide, acute; stamens exerted 1.6 cm beyond the mouth of the corolla tube; anthers 4.5 mm long, 1 mm wide, rounded at both ends; ovary 5 mm long, 2 mm wide, glabrous; capsule not seen.

Type. G. Hinton 16049 (holotype US, isotype NY), Mexico, Michoacán: Coalcoman, Naranjillo, 30 Oct 1941.

Distribution. Known only from the type locality.

This species, known only from one collection, is distinguished by its large and broad leaf blades, short terminal spike, large, glandular-pilose bracts, and the large size of the corolla. The shape of the leaves and flowers somewhat recalls A. madrensis Lindau, but the new species does not seem to be closely allied to any other species.

13. APHELANDRA DIFFUSA Wasshausen, sp. nov.

Planta patula; caules teretes, glabri vel parce puberuli;

lamina foliorum ovata, acuminata (apice ipso obtuso), basi angustata, glabra vel hirtella; spicae 1 vel plures, terminales 7-8 cm longae, pedunculatae, rachidi glanduloso-pilosula; bracteae rubrae, ovatae, 20-26 mm longae, acutae, cuneatae, viscidae, dense glanduloso-pilosae, ciliatae; bracteolae lineares, subcarinatae, aristatae, striato-nervatae, glanduloso-pilosae; calycis segmenta lanceolata, subaequalia, acuminata, striato-nervata, parce glandulo-pilosa; corolla aurantiacolutea, 4 cm longa, glanduloso-pilosa, labio superiore erecto, concavo, triangulo-ovato, integro, acuto, labio inferiore patulo, 3-lobato, lobis subaequalibus, labio medio obovato, lobis lateralibus ovatis.

Spreading plant 1.5 m high; stems terete, glabrous to sparingly and inconspicuously puberulous; leaf blades ovate, 13-15 cm long, 4.5-5 cm wide, submembranaceous, entire or shallowly undulate, acuminate (the tip obtuse), gradually narrowed and attenuate at base, the upper surface olivaceous, glabrous or sparingly hirtellous, the lower surface light-olivaceous, moderately hirtellous, the costa and lateral veins (11-12 pairs) inconspicuous above, rather prominent below, hirtellous; petioles (unwinged portion) 1.5 cm long, sparingly puberulous; flowers borne in one or several, terminal, peduncled spikes, these 7-8 cm long and 2.5 cm wide (without corollas), the bracts densely imbricate, viscid, the peduncle 3.5 cm long, sparingly puberulous, the rachis densely glandular-pilose; bracts reddish, ovate, 25-26 mm long, 9-10 mm wide, acute, cuneate, densely glandular-pilose, prominently 2-nerved at base, becoming reticulate above, the margins entire, ciliate; bractlets linear, subcarinate, 14 mm long and 1 mm wide, gradually narrowed to an aristate tip, subhyaline, striate-nerved, glandular-pilose; calyx segments lanceolate, 17 mm long, subequal, acuminate, striate-nerved, the nerves callose below, subhyaline, sparingly glandular-pilose, the posterior segment 3 mm wide, the anterior pair 2 mm wide, the lateral pair 1.5 mm wide; corolla orange-yellow (turning deep purplish-red with age), 4 cm long, glandular-pilose, the tube erect, 3 mm wide at base, gradually enlarged to 6 mm wide at mouth, the upper lip erect, concave, triangular-ovate, 12 mm long, 8 mm wide, entire, acute, the lower lip spreading, 3-lobed, the lobes subequal, the middle lobe obovate, 13 mm long, 8.5 mm wide, acute to obtuse, the lateral lobes ovate, 3.5 mm long, 2 mm wide, obtuse; stamens exerted 1 cm beyond the mouth of the corolla tube; anthers 4 mm long, arachnoid at tip, mucronate at base; style and stigma 3.6 cm long, puberulous at base, glabrous above; ovary 3.5 mm long, 1 mm wide, glabrous; capsule yellow, puberulous, elliptic, 15 mm long, 5 mm broad, acute; seeds (immature), muricate, 2.5 mm in diam.

Type. Jorgensen & Prieto JP-52 (holotype US, isotype NY), Ecuador, Loja: 46 km S of Loja, hacienda Anganuma, at headwaters of Río Cachiyaçu, on W slopes of Cordillera Condor, 1,800 m alt, 13-16 Jul 1944.

Distribution. Andean Ecuador and Peru, at elevations between 1,800 and 2,250 meters.

ECUADOR. BOLIVAR: André 796 (Poortman) (K). PERU.

PIURA: Cerro Porculla, 3-11 km W of Continental Divide down W slope of Cerro, 12 Jun 1966, Edwin & Schunke 3768 (F, US). CAJAMARCA: Llama (Cutervo), 2,250 m alt, Jul 1943, Sandeman 4082 (K).

Aphelandra diffusa superficially resembles *A. guayasii*. In *A. guayasii* though, the leaf blades are longer and broader, the bracts acuminate, shorter and narrower, and the corolla, as well as the limb, considerably longer and broader.

14. *APHELANDRA GALBA* Wasshausen, sp. nov.

Frutex; caules teretes, glabri vel parce puberuli; lamina foliorum oblongo-elliptica, breviter acuminata, basi angustata, in petiolum decurrens, integra; spicae 1 vel plures, terminales, subsessiles, 22-27 cm longae, rhachidi glanduloso-pilosula; bracteae grandes, aurantiacae, 27-28 mm longae et 10-12 mm latae, lanceo-ovatae, acutae, puberulae, ciliolatae; bracteolae lanceolatae, acuminatae, dense glanduloso-pilosae; calycis segmenta lanceolata, subaequalia; corolla flava, 3.5-4.5 cm longa, pubescens, labio superiore erecto, obovato, apice retuso, labio inferiore trilobato, labio medio obovato, lobis lateralibus ellipticis.

Shrubs to 1.5 m high; stems terete, glabrous or minutely and inconspicuously puberulous; leaf blades oblong to elliptic, 18-23 cm long and 5.5-6 cm wide, short-acuminate at apex (the tip itself blunt), narrowed at base and decurrent on the petiole, glabrous or the costa and lateral veins (16-18 pairs) minutely and inconspicuously puberulous beneath, the margins entire, the lower surface drying a much lighter green than the upper; petioles slender, 2-3 cm long, minutely puberulous; spikes stout, one or several, terminal, subsessile, 22-27 cm long and 2-3 cm broad (without corollas), the peduncle 0.5 cm long, the rachis glandular-pilosulous; bracts lance-ovate, pale orange, 27-28 mm long and 10-12 mm wide, acute, densely puberulous, prominently 3-nerved, the margins entire, ciliate; bractlets lanceolate, 13 mm long, 1.5 mm wide, long-acuminate, densely glandular-pilosulous, striate-nerved, subhyaline; calyx segments lanceolate, subequal, 15 mm long, the posterior segment 3.5 mm wide near the middle, the anterior and lateral pairs 2.5 mm wide, all acute, striate-nerved, densely glandular-pilosulous; corolla canary yellow, 3.5-4.5 cm long, densely pubescent, the tube erect, about 3 cm long, 3 mm broad at base, thence gradually enlarged to 4 mm at mouth, the upper lip erect, obovate 1.5 cm long, 9 mm wide, the tip retuse, the lower lip 3-lobed, the middle lobe obovate, 15 mm long, 11 mm wide, obtuse, the lateral lobes elliptic, 12 mm long, 6 mm wide, retuse at apex; stamens almost reaching the tip of the upper corolla lip; anthers 6 mm long, apiculate at apex; capsule not seen.

Type. W. H. Camp E-830 (holotype US, isotype NY), Ecuador, Zamora-Chinchepe: Valley of the Ríos Negro and Chupianza (on

trail from Sevilla de Oro to Mendez), 870-900 m alt, 1 Nov 1944.

Distribution. Known only from the type locality.

Aphelandra galba is not nearly allied to the other species. Readily distinguished from the other known Aphelandra by the combination of its long, stout spikes, large, pale orange bracts, and canary yellow corollas.

15. APHELANDRA DARIENENSIS Wasshausen, sp. nov.

Suffrutex; caulis deorsum glaber, sursum parce strigosus; lamina foliorum oblongo-elliptica, breviter acuminata, basi subobtusata, integra, sursum glabra vel parce strigosa, deorsum dense strigosa; spicae 1 vel plures, terminales, subsessiles, pedunculis strigosis, rachidi glabra; bracteae aurantiacae vel rubrae, 30 mm longae et 14-15 mm latae, ovatae, acutae vel obtusae, integrae, glabrae, ocelli plures; bracteolae lanceolatae, carinatae, carina dorso pubescente, striato-nervatae; calycis segmenta lanceolata, 13-15 mm longa, brevia quam bracteae, mucronulata, striato-nervata, glabra et glanduloso-punctata; corolla aurantiaca-coccinea, 6 cm longa, dense glanduloso-pilosa, labio superiore erecto, oblongo, bilobato, labio inferiore 3-lobato, lobo medio oblongo, lobis lateralibus similibus sed minoribus.

Low suffrutescent shrub; stems glabrous below, the upper portion sparingly strigose; leaf blades oblong-elliptic, 30-40 cm long, 9-14 cm wide, short-acuminate, narrowed from middle or slightly above to a narrow, obliquely subobtusate base, moderately firm, entire, the upper surface glabrous or sparingly and inconspicuously strigose, the lower surface rather densely strigose, especially the costa and lateral veins (17-22 pairs), the venation prominent but more so beneath than above; petioles 3.5-7 cm long, canaliculate, glabrous or sparingly strigose; spikes one or several, terminal, subsessile, 8-10 cm long, 3-4 cm wide (without corollas), moderately dense, the bracts imbricate, spreading with age, the peduncle about 1 cm long, strigose, the rachis glabrous; bracts orange to red, ovate, 30 mm long and 14-15 mm wide, acute to obtuse, coriaceous, often crisped and retrorse, closely veined, glabrous, the margins entire, ciliate, bearing just above the middle, near the margins, numerous minute ocelli, these forming a dull, alveolar spot, 3 mm long and 1 mm wide; bractlets lanceolate, 8 mm long and 2 mm wide, subhyaline, striate-nerved, carinate, especially the upper half, the keel pubescent; calyx segments lanceolate, 13-15 mm long, striate-nerved, subhyaline, glabrous, glandular-punctate, the posterior segment 5 mm wide, the anterior pair 3 mm wide, the lateral pair 2 mm wide, all mucronulate at apex; corolla orange-red, about 6 cm long, densely and minutely glandular-pilose, the tube 3.5 cm long, 3 mm wide at base, erect, gradually enlarged to 7 mm broad at mouth, the upper lip erect, oblong, 1.5 cm long, 2-lobed, the lobes triangular-ovate, 6 mm long, acute, the lower lip 3-lobed, the middle lobe oblong, 15 mm long, 8 mm wide, the lateral lobes similar but smaller; stamens

almost reaching the tip of the upper lip; anthers 9 mm long, apiculate at base; capsule not seen.

Type. Duke & Elias 13756 (holotype US, isotype MO), Panama, Darien: Cerro Pirre, 750-1,350 m alt, 9-10 Aug 1967.

Distribution. Submontane to mossy forests, at elevations above 600 meters, in the province of Darien, Panama.

PANAMA. DARIEN: Ascent of Cerro Pirre from R. Pirro S of El Real, 600-750 m alt, 11 Aug 1962, Duke 5313 (MO); Oct 1962, Duke 6101 (MO); Cerro Campamento (S of Cerro Pirre), 20-22 Mar 1968, Duke 15720 (US); between Tres Bocas and Cerro Campamento on Cuasi-Cana Trail, 1 May 1968, Kirkbride & Duke 1350 (MO).

Aphelandra darienensis is closely related to A. fernandezii Leonard, but the calyx segments as well as the corolla lips of that relative are considerably longer.

16. APHELANDRA KINGII Wasshausen, sp. nov.

Frutex parvus; caulis deorsum glaber, sursum dense strigosus; lamina foliorum elliptica vel oblonga, breviter acuminata, basi angustata, integra, supra parce strigosa, subtus dense strigosa; spica oblongo-ovata, rachidi glabra; bracteae rhombo-ovatae, 20-21 mm longae, integrae, acutae et minute mucronatae; bracteolae subulatae, glabrae; calycis segmenta striato-nervata, glabra, segmentum posterius et segmenta anteriora subulata; corolla ignota.

Small, suffrutescent shrub, about 0.5 m high; stem 7 mm in diam at base, glabrous below, upwardly becoming densely strigose; leaf blades elliptic to oblong, 13-16 cm long, 5-7 cm wide, abruptly acuminate at tip, narrowed at base to a short petiole 5 mm long, entire, sparingly strigose above, the lower surface densely strigose, the hairs about 2 mm long, the costa and lateral veins (about 7-9 pairs) rather prominent, more so than above; flowers borne in a sessile, terminal oblong-ovate spike about 7 cm long and 2.5 cm wide, the rachis glabrous; bracts imbricate, rhombic-ovate, 20-21 mm long, 15 mm wide, acute at apex, the tip itself a small mucro, cuneate at base, green, coriaceous, entire, striate-veined, bordered by a narrow subhyaline margin about 0.5 mm wide; bractlets subulate, 12 mm long, 2.5 mm wide, glabrous, each ending in a minute spine; calyx segments 8-9 mm long, glabrous, striate-veined, the posterior segment subulate, 2 mm wide, acuminate at apex, occasionally bearing a pair of minute teeth near the tip, the anterior pair subulate, 1.5 mm wide, acuminate at apex, the lateral pair conduplicate; corolla wanting; capsule oblong, 1.5 cm long, 5 mm wide, drying light brown, glabrous, apiculate at tip; seeds dark brown, 4 mm in diam, muricate.

Type. King & Guevara 6136 (holotype US), Colombia, Putumayo: 40 km NW of Puerto Asís, 300 m alt, 31 Jul 1965.

Distribution. Known only from the type locality.

Aphelandra kingii is closely related to A. boyacensis Leonard, but the bracts, bractlets, and calyx segments of that relative are considerably longer and wider.

17. *APHELANDRA PAULENSIS* Wasshausen, sp. nov.

Suffrutex; caules subquadrangulares, pilosi; lamina foliorum oblonga vel ovata, breviter acuminata (apice ipso obtuso), basi angustata, in petiolum decurrens, glabra vel parce strigosa; spicae 1 vel plures, terminales, sessiles, 7.5-8 cm longae, rachidi puberula; bracteae rubrae, oblongae vel ellipticae, 30 mm longae et 10-12 mm latae, ecarinatae, cuspidatae (apice ipso spinae), glabrae et minute glanduloso-punctatae; bracteolae lanceolatae, mucronulatae, glabrae; calycis segmenta lanceolata, subaequalia, glabra; corolla lutea, tubo glabro, labiis glandulopilosis, 3.5-4.5 cm longa, labio superiore patulo, obovato, bilobato, labio inferiore patulo, 3-lobato, lobis oblongis, obtusis.

Suffrutescent shrub; stems erect, subquadrangular, moderately pilose, the hairs sordid; leaf blades oblong to ovate, 13.5-18 cm long and 5.5-7 cm wide, short-acuminate (the tip obtuse), narrowed at base and decurrent on the petiole, submembranaceous, entire or shallowly undulate, the upper surface drying olivaceous, glabrous or sparingly strigose, the costa and lateral veins (11-14 pairs) slightly raised, scarcely conspicuous, the lower surface drying to pale olivaceous, glabrous or the costa and lateral veins sparingly strigose; petioles 2.5-3 cm long, glabrous to moderately pilose; flowers borne on one or several, terminal, sessile spikes, these 7.5-8 cm long and 2-2.5 cm wide (without corollas), the rachis puberulous; bracts imbricate, entire, red, coriaceous, oblong to elliptic, 30 mm long and 10-12 mm wide, cuspidate, the tip a spine about 1 mm long, glabrous and minutely glandular-punctate, ecarinate, reticulate-nerved; bractlets lanceolate, falcate, carinate, 10 mm long, 1.5 mm wide, acutish, the tip ending in a mucro, glabrous, striate-nerved, the marginal area bordered by a narrow subhyaline edging, the tip more or less ciliolate; calyx segments lanceolate, 17-18 mm long, subequal, the posterior segment 5 mm wide, the anterior pair 2.5 mm wide, the lateral segments 1.5 mm wide, all glabrous and striate-nerved, short-acuminate and minutely mucronate at tip; corolla yellow, the tube glabrous, the lips glandular-pilose, 3.5-4.5 cm long, 2 mm wide at base, 5.5 mm broad at mouth, the upper lip spreading, obovate, 14 mm long and 8 mm wide, bilobed, the lobes oblong, 4 mm long and wide, obtuse at tip, the middle lobe of the lower lip spreading, oblong, 17 mm long, 5 mm wide, the lateral lobes oblong, 15 mm long, 4 mm wide, obtuse; stamens exerted 12 mm beyond the mouth of the corolla tube; anthers 7 mm long, acute, mucronulate at base; capsule not seen.

Type. Kuhlmann & Gehrt s n (holotype US, isotype K), Brazil, São Paulo: Cunha, 16 Mar 1939.

Distribution. Known only from the type locality.

Aphelandra paulensis is distinguished from A. hirta, its nearest relative, by its cuspidate bracts, the tip a spine about 1 mm long, and the smaller corollas. The bracts of A. hirta are obtuse, the tip itself revolute and the corollas

4.5-5 cm long.

18. APHELANDRA NEPHOICA Wasshausen, sp. nov.

Herba erecta vel decumbens; caules parce strigosi; lamina foliorum oblongo-elliptica, breviter acuminata (apice ipso obtuso); spicae axillares, laxae, pedunculatae, rachidi strigosae; bracteae triangulares, 2 mm latae, acutae, ciliatae; bracteolae lanceolatae, acuminatae, ciliatae; calycis segmenta subaequalia, lanceolata, striato-nervata, glabra, ciliolata; corolla rosea, 1.8 cm longa, glabra, labiis subaequalibus, labio superiore bilobato, labio inferiore 3-lobato, lobis rotundatis.

Erect or decumbent herb to 50 cm high; stems terete, purplish, rather sparingly strigose; leaf blades oblong-elliptic, 8.5-11 cm long, 2.5-4 cm wide, short-acuminate at apex (the tip itself obtuse), long and narrowly decurrent on the petiole, firm, entire or shallowly undulate, the upper surface yellowish-green, strigillose, especially the costa and lateral veins (8-11 pairs), the lower surface light green, glabrous or the costa and lateral veins inconspicuously appressed-puberulous; petioles 1-1.5 cm long, strigillose; flowers borne in 2, lax, axillary, peduncled spikes, these 3-4 cm long, the rachis strigose, the hairs spreading, the peduncles 9-13 cm long, sparingly strigose; bracts erect, scarcely imbricate, triangular, 2.5-3 mm long and 2 mm wide, acute, green, entire, carinate, the margins densely ciliate; bractlets lanceolate, 2.5 mm long and 1 mm wide, acuminate, striate-nerved, green, ciliate; calyx segments subequal, lanceolate, 4.5 mm long, thinly scarious, striate-nerved, acute to acuminate, glabrous and minutely ciliate, the posterior segment 1.5 mm wide, the anterior pair 1 mm wide, the lateral pair 0.5 mm wide; corolla mauve-pink, 1.8 cm long, glabrous, the tube erect, 1.4 cm long, 2 mm wide at base, narrowed to 1 mm at 3 mm above base, thence gradually enlarged to 2.5 mm at mouth, the lobes of the lower lip broadly rounded, broadly cuneate toward base, the middle one 5 mm long and 3 mm wide, the lateral ones slightly smaller, the upper pair much smaller (4 mm long and 2 mm wide); stamens included, subequal; filaments epipetalous above the middle of the corolla tube; anthers oblong, obtuse, their tips cohering; ovary 1.5 mm long; capsule not seen.

Type. Grubb, Curry & Fernandez 651 (holotype US), Colombia, Boyaca: Sierra Nevada del Cocuy, between Bachira and Bocotá, 2,250 m alt, 21 Aug 1957.

Distribution. In cloud forests, known only from type locality.

Aphelandra nephoica is closely related to A. arnoldii, but the bracts of that relative bear a few minute teeth and its leaf blades are considerably longer and wider.

19. APHELANDRA CHRYSANTHA Wasshausen, sp. nov.

Suffrutex; caules subquadrangulares, subtomentosi; lamina foliorum haud lobata, oblonga vel elliptica, acuminata, basi angustata et obtusa, coriacea, glabra, marginibus serrato-

dentatis, dentibus triangularibus, spina terminatis; spicae terminales, pedunculatae, pedunculis et rachidibus glabris; bracteae subvirides, ovatae, coriaceae, acuminatae et spina terminatae, glabrae; bracteolae lanceolatae, glabrae, calycis segmenta flavo-virentia, subaequalia, oblongo-elliptica, acuta et mucronulata, striato-nervata, glabra; corolla lutea, glabra, labio superiore erecto, oblongo, obtuso, labio inferiore patulo, 3-lobato, lobo medio ovato, retuso, lobis lateralibus obtusis vel rotundatis.

Suffrutescent shrub, branched near base, 3 m high; stems subtomentose toward tips, subquadrangular; leaf blades oblong to elliptic, 17.5-18.5 cm long, 4.5-5 cm wide, acuminate, gradually narrowed and obtuse at base, firm, coriaceous, glabrous or the costa and veins (15-17 pairs) bearing a few weak hairs, the margins serrate-dentate, the teeth triangular, 4-7 mm high, ending in sharp spreading spines 3 mm long, the upper surface drying bright yellowish-green, the lower surface drying dull olivaceous, the venation rather prominent below; petioles about 1.5 cm long, rather sparingly tomentose; interpetiolar bracts ovate or suborbiculate, 12 mm long, 7.5 mm wide, serrate-dentate, the teeth terminating in spines, the terminal one as much as 7 mm long; flowers borne in terminal, peduncled spikes 17-18.5 cm long and about 3 cm broad (the corollas excluded), the peduncle (about 7 cm long) and rachis glabrous; bracts pale green, ovate, 25 mm long, 13 mm wide, acuminate and spine-tipped, coriaceous, striate-nerved, entire, glabrous; bractlets lanceolate, 13-14 mm long, 5.5 mm wide, short-acuminate, the tip itself a small mucro, subcarinate, coriaceous, striate-nerved, glabrous; calyx segments pale yellowish-green, oblong-elliptic, 18 mm long, acute and mucronulate, striate-nerved, glabrous, subequal, the posterior one 6 mm wide, the anterior pair 5 mm wide and the lateral pair 4 mm wide; corolla bright yellow, glabrous, 5-5.5 cm long, the tube 4 mm broad at base, narrowed to 3 mm at 1 cm above base, thence gradually enlarged to 12 mm at mouth, the upper lip erect, oblong, 14 mm long, 8 mm wide, the tip obtuse and entire, the lower lip 3-lobed, more or less spreading, the middle lobe ovate, 6 mm long, 7.5 mm wide, retuse at apex, the lateral lobes 6 mm long, 7 mm wide, obtuse or rounded; stamens terminating at tip of upper corolla lip; anthers 8-9 mm long, arachnoid at tip, bearing a sterile theca; capsule ovate, 2 cm long, 9 mm broad, acute, dark-brown, nitid, minutely pitted; seeds muricate, dark brown, 5 mm long, 3 mm wide.

Type. W. H. Camp E-4291 (holotype US, isotype NY), Ecuador, Azuay: Eastern Cordillera, 1-8 km N of Sevilla de Oro, 2,400-2,700 m alt, 27 Jul 1945.

Distribution. Andean Ecuador in the provinces of Azuay and Loja at elevations between 1,600-2,800 meters.

ECUADOR. LOJA: Above Loja towards Catamayo, 2,800 m alt, 9 Oct 1955, Asplund 18060 (S); road from Loja to La Tuna, km 14-34, 1,600-2,600 m alt, 21 Nov 1961, Dodson & Thien 1515 (US); slopes of Cerro Villonaco, 10 km W of Loja, 2,400 m alt,

6 Mar 1966, Knight 520 (US).

Aphelandra chrysantha is closely related to A. phaina Wasshausen, but the bracts of that relative are reddish, the calyx red, and the corolla crimson.

20. APHELANDRA CINNABARINA Wasshausen, sp. nov.

Suffrutex; caules subquadrangulares, dense strigosi; lamina foliorum haud lobata, oblonga, 21-26 cm longa et 4.5-5.5 cm lata, acuminata et spinis terminata, basi angustata, strigosa; marginibus spinoso-dentatis, spicae 1 vel plures, terminales et subterminales, pedunculatae, rachidi strigillosa; bracteae lanceolatae, apice spina terminatae; bracteolae lanceolatae, apice spina terminatae, strigillosae, ciliolatae; calycis segmenta lanceolata, subaequalia, striato-nervata, glabra, ciliolata; corolla aurantiaco-coccinea, hirtella, labio superiore erecto, oblongo, bilobato, labio inferiore patulo, 3-lobato, lobis ovatis, subaequalibus, obtusis.

Suffrutescent shrub, 3 m high; stems subquadrangular, densely strigose; leaf blades oblong, 21-26 cm long and 4.5-5.5 cm wide, acuminate and spine-tipped, narrowed at base, submembranaceous, the margins spinose-dentate, the spines about 2 mm long, the upper surface deep green-subnitid, strigose, the lower surface pale green and dull, strigose, the costa and lateral veins numerous, more pronounced beneath than above; petioles about 1 cm long, densely strigose; interpetiolar bracts small, triangular, 3 mm long, sparingly strigose, the veins excurrent, ending in 1-5 straight, sharp, yellowish spines to 5 mm long, the middle one longer than the others; flowers borne in 1-6 terminal and subterminal, peduncled spikes, these 5-7 cm long and 1.5-2 cm wide, the peduncles 2-4 cm long, densely hirsute, the rachis strigillose; bracts entire, lanceolate, 10 mm long, 4 mm wide, gradually narrowed to a slender spine-tipped point, the lowermost bracts intergrading into stem leaves, these occasionally bearing several spine-tipped teeth on the margins, 3-nerved, strigillose, ciliolate; bractlets lanceolate, 7 mm long, 2.5 mm wide, gradually narrowed to a slender spine-tipped point, one-nerved, faintly striate, strigillose, ciliolate; calyx segments lanceolate, striate-nerved, glabrous, subequal, 8 mm long, acuminate and spine-tipped, distinctly callose at base, the posterior segment 3.5 mm wide, the anterior pair 3 mm wide, the lateral pair 2 mm wide, all ciliolate; corolla orange-red without, the lobes internally yellow with red spots, hirtellous, 4-4.5 cm long, the tube 4 mm broad at base, narrowed to 2 mm at 4 mm above base, thence gradually enlarged to 8 mm at mouth, the upper lip erect, oblong, 10 mm long and 4 mm wide, bilobed, the lobes oblong, 4 mm long and 2.5 mm wide, acute, the lower lip spreading, 3-lobed, the lobes ovate, subequal, the middle lobe 4 mm long and wide, the lateral lobes 4 mm long and 3 mm wide, all obtuse; stamens almost reaching the tip of the upper lip; anthers 4.5 mm long, 1 mm wide, rounded at base, arachnoid at tip; capsule ovate, 15 mm long, 8 mm wide, nitid, glabrous, minutely pitted; seeds dark-brown, rugose, 5 mm long,

3 mm wide.

Type. W. H. Camp E-3374 (holotype US, isotype NY), Ecuador, Chimborazo: Cañon of the Río Chanchan, about 5 km N of Huigra, 1,500-1,950 m alt, 19-28 May 1945.

Distribution. Andean Ecuador, at elevations above 1,220 meters.

ECUADOR. AZUJAY: Between Río Gamolotal and Río Huigra on road to Molleturo, 1,220-1,520 m alt, 10 Jun 1943, Steyermark 52915 (F).

Related to Aphelandra grangeri Leonard, of Colombia and Ecuador, A. cinnabarina differs markedly in its relatively longer, broader, and strigose leaf blades. The leaf blades of A. grangeri are to 14 cm long and 4 cm wide and glabrous.

21. APHELANDRA DODSONII Wasshausen, sp. nov.

Suffrutex; lamina foliorum ovata, acuminata, basi truncata, costa et venis prominentibus; spicae solitariae, terminales, sessiles, 21-22 cm longae, rachidi glabra; bracteae imbricatae, ovatae, rubrae, 11-12 mm latae, acutae, truncatae, glabrae, striato-nervatae; bracteolae lineari-filiformes, falcatae, glabrae, striato-nervatae; calycis segmenta triangulo-ovata, subaequalia, glabra, striato-nervata; corolla coccinea, glabra, 5 cm longa, labio superiore erecto, ovato, integro, labio inferiore patulo, 3-lobato, lobis ovatis, subaequalibus.

Suffrutescent, glabrous shrub to 1 m high; leaf blades ovate, 17-19 cm long, 7.5 cm wide, acuminate, ending in a blunt point, truncate at base, entire or undulate, green, the costa and lateral veins (11-12 pairs) rather prominent; petioles 5-5.5 cm long, canaliculate, glabrous; flowers borne on solitary, terminal, sessile spikes, 21-22 cm long, 1.5-2 cm wide (without corollas), the rachis glabrous; bracts imbricate, erect, entire, drying reddish, ovate, 30 mm long and 11-12 mm wide, acute at apex, truncate at base, glabrous, subchartaceous, striate-nerved; bractlets linear-filiform, 6 mm long and 1 mm wide, falcate, carinate, glabrous, striate-nerved; calyx segments triangular-ovate, 8 mm long, subequal, the posterior segment 3 mm wide at base, 2- or 3-toothed at tip, the anterior pair slightly over 2 mm wide and the lateral segments 3 mm wide, acuminate, the tip itself a spine 1 mm long, all glabrous, striate-nerved; corolla bright red, glabrous, 5 cm long from base to tip of upper lip, the tube gradually enlarged from 3 mm in diam at base to 6 mm broad at mouth, the upper lip erect, ovate, 20 mm long and 11 mm wide, entire, acute, the lower lip spreading, 3-lobed, the lobes ovate, subequal, the middle lobe 20 mm long and 9 mm wide, acute, the lateral lobes 15 mm long and 7 mm wide, acuminate; stamens exerted about 13 mm beyond the mouth of the corolla tube; anthers 5 mm long, 0.75 mm broad, acute at both ends; staminode lobulate, 0.25 mm long; capsule not seen.

Type. Dodson & Thien 1612 (holotype US), Ecuador, Carchi: Railroad from Ibana to San Lorenzo, km #78, Río Blanco, 1,400-1,500 m alt, 14 Dec 1961.

Distribution. Known only from the type locality.

This species is readily distinguished by the long, solitary spike, the entire, reddish bracts, and the bright red corolla. It is not very closely allied to any of the known species of Aphelandra.

22. APHELANDRA ATTENUATA Wasshausen, sp. nov.

Frutex erectus; caules quadrangulares, puberuli; lamina foliorum elliptica vel oblonga, 6-7.5 cm lata, breviter acuminata, basi angustata, in petiolum decurrens, integra, utrinque glabra vel subtus in costa et venis parce puberula; spicae 1 vel plures, terminales, subsessiles, pedunculis puberulis, rachidi glabra; bracteae rubrae, ovatae, obtusae, 10-11 mm latae, integrae, coriaceae, costa prominente, areola elliptica opaca, alveolata, nigro-brunnescente, pro ocellis substituta; bracteolae lanceo-ovatae, subacutae; calycis segmenta oblonga, subaequalia, bracteus superantia, glabra, striato-nervata; corolla coccinea vel aurantiaca, 6 cm longa, glabra et dense papillosa, labio superiore erecto, ovato, bilobato, labio inferiore patulo, 3-lobato, lobo medio oblongo, apice submucronato, recurvato, lobis lateralibus parvis, cum labio superiore basi connatis.

An erect, soft-wooded shrub 2.4-3 m high; stems quadrangular toward tip, puberulous; leaf blades elliptic to oblong, 24-27 cm long and 6-7.5 cm wide, short-acuminate (the tip itself rounded), narrowed at base and decurrent on the petiole, submembranaceous, entire or shallowly undulate, the upper surface drying olivaceous, glabrous, the costa and lateral veins (14-15 pairs) slightly raised, scarcely conspicuous, the lower surface drying to grayish olivaceous, glabrous or the costa and lateral veins sparingly puberulous; petioles (unwinged portion) 1-2.5 cm long, the pubescence similar to that of the stem; flowers borne on one or several, terminal, subsessile spikes, these 10-11 cm long and 1.5-2 cm wide, the peduncle 7-8 mm long, densely puberulous, the rachis glabrous; bracts imbricate, entire, red, coriaceous, ovate, 11-12 mm long and 10-11 mm wide, obtuse, glabrous, the costa rather prominent, the flanking nerves fairly prominent except toward tip, ocelli replaced by elliptical, dull blackish-brown faveolate areas 2 mm long and 1 mm wide; bractlets lance-ovate, falcate, carinate, 10 mm long, 4 mm wide, acutish, the costa and keel densely hirsute, the marginal area glabrous, bordered by a narrow subhyaline edging, the tip more or less ciliate; calyx segments oblong, 12-13 mm long, subequal, the posterior segment 7 mm wide, the anterior pair slightly over 4.5 mm wide, the lateral segments 3.5 mm wide, all glabrous and striate-nerved, ciliate, rounded and minutely mucronate at tip, indurate at base; corolla red or orange, glabrous and densely papillose, 6 cm long from base to tip of upper lip, 3 mm broad at base, 6 mm broad at mouth, the upper lip erect, ovate, 22 mm long and 9 mm wide, bilobed at tip, the lobes triangular, 9 mm long, 4 mm wide, acute, the lower lip spreading, 3-lobed, the middle lobe of the lower lip oblong, 2.5 cm long, 7 mm wide, the submucronate tip

slightly recurved, the lateral lobes 6.5 mm long, partly adnate to the lower part of the upper lip, their free portions 1 mm long and 1 mm wide, acute; stamens exerted about 2 cm beyond the mouth of the corolla tube; anthers 9 mm long, 1 mm broad, acute; capsule not seen.

Type. Dodson & Thien 1647 (holotype US), Ecuador, Guayas: Manglaralto, 0-50 m alt, 20 Dec 1961.

Distribution. In Ecuador at elevations below 600 meters.

ECUADOR. EL ORO: Between Santa Rosa and La Chorita, 0-100 m alt, 27 Aug 1923, Hitchcock 21117 (US). PICHINCHA: 40 km SW of Santo Domingo on east bank of Río Peripa, 250 m alt, 3 Nov 1961, Dodson & Thien 1250 (MO, US). LOS RÍOS: Montalvo, Bosque de Oro near Hac. Las Balsas, 300-400 m alt, 28 Jun 1964, Játiva & Epling 639 (US). NAPO-PASTAZA: Tena, 27 Sep 1939, Asplund 8879 (S); between Tena and Archidona, 9 Oct 1939, Asplund 9185 (S); Cerro Antisana, secondary forest N of Tena, 600 m alt, Grubb, Lloyd, Pennington & Whitmore 14 (K, NY, Q); Río Aguarrico, Santo Cecilia, 220 m alt, 24 Nov 1966, Sparre 13119, 13122 (S); 60 km along Río Payamino, W of Coca, 350 m alt, 18 Jun 1968, Holm-Nielsen & Jeppesen 743 (AAU, US). WITHOUT EXACT LOCALITY. Ecuador, Warszewicz s n (B, destroyed, F photo 8698); junction of the Provinces of GUAYAS, CAÑAR, CHIMBORAZO & BOLIVAR: Foothills of the western cordillera near Bucay, 300-375 m alt, 8-15 Jun 1945, Camp E-3667 (NY, US); Bolivar (probably Ecuador), Jul 1884, Veitch s n (K).

This species is very similar in general aspect to Aphelandra crenata Leonard, but its narrower, entire or shallowly undulate leaf blades, shorter calyx segments, and shorter corollas, set it well apart.

23. APHELANDRA STEYERMARKII Wasshausen, sp. nov.

Suffrutex; caules sursum strigillosi, deorsum glabri; lamina foliorum elliptica vel oblonga, acuminata, basi angustata, membranacea, integra, strigillosa; spicae terminales, solitariae, subsessiles, rachidibus dense sericis; bracteae lanceolatae, acuminatae, integrae, dense sericeae; bracteolae lanceolatae, dense sericeae; calycis segmenta subaequalia, striato-nervata, sericea; corolla aurantiaca, 5.5-6 cm longa, glabra limbo excepto, labio superiore erecto, ovato, bilobato, labio inferiore 3-lobato, lobo medio oblongo, lobis lateralibus linearibus, cum labio superiore basi connatis.

Shrub; stems subquadrangular, strigillose above glabrate below; leaf blades elliptic to oblong, 11-15 cm long, 3.5-5 cm wide, acuminate, gradually narrowed at base, membranous, entire, the upper surface inconspicuously strigillose, dark green, the lower surface pale green, strigillose, particularly the costa and lateral veins (about 7 pairs), these rather prominent beneath but obscure above; petioles 1.5-3 cm long, strigillose; spike short, solitary, terminal, sessile or short peduncled, 2-2.5 cm long, 1-1.5 cm wide (excluding corollas), the rachis densely sericeous; bracts lanceolate, 18-20 mm long, 4-6 mm wide, acuminate, cuneate at base, entire, densely sericeous

without, glabrous within, obscurely nerved; bractlets lanceolate, 9-10 mm long, 1.5-2 mm wide, densely sericeous without, glabrous within; calyx 5-6 mm long, acute, the posterior segment 3 mm wide, the anterior segments 2 mm wide, the lateral segments 1.5 mm wide, all striate-nerved, inconspicuously sericeous without, finely ciliolate at tip; corolla orange, glabrous except the limb, these finely pubescent, 5.5-6 cm long, the tube narrowly funnelliform, 2 mm broad at base, the tube 40 mm long, 7 mm broad at mouth, the upper lip erect, ovate, 20 mm long, 10 mm wide at base, inconspicuously and minutely bilobed at tip, the lower lip erect or spreading, 3-lobed, the middle lobe oblong, 22 mm long, 7 mm wide at base, acute, the lateral lobes linear, 12 mm long, 1.5 mm wide, adnate in part to the upper lip; stamens exerted 16 mm beyond the mouth of the corolla tube; anthers 4.5 mm long, 0.75 mm broad, acute at both ends, glabrous; filaments 45 mm long, glabrous; style 55 mm long, glabrous; capsule not seen.

Type. Steyermark & Agostini 1 (holotype US, isotypes NY, VEN), Venezuela, Aragua: Parque Nacional Henry Pittier, on Pico Periquito, 1,250-1,600 m alt, 4 Sep 1960.

Distribution. Known only from the type locality.

VENEZUELA. ARAGUA: Parque Nacional Henry Pittier (Rancho Grande), road to El Portachuelo, 3 Sep 1965, Castellanos 32 (VEN); Parque Nacional Henry Pittier, 1956, Herb. Nac. Venezuela 40115.

Aphelandra steyermarkii is somewhat like A. tomentosa, but that species has smaller leaf blades, shorter, acute to obtusish, pilose bracts, shorter corollas (5 cm long), and an entire upper lip.

24. APHELANDRA BENOISTII Wasshausen, sp. nov.

Frutex; caules teretes, minute tomentosi; lamina foliorum haud lobata, oblongo-lanceolata, 5.5-9.5 cm longa et 3-4 cm lata, acuminata, basi cuneata, serrata, dentibus spinis terminatis, subcoriacea, supra parce tomentosa, subtus glabra; spicae 1 vel plures, terminales et axillares, sessiles, rachidi tomentosa; bracteae virides, rhombatae, acuminatae et spina terminatae, tomentosae, marginibus spinis armatae; bracteolae lanceolatae, apice spina terminatae, pilosae; calycis segmenta oblonga, subaequalia, acuminata et cuspidata, pilosa, ciliata; corolla aurantiaca, pilosa, labio superiore erecto, elliptico, bilobato, labio inferiore 3-lobato, lobis oblongis, subaequalibus, obtusis.

Shrub; stems terete, minutely and inconspicuously tomentose; leaf blades oblong-lanceolate, 5.5-9.5 cm long and 3-4 cm wide, gradually narrowed to a slender acuminate tip, cuneate at base, thick, subcoriaceous, serrate, the teeth rather closely set, 2-3 mm long, each terminating in sharp, straight, yellowish spines 1-2 mm long, the upper surface nitid, sparingly tomentose, the lower surface glabrous or the costa and lateral veins (12-13 pairs) sparingly tomentose, the costa and veins prominent, the veinlets reticulately anastomosing; petioles 1 cm long,

densely tomentose; interpetiolar bracts small, triangular, 2-3 mm long, subtomentose, the veins excurrent, ending in 1-5 straight sharp yellowish spines to 5 mm long, the middle one longer than the others; spikes one to several, terminal and in the axils of the upper leaves, sessile, short, 5-6 cm long, 1.5 cm wide, the rachis tomentose; bracts green, rhombate, 18 mm long, 11 mm wide, acuminate and spine-tipped, the margins ending in a pair of distinctively yellow spines, tomentose, especially near the base, 3-nerved, rather conspicuously reticulate near tip; bractlets lanceolate, 12 mm long, 3 mm wide, subfalcate, carinate, gradually narrowed to a slender point tipped by a spine 1.5 mm long, pilose without, especially near the margins, striate-nerved; calyx segments oblong, subequal, 9 mm long, acuminate and cuspidate, pilose, ciliate, striate-nerved, the posterior segment 3 mm wide, the anterior pair 2.5 mm wide, the lateral pair 2 mm wide; corolla orange, moderately pilose, 3-3.5 cm long, the tube 2 mm broad at base, gradually enlarged to 6 mm at mouth, the upper lip erect, elliptic, 8 mm long and 4 mm wide, bilobed, the lobes elliptic, 3.5 mm long, 2 mm wide, obtuse, the lower lip 3-lobed, the lobes oblong, subequal, erect, the middle lobe 4 mm long and 2.5 mm wide, the lateral lobes 4 mm long and 1.5 mm wide, all obtuse; stamens barely extending beyond the mouth of the corolla tube; anthers 5 mm long, 1 mm wide, acute at both ends; capsules not seen.

Type. R. Benoist 3986 (holotype P), Ecuador, Pichincha: Mojanda, 3 Mar 1931.

Distribution. Known only from the type locality.

Aphelandra benoistii is perhaps nearest in relationship to A. grangeri, but differs markedly in its much longer and broader, rhombate, tomentose, and spiny-margined bracts.

25. APHELANDRA FASCICULATA Wasshausen, sp. nov.

Suffrutex; caules dense strigosi, pilis sordidis; lamina foliorum late elliptica vel oblonga, acuminata (apice ipso obtuso), basi angustata, in petiolum decurrens, integra, glabra vel parce strigosa; spicae 1 vel plures, terminales, sessiles, rhachidi glabra; bracteae rubrae vel aurantiacae, ovatae, acuminatae, 11-13 mm longae et 9-10 mm latae, integrae, glabrae, ocellis suborbicularibus, brunneis, nitidis; bracteolae lanceolatae vel ovatae, acutae; calycis segmenta lanceolata, subaequalia, glabra et glanduloso-punctata; corolla coccinea vel aurantiaca, papillosa, labio superiore erecto, ovato, bilobato, lobis triangulo-ovatis, labio inferiore trilobato, labio medio elliptico, lobis lateralibus cum labio superiore basi connatis.

An erect, suffrutescent shrub 2-4 m high; stems quadrangular toward tip, densely strigose, the hairs sordid; leaf blades broadly elliptic to oblong, 22-27 cm long, 7-9 cm wide, acuminate (the tip obtuse), narrowed at base and decurrent on the petiole, subcoriaceous, entire, the upper surface dark green, glabrous to sparingly strigose, the costa and lateral veins (10-12 pairs) slightly raised, scarcely conspicuous, the lower surface dull green, glabrous or sparingly strigose, especially the

costa and lateral veins; petioles (unwinged portion) 0.5-2 cm long, the pubescence similar to that of the stem; flowers borne on one or several, terminal, sessile spikes, these 8-30 cm long and 1-1.5 cm wide (without corollas), the rachis glabrous; bracts imbricate, entire, red or dull orange with blackish tip, coriaceous, ovate, 11-13 mm long and 9-10 mm wide, exceeding calyx, acuminate, glabrous, the costa rather prominent, the flanking nerves fairly prominent except toward tip, the marginal area bordered by a narrow subhyaline edge, the ocelli usually 6 or 8, well defined, suborbicular, brown, nitid; bractlets lance-ovate, falcate, carinate, 11 mm long, 3 mm wide, acutish, glabrous and minutely glandular-punctate except the costa and keel, these sparingly puberulous; calyx segments lanceolate, 9-10.5 mm long, subequal, the posterior segment 5.5 mm wide, the anterior pair 3 mm wide, the lateral segments 2.5 mm wide, all glabrous and minutely glandular-punctate, striate-nerved, acute to acuminate; corolla red or orange-red, densely papillose, 5 cm long from base to tip of upper lip, 5 mm broad at base, narrowed to 3 mm at 5 mm above base, thence enlarged to a slightly curved subcylindric throat, 11 mm broad at mouth, the upper lip erect, ovate, 11-12 mm long and 7 mm wide, bilobed at tip, the lobes triangular-ovate, 3.5 mm long, 2 mm wide, acute, the middle lobe of the lower lip spreading, elliptic, 12 mm long, 6 mm wide, the submucronate tip slightly recurved, the lateral lobes about 7 mm long, partly adnate to the lower part of the upper lip, their free portion 6 mm long and 1.5 mm wide, rounded; stamens exerted about 1 cm beyond the mouth of the corolla tube; anthers 4-5 mm long, 1 mm broad, acute at both ends; capsule not seen.

Type. L. Aristeguieta 3180 (holotype US, isotype VEN), Venezuela, Miranda: Guatopo, 600 m alt, Jun 1958.

Distribution. Endemic to Venezuela, at elevations between 10 and 1,400 meters.

VENEZUELA. MIRANDA: Parque Nacional de Guatopo: Between Santa Teresa and Altagracia de Orituco, 520 m alt, 23 Nov 1961, Steyermark 89935 (US, VEN); 27 Oct 1966, Steyermark 97548 (US, VEN); Camino de la Guzmanera, Sep 1966, Aristeguieta & Agostini 6350 (US, VEN); 4-5 km N of Carenero, 10-50 m alt, 22 Nov 1969, Steyermark & Bunting 102317 (US, VEN); El Guapo, 200 m alt, Oct 1959, Aristeguieta 4004 (VEN). DISTRITO FEDERAL: Upper Carrasquel Valley, 7 Nov 1925, Pittier 11944 (US, VEN); hills of Camurí Grande, 20-800 m alt, 8 Nov 1928, Pittier 13038 (US, VEN). ARAGUA: Colonia Tovar, Karsten s n (LE, W); Colonia Tovar, Engels s n (LE); above Turiamo, 550 m alt, 5 Oct 1938, Williams 10419 (US, VEN); Parque Nacional, Valle de Ocumare, 4 Oct 1947, Pittier 15601 (US, VEN). YARACUY: Los Cañizos, plains of the Yaracuy River, 50 m alt, 23 Jan 1920, Pittier 8755 (US); Yumare, Aroa Basin, 24 Sep 1923, Pittier 11213 (US, VEN); Forest of Yumare, 100 m, 7 Feb 1959, Bernardi 6930 (K, VEN); new-highway San Felipe-Aroa, 27 Nov 1952, Aristeguieta & Pannier 1154 (VEN); Valle of Yaracuy, forest plain between El Diamante & El Chino, 12 Dec 1952, Aristeguieta & Foldats 1250

(VEN). YARACUY-FALCÓN: Reserva Forestal "Rio Tocuyo", Pica no. 13, Aug 1970, Blanco 912 (VEN). FALCON: Sierra de San Luis, between Curimagua and San Luis, 1300-1400 m alt, 18 Jul 1967, Steyermark 99105 (US, VEN). MÉRIDA: Carretera (highway) Jaji-Mérida, Sep 1961, Tamayo 4510 (VEN). BARINAS: Soledad, 20 km N of Barinitas, 1100 m, 28 Sep 1953, Little 15559 (VEN). WITHOUT EXACT LOCALITY: Funck & Schlim s n (P); Andes de Truxillo et de Mérida, 1,200-4,350 m alt, 1843, Linden 496 (P); S. Estéban, 1893-94, Mocquerys s n (COL, P, US, VEN).

Aphelandra fasciculata is distinguished from A.

pharangophila, its nearest relative, by the larger, glabrous bracts, the shorter corolla, and the smaller limb. In A. pharangophila, the bracts are strigose, 7-10 mm long, 5.5-6 mm wide, the corolla 5.5-6.5 cm long, and the limb 17-20 mm long.

26. APHELANDRA PHAINA Wasshausen, sp. nov.

Suffrutex; caules teretes, parce subtomentosi; lamina foliorum haud lobata, oblonga, acuminata, basi angustata et obtusa, coriacea, glabra, marginibus serrato-dentatis, dentibus triangularibus, spina terminatis; spicae terminales, pedunculatae, pedunculis et rachidibus glabris; bracteae rubrae, ovatae, coriaceae, acuminatae et subinde spina terminata, glabrae; bracteolae lanceolatae, glabrae; calycis segmenta rubra, subaequalia, oblongo-elliptica, acute et mucronulata, striato-nervata, glabra; corolla coccinea, glabra, labio superiore erecto, elliptico, obtuso, labio inferiore patulo, 3-lobato, lobo medio obovato, obtuso, lobis lateralibus obtusis.

Suffrutescent, branched shrub, 2 m high; stems sparingly subtomentose toward tips, terete; leaf blades oblong, 12-15 cm long, 4.5-5.5 cm wide, acuminate, gradually narrowed and obtuse at base, firm, coriaceous, glabrous or the costa and veins (numerous) bearing a few hairs, the margins serrate-dentate, the teeth triangular, 4-5 mm high, ending in sharp spreading spines 2-3 mm long, the upper surface drying bright yellowish-green, the lower surface drying a dull olivaceous, the venation very prominent, especially on the lower surface, the veinlets coarsely reticulate toward margins; petioles 1-1.5 cm long, glabrous or sparingly tomentose; interpetiolar bracts oblong to ovate, 16 mm long, 9 mm wide, serrate-dentate, the teeth terminating in spines, the terminal one short, 1 mm long, the lateral ones 4 mm long; flowers borne in terminal, peduncled spikes 17.5 cm long and about 3 cm broad (excluding corollas), the peduncle (about 5.5 cm long) and rachis glabrous; bracts reddish, ovate, 20-23 mm long, 11.5-12 mm wide, acuminate and occasionally spine-tipped, nitid, coriaceous, striate-nerved, entire, glabrous; bractlets lanceolate, 12 mm long, 4 mm wide, short-acuminate, the tip a small mucro, subcarinate, coriaceous, striate-nerved, glabrous; calyx segments red, oblong-elliptic, 16-17 cm long, acute and mucronulate, striate-nerved, glabrous, the segments subequal, the posterior one 4.5 mm wide, the anterior pair 4 mm wide and the lateral pair 3.5 mm wide; corolla crimson, glabrous, 5-5.5 cm long, the tube 4 mm broad

at base, narrowed to 3 mm at 1 cm above base, thence gradually enlarged to 7 mm at mouth, the upper lip erect, elliptic, 14 mm long, 7 mm wide, the tip obtuse and entire, the lower lip 3-lobed, more or less spreading, the middle lobe obovate, 8 mm long, 7 mm wide, obtuse, the lateral lobes 8 mm long, 7 mm wide, obtuse or rounded; stamens terminating at tip of upper corolla lip; anthers 9 mm long, 1.5 mm wide, acute, glabrous; capsule not seen.

Type. W. H. Camp E-4292 (holotype US, isotype NY), Ecuador, Azuay: Eastern Cordillera, 1-8 km N of Sevilla de Oro, 2,400-2,700 m alt, 27 Jul 1945.

Distribution. Endemic to Ecuador, in the provinces of El Oro and Azuay at elevations between 2,135-2,700 meters.

ECUADOR. EL ORO: Near Pampa de los Cedros, south of Cerro Chivo-Turco, forested slopes along quebradas tributary to Río Palma, 2,135-2,285 m alt, 11 Aug 1943, Steyermark 53783 (F).

Aphelandra phaina is closely related to A. chrysantha Wasshausen, but the bracts of that relative are pale green, the calyx yellowish green, and the corolla yellow.

27. APHELANDRA RETICULATA Wasshausen, sp. nov.

Suffrutex; caules dense tomentosi; lamina foliorum oblonga-elliptica, haud lobata, ad 10 cm longa et 3 cm lata, acuminata et spinis terminata, basi angustata, pilosula, marginibus spinoso-dentatis; spicae terminales, rhachidi subtomentosa; bracteae lanceolatae, integrae, apice spina terminatae; bracteolae lanceolatae, apice spina terminatae, pilosulae; calycis segmenta anguste triangularia, subaequalia, striato-nervata, ciliata; corolla aurantiaca, pubescens, labio superiore elliptico, bilobato, labio inferiore 3-lobato, lobis orbicularibus.

Suffrutescent shrub 2-4 m high, the bark smooth, grayish; stems densely yellowish-white-tomentose; leaf blades oblong-elliptic, 9-10 cm long and 3 cm wide, acuminate and spine-tipped, narrowed at base, subcoriaceous, the margins spinose-dentate, the spines 1-1.5 mm long, both surfaces pilosulous, the hairs whitish, densest on the costa and veins, the upper surface nitid, rugose, the lower surface strongly reticulate-nerved; petioles about 1 cm long, tomentose; interpetiolar bracts small, triangular, 5 mm long, consisting mainly of 2, sharp, yellowish spines 3 mm long; flowers borne in terminal spikes, these 6-7 cm long and 1-1.5 cm in diam, the bracts erect-spreading, the rachis subtomentose; bracts lanceolate, 13-15 mm long, 4 mm wide at base, gradually narrowed to a slender spine-tipped point, entire, the lowermost bracts intergrading into stem leaves, these occasionally bearing several spine-tipped teeth on the margins, subtomentose; bractlets lanceolate, 1 cm long, 2 mm wide at base, gradually narrowed to a slender spine-tipped point, one-nerved, faintly striate, pilosulous; calyx segments narrowly triangular, striate-nerved, subequal, 8 mm long, the posterior segment 2.5 mm wide at base, the anterior pair 2 mm wide, the lateral pair 1.5 mm

wide, all spine-tipped, ciliate; corolla orange, 4 cm long, finely pubescent, gradually enlarged from 4 mm at base to 9 mm at mouth, the upper lip elliptic, 9 mm long and 4 mm wide, 2-lobed, the lobes elliptic, 3 mm long and 2 mm wide, obtuse at apex, the lower lip 3-lobed, the lobes orbicular, the middle lobe 4 mm long, 8 mm wide, the lateral lobes 4 mm in diam; stamens as long as the lower lip, glabrous; anthers 4.5 mm long, glabrous; style exceeding anthers by 3 mm , glabrous; capsule not seen.

Type. W. Gehriger 294 (holotype US, isotypes F, MO, VEN), Venezuela, Mérida: Mucuruba, 780-810 m alt, 3 Jul 1930.

Distribution. Known only from the type locality.

Aphelandra reticulata is distinguished from A. mutisii, its nearest relative, by the strongly reticulate and rugose leaf blades, the entire bracts and the larger corollas. The corolla of A. mutisii is about 3 cm long and the leaf blades, although very similar in shape, size, and pubescence, are faintly if at all rugose and reticulate.

28. APHELANDRA RUBRA Wasshausen, sp. nov

Suffrutex; caulis sursum strigosus; lamina foliorum haud lobata, elliptica vel oblonga, breviter acuminata, basi angustata, serrata, strigosa, marginibus basi armatis; spicae 1 vel plures, terminales, pedunculatae, rachidi puberula; bracteae supra rubrae, ovatae, acuminatae, glabrae, spinuloso-dentatae; bracteolae subulatae, rubrae, acuminatae, glabrae, ciliolatae; calycis segmenta subaequalia, triangulares, striato-nervata, glabra; corolla ignota.

Suffrutescent herb; stems terete, the upper portion moderately strigose, the hairs appressed; leaf blades elliptic to oblong, $27\text{-}36\text{ cm}$ long and $7\text{-}7.5\text{ cm}$ wide, short-acuminate, narrowed from middle or slightly below middle to a long-attenuate base, serrate, the veins terminating above middle in about 4 pairs of teeth, these ascending, about 5 mm long and 15 mm broad, the attenuate portion of the leaf blades armed with 3-4 spine-tipped teeth, the upper surface sparingly strigose, the lower surface more densely so, the hairs sub-appressed, those of the costa and lateral veins (about 19 pairs) appressed, the venation rather prominent, more so beneath than above; petioles $1.5\text{-}3\text{ cm}$ long, strigose, the hairs upwardly appressed; interpetiolar bracts small, leaf-like, triangular, about 7 mm long, densely strigulose, spine-tipped, the spine about 1 mm long; flowers borne in 1 or several terminal, peduncled spikes, $15\text{-}24\text{ cm}$ long, $2\text{-}3\text{ cm}$ wide, moderately dense, the peduncle $2\text{-}3\text{ cm}$ long, strigulose, the rachis puberulous, the hairs whitish; bracts red, greenish at tip, ovate, 20 mm long and 15 mm wide including the spines, acuminate, subchartaceous, striate-nerved, glabrous, the margins spinose-toothed, the teeth (11-13 pairs) produced by the continuation of the lateral veins, successively larger and more spinose toward apex, the spines ascending, 2 mm long; bractlets subulate, red, 15 mm long, 2 mm wide, long-acuminate,

glabrous, the margins sparingly ciliolate; calyx segments subequal, triangular, 10-17 mm long, the posterior segment 16-17 mm long, 5 mm wide at base, the anterior pair 16 mm long, 3 mm wide, the lateral pair 10 mm long, 2 mm wide, carinate, all striate-nerved, subhyaline, the margins entire; corollas wanting; capsule oblong, 12.5 mm long, 4 mm broad, shining, light brown, muriform; seeds drying light brown, 3 mm long, 2.5 mm wide, densely hirsute and glandular-punctate.

Type. B. A. Krukoff 10146 (holotype US, isotype NY), Bolivia, La Paz: S. Yungas, basin of Río Bopi, San Bartolome (near Calisaya), 750-900 m alt, 1-22 Jul 1939.

Distribution. Andean Peru and Bolivia, at elevations between 450-750 meters.

PERU. LIMA: Valley below Chacilla, 900 m alt, May 1866, Pearce & n (K). BOLIVIA. LA PAZ: San Buenaventura, 450 m alt, 19 Nov 1901, Williams 646 (K). WITHOUT EXACT LOCALITY: "Peru", 1820, Haenke & n (M, F photo 20495). The locality here is possibly erroneous; Haenke could have collected this specimen in Bolivia and not Peru.

Aphelandra rubra is perhaps nearest in relationship to A. rusbyi, but differs markedly in that its bracts are glabrous, acuminate, and the margins bearing on each side 11-13 slender, spinose teeth.

29. APHELANDRA GUAYASII Wasshausen, sp. nov.

Suffrutex; caules subquadrangulares, puberuli; lamina foliorum oblongo-ovata, acuminata (apice ipso obtuso), basi angustata, in petiolum decurrens, glabra vel parce puberula; spicae 1 vel 3, terminales, pedunculatae, rachidi glanduloso-pilosula; bracteae ovatae, 14-17 mm longae et 8 mm latae, acuminatae, cuneatae, coloratae, dense glanduloso-pilosae, ciliatae; bracteolae lanceolatae, subcarinatae, aristatae, striato-nervatae, glanduloso-pilosae; calycis segmenta lanceolata, subaequalia, acuminata et spina terminata, striato-nervata, extra glandulo-pilosa; corolla straminea, 5.5-6.5 cm longa, pilosa vel glanduloso-pilosa, labio superiore ovato, erecto, integro, retuso, labio inferiore patulo, 3-lobato, lobis subaequalibus, lobo medio ovato, lobis lateralibus oblongis.

Suffrutescent shrub, to 7.5 m high; stems subquadrangular, puberulous; leaf blades oblong-ovate, 18-21 cm long, 6.5-7 cm wide, acuminate (the tip rounded), narrowed and conspicuously long-attenuate at base, firm, entire, the upper surface dark-olivaceous, glabrous or sparingly and inconspicuously puberulous, the lower surface pale-olivaceous, sparingly puberulous, especially the costa and lateral veins, these rather inconspicuous, more prominent though beneath than above; petioles (unwinged portion) 1.5-2.5 cm long, hirtellous; flowers borne in one to three, terminal, peduncled spikes, these 7-9 cm long and 2 cm wide (excluding corollas), subtended by several, small, lanceolate leaves near the base, these 10 mm long, 2 mm wide, the bracts densely imbricate, viscid, the peduncle 1-1.5 cm

long, hirtellous and glandular-punctate, the rachis glandular-pilose; bracts ovate, 14-17 mm long and 8 mm wide, acuminate, cuneate, colored, densely white-glandular-pilose, 3-nerved, the margins entire, ciliate; bractlets lanceolate, subcarinate, 9 mm long, 1.5 mm wide, aristate, striate-nerved, subhyaline, glandular-pilose; calyx segments lanceolate, 12 mm long, subequal, acuminate and spine-tipped, striate-nerved, glandular-pilose without, glabrous within, the posterior segment 3.5 mm wide, the anterior pair 2.5 mm wide, the lateral ones 2 mm wide; corolla straw-colored, 5.5-6.5 cm long, sparingly pilose to glandular-pilose, the tube erect, 3 mm wide at base, slightly narrowed at 5 mm above base, thence gradually enlarged to 8 mm at mouth, the upper lip ovate, erect, 2.4 cm long, 1.3 cm wide, entire, retuse, the lower lip spreading, 3-lobed, the lobes subequal, the middle lobe ovate, 2.4 cm long, 1.5 cm wide, acute, the lateral lobes oblong, 7 mm long, 3 mm wide, obtuse or rounded; stamens exerted 2.2 cm beyond the mouth of the corolla tube; anthers 5-6 mm long, arachnoid at tip, mucronulate at base; ovary 4 mm long, 2 mm wide, glabrous; capsule not seen.

Type. O. Haught 3085 (holotype US), Ecuador, Guayas: 18 km W of Pedro Carbo, 5 Aug 1940.

Distribution. In the vicinity of Guayaquil, Ecuador.

ECUADOR. GUAYAS: 10 km NW of Guayaquil on road to Salinas, 13 Sep 1961, Dodson & Thien 513, 515 (MO, US); 12 km from Guayaquil, 22 Aug 1961, Gilmartin 503 (US); Julio Moreno, Cerro de Isera, 250 m alt, 23 Jul 1962, Jativa & Epling 149 (US); Cerro Azul, vicinity of Guayaquil, 14 Jun 1955, Asplund 16641 (S, US); 10 Sep 1955, Asplund 17600 (S, US); 50 m alt, 22 Oct 1958, Harling 3029 (S, US).

This species is very similar in general aspect to Aphelandra madreensis Lindau, but its longer, glandular-pilose corolla and the entire, longer and broader upper and lower corolla lips set it well apart. With no collections available to connect the widely separate ranges of the two taxa, it seems advisable to regard them as distinct species.

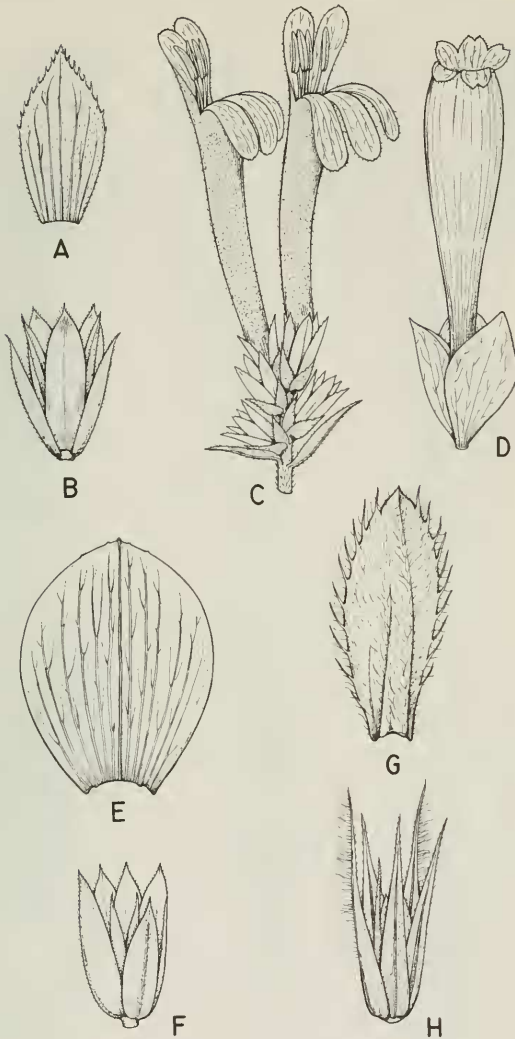


Fig. 1. Species of Aphelandra. A-B, A. ferreyrae (Ferreyra 4333): A, bract x 2; B, bractlets and calyx segments, x 2. C, A. hapala (Ferreyra 1670): C, inflorescence, x 1. D, A. campii (Camp E-1371): D, bracts and corolla, x 2. E-F, A. latibracteata (Ferreyra 1908): E, bract, x 2; F, bractlets and calyx segments, x 2. G-H, A. cuscoensis (Vargas 15415): G, bract, x 1; H, bractlets and calyx segments, x 1.

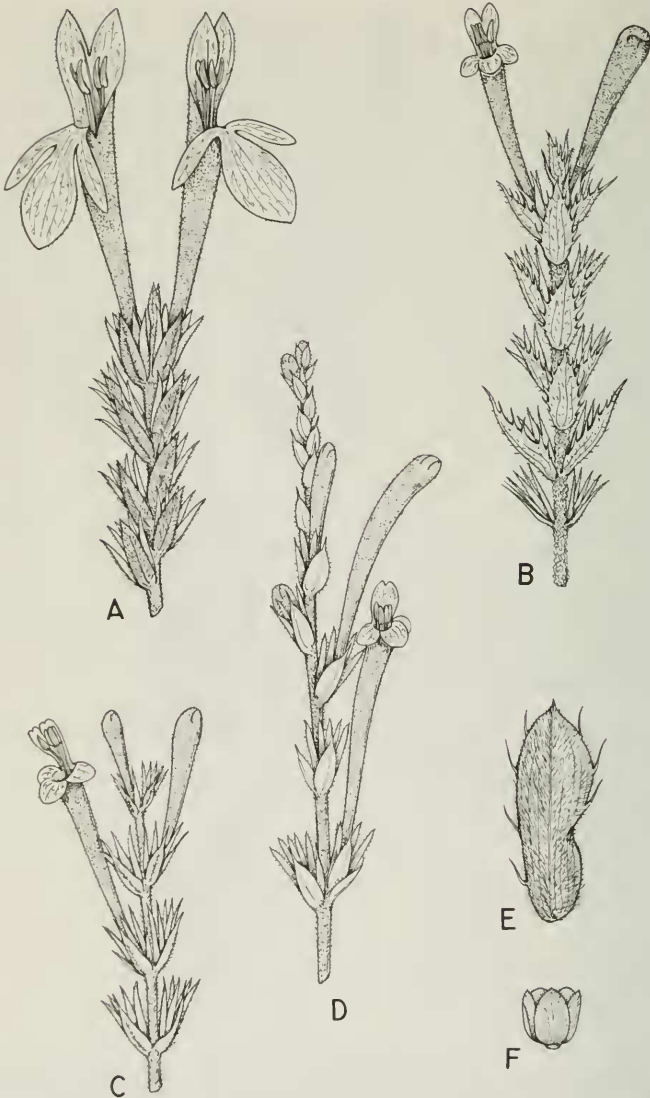


Fig. 2. Species of *Aphelandra*. A, *A. peruviana* (Weberbauer 6952): A, inflorescence, x 1. B, *A. juninensis* (Weberbauer 6537): B, inflorescence, x 1. C, *A. wurdackii* (Wurdack 1487): C, inflorescence, x 1. D, *A. tillettii* (Tillett 673-291): D, inflorescence, x 1. E-F, *A. dasyantha* (Vidal-Senège s n): E, bract, x 1; F, calyx, x 1.

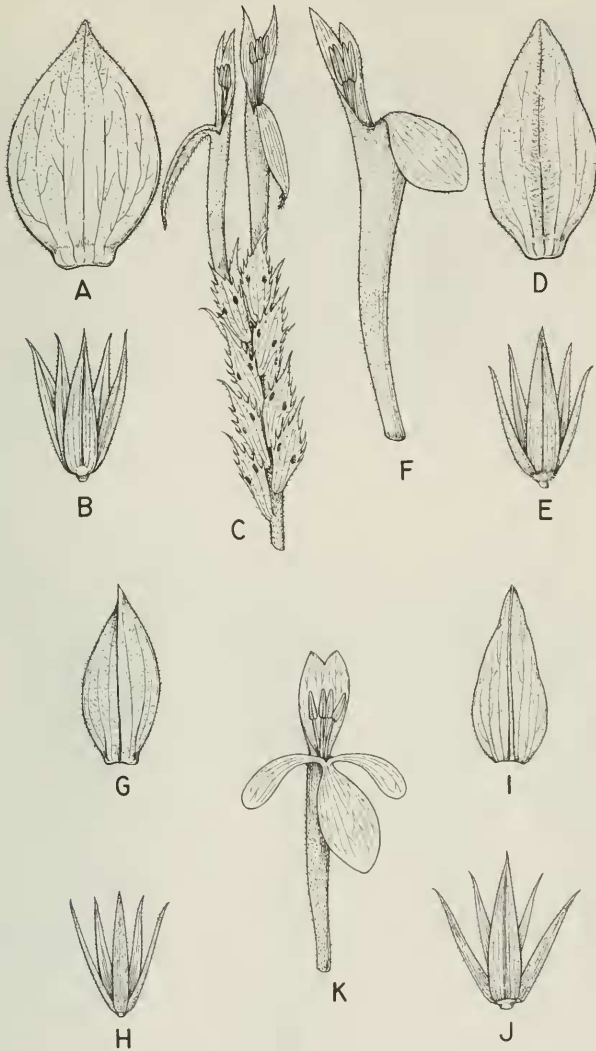


Fig. 3. Species of Aphelandra. A-B, A. madrensis (Hinton 11062): A, bract, x 2; B, calyx segments, x 2. C, A. dukei (Duke 14397): C, inflorescence, x 1. D-F, A. hintonii (Hinton 16049): D, bract, x 1; E, calyx segments, x 1; F, corolla, x 1. G-H, A. diffusa (Jorgensen & Prieto JP-52): G, bract, x 1; calyx segments, x 1; I-K, A. galba (Camp E-830): I, bract, x 1; J, calyx segments, x 1; K, corolla, x 1.

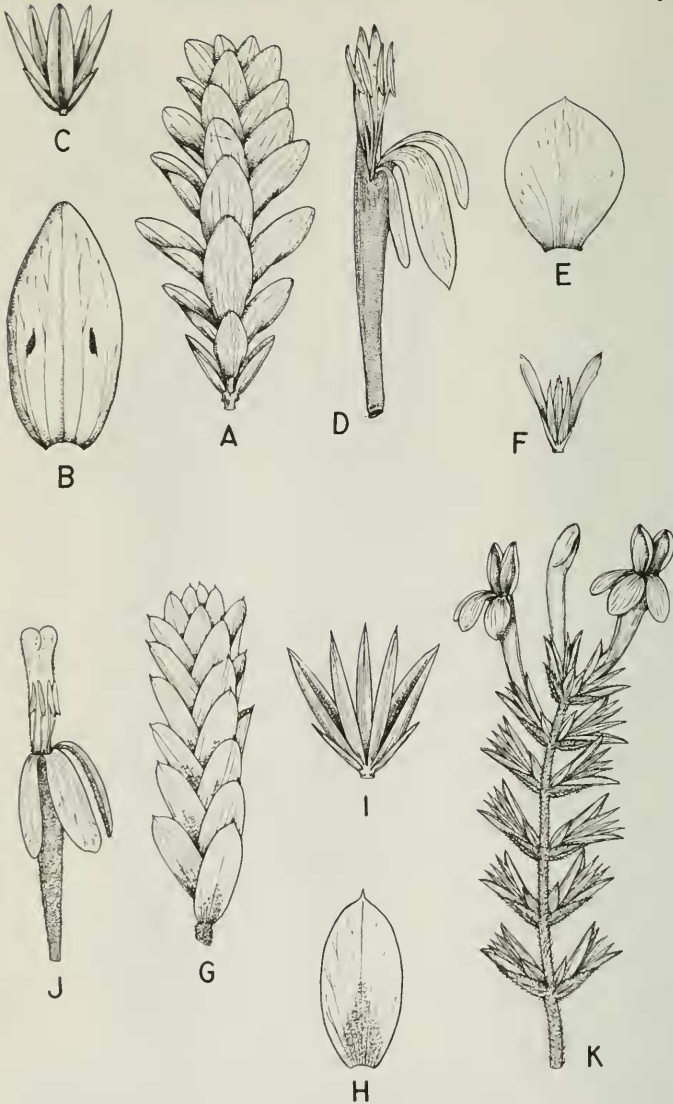


Fig. 4. Species of *Aphelandra*. A-D, *A. dariensis* (Duke & Elias 13756): A, inflorescence, $\times \frac{1}{2}$; B, bract, $\times 1$; C, bractlets and calyx segments, $\times 1$; D, corolla, $\times 1$. E-F, *A. kingii* (King & Guevara 6136): E, bract, $\times 1$; F, bractlets and calyx segments, $\times 1$. G-J, *A. paulensis* (Kuhlmann & Gehrt s n): G, inflorescence, $\times \frac{1}{2}$; H, bract, $\times 1$; bractlets and calyx segments, $\times 1$; corolla, $\times 1$. K, *A. nephoica* (Grubb, Curry & Fernandez 651): K, inflorescence, $\times 2$.

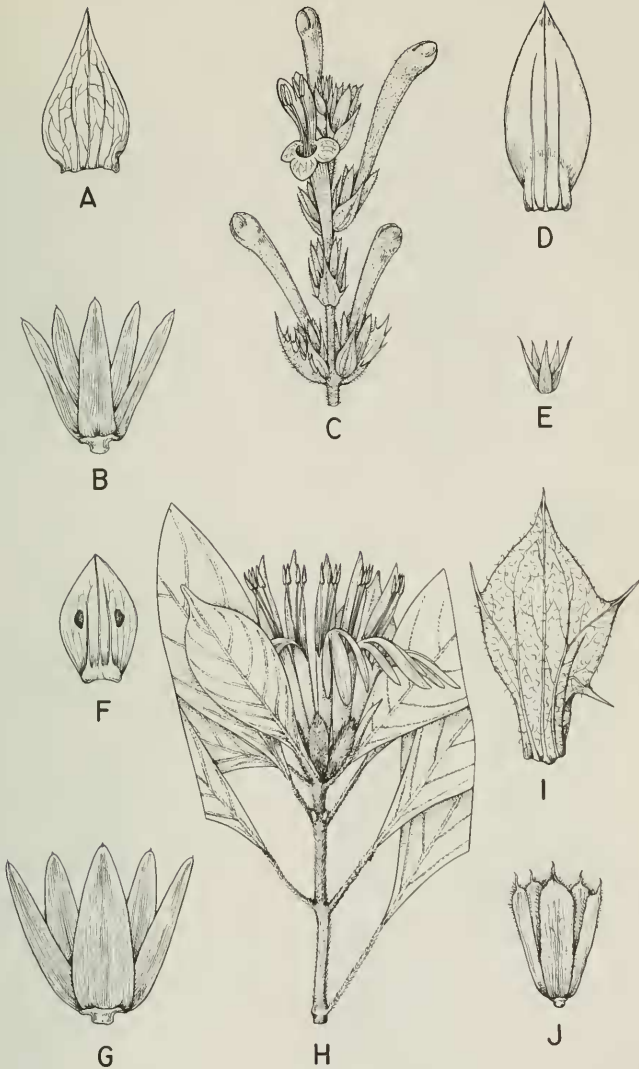


Fig. 5. Species of Aphelandra. A-B, A. chrysantha (Camp E-4291): A, bract, x 1; B, calyx segments, x 1. C, A. cinnabarina (Camp E-3374): C, inflorescence, x 1. D-E, A. dodsonii (Dodson & Thien 1612): D, bract, x 1; E, calyx segments, x 1. F-G, A. attenuata (Dodson & Thien 1647): F, bract, x 1; G, calyx segments, x 1. H, A. steyermarkii (Steyermark & Agostini 1): H, inflorescence, x $\frac{1}{2}$. I-J, A. benoistii (Benoiist 3986): I, bract, x 1; J, calyx segments, x 1.

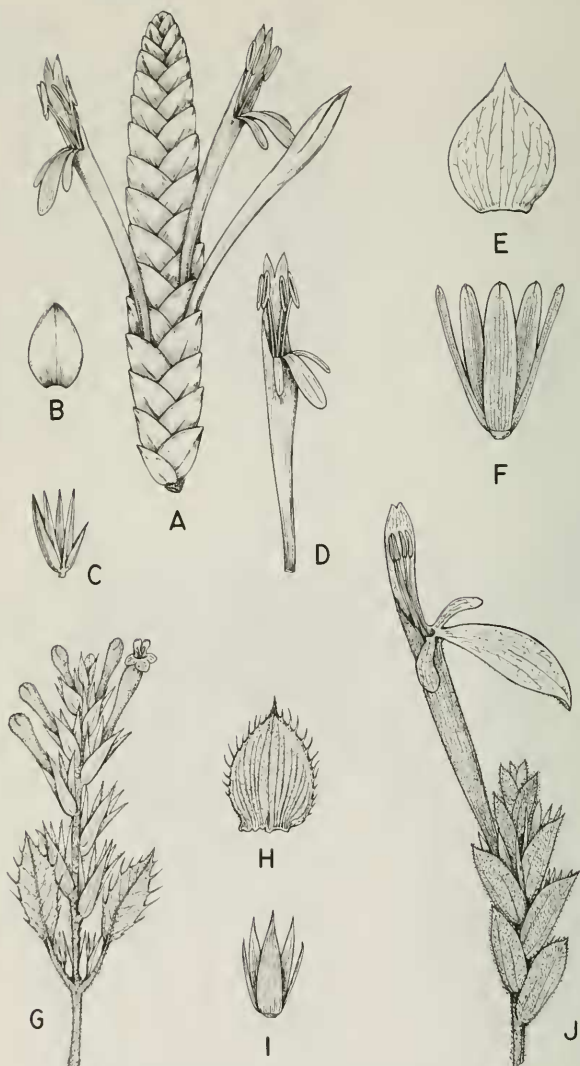


Fig. 6. Species of *Aphelandra*. A-D, *A. fasciculata* (Aristeguieta 3180): A, inflorescence, x 1; B, bract, x 1; C, bractlet and calyx segments, x 1; D, corolla, x 1. E-F, *A. phala* (Camp E-4292): E, bract, x 1; F, calyx segments, x 1. G, *A. reticulata* (Gehriger 294): G, inflorescence, x 1. H-I, *A. rubra* (Krukoff 10146): H, bract, x 1; I, calyx segments, x 1. J, *A. guayasli* (Haught 3085): J, inflorescence, x 1.