

New Species of the *Gesneriaceae* from Thailand

by

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In the course of preparing the manuscript of the *Florae Siamensis Enumeratio*, Volume III, Part 3, the author found 18 new species of the *Gesneriaceae*, followingly described.

Oreocharis hirsuta, Barnett, sp. nov. *O. aureae*, Dunn affinis, foliis minoribus pro rata latioribus nervis lateralibus paucioribus, pilis petiolorum magis patentibus, bracteis angustioribus haud serratis, segmentis calycinis angustioribus atque magis hirsutis, corolla ore minus angustata lobis plus minusve aequalibus differt.

Herb with leaves crowded at the apex of a short rootstock. Leaves elliptic or ovate, acute, base cuneate or sub-rounded or occasionally slightly cordate, bi-serrate, 5-8.5 cm. long, 2.7-4.6 cm. wide, upper surface greyish-green, lower paler and more tawny, when young densely hirsute with tawny multicellular hairs on both surfaces, older with hairs scattered except on the hirsute nerves on the lower surface; lateral nerves 6-7 pairs, prominent or sub-prominent below, somewhat faint above; petioles 1.2-6.5 cm. long, tawny hirsute. Peduncles axillary, tawny hirsute, 13.5-18 cm. long, branching to form a cymose inflorescence with 6-7 flowers; bracts at apex of peduncle narrow, linear acute, entire, densely tawny hirsute below, almost glabrous above, c. 8 mm. long, 1.5 mm. wide at base, bracteoles similar but smaller; pedicels slender c. 1.5 cm. long, hirsute, some of the hairs glandular. Calyx 5-partite to base, segments narrow acute, c. 0.5 cm. long, hirsute. Corolla pubescent with glandular hairs, c. 2 cm. long, widening gradually from c. 2 mm. wide at base to 4 mm.

wide at base of 5-lobed limb, lobes more or less equal, the two posterior slightly longer, c. 5 mm. deep, 2.5 mm. wide. Stamens 4 didynamous, anthers not coherent, glabrous, oval c. 2 mm. long filaments hirsute, those of the shorter pair arising c. 7 mm. from base of corolla, c. 3 mm. long, those of the longer pair c. 8.5 mm. from base c. 5 mm. long. Pistil total length c. 9 mm., ovary slightly stalked, glabrous, c. 5.5 mm. long, style and peltate stigma c. 1.5 mm. Disc c. 1 mm. deep. Capsules straight, shortly stalked, c. 4.5 cm. long, glabrous.

PAYAP. Chiengmai, Doi Nang Ka, flowers yellow. *Put* 3428 (Type).

Oreocharis obovata, Barnett, sp. nov. *O. benthami* C.B. Clarke simulans sed indumento magis patente haud vellereo, inflorescentia magis pauciflora, floribus multo majoribus differt.

Low herb with the leaves crowded at the apex of a stout rootstock. Leaves obovate or oblanceolate, apex rounded, base narrowed, sub-rounded or cuneate, 9.2-14.4 cm. long, 3.8-7 cm. wide, lateral nerves 8-11 pairs, prominent below, obscure above, both surfaces glabrous except for the tawny hirsute nerves below and the ciliate entire margins; petioles stoutish, 1.5-2.5 cm. long, hirsute, hairs somewhat matted. Peduncles axillary, hirsute to 8.5 cm. long. Flowers 2-3 on very short pedicels. Calyx 5-partite to base, segments long acuminate, hirsute c. 1.8 cm. long, c. 2.5 mm. wide at base. Corolla trumpet-shaped, with scattered hairs, c. 4.6 cm. long, c. 7 mm. wide at base, gradually widening to the oblique 5-lobed limb, the centre anterior lobe narrower and slightly longer than the other two, c. 4 mm. wide, c. 9 mm. long, the others c. 7 mm. wide and long. Stamens 4 didynamous, anthers not coherent, glabrous, filaments arising c. 1 cm. from base of corolla tube, flattened and glabrous, those of the shorter pair c. 2 cm. long, the longer c. 2.3 cm. long. Pistil c. 2.4-2.5 cm. long, pubescent, ovary gradually tapering to style (stigma not clear). Disc distinctly lobed. Fruits unknown,

PATTANI. Bukit Nasi, Toh Moh, c. 550 m. Low herb, flowers red, *Lakshnakara* 646 (Type).

Didymocarpus biserratus, Barnett, sp. nov. *D. kerrii*, Craib simulans, foliis haud aureoglandulosis, floribus multo majoribus, staminum filamentis longioribus antheris corollae fauces haud attingentibus differt; praeterea *D. wattianum*, Craib simulans ob filamenta gracilia e parte corollae tubi ampliata exorientia necnon antheras barbatae corollae fauces haud attingentes, sed differt floribus aliquantum minoribus, lobis calycinis inaequalibus longioribus, pistillo glabro haud glandulis sessilibus praedito, denique foliis pro rata latioribus.

Stem c. 24 cm. long, hirsute. Leaves opposite, the pairs unequal, chartaceous, widely ovate, obtuse, base cordate, c. 3 cm. long and wide to 8.3 cm. long and wide, margin biserrate, upper surface dark brownish-green, densely whitish pilose, lower almost glabrous except for the hirsute mid-rib and lateral nerves, lateral nerves up to 6 pairs, faint above, prominent below; petioles hirsute up to c. 11 cm. long. Peduncles axillary up to 8 cm. long, glabrous, bracts wide hemispheric, glabrous, cymes few-flowered. Calyx glabrous c. 1.3 cm. deep, lobes unequal, shortly triangular, the 2 anterior c. 2.5 mm. deep, 3 mm. wide at base, the 3 posterior c. 1 mm. deep, c. 2 mm. wide at base. Corolla c. 4 cm. long, limb oblique, anterior lip longer than posterior. Stamens 2, filaments slender arising c. 2 cm. from base of corolla, anthers coherent, white, bearded, staminodes filiform. Pistil glabrous, stipe c. 9 mm. long, ovary c. 2 cm. long, style c. 3 mm., stigma peltate, papillose. Disc c. 2 mm. deep.

UDAWN. Loei, Phu Krading, c. 1300 m., succulent herb pendulous on rocks in Oak forest, flowers dark purple, *Smitinand* 1870 (Type).

Didymocarpus megaphyllus, Barnett, sp. nov. *D. kerrii*, Craib atque *D. purpureo-picto*, Craib affinis, ab illo foliis multo majoribus haud pilosis haud biserratis nervis pilis rigidis squamiformibus

carentibus, inflorescentiis axillaribus; ab hoc foliis majoribus, nervis lateralibus numerosioribus, glandulis aureis paucissimis sparsis minutis inconspicuis differt.

Herb 0.5 m. high (ex Kerr). Stem somewhat ribbed, glabrous with crimson blotches. Leaves opposite, the pairs often unequal, ovate or oval, acuminate, base rounded or narrowed usually very unequal, the one side somewhat rounded, the other cuneate, 8.5-23.5 cm. long, 4.5-12.3 cm. wide, thin papery, upper surface dull greenish, lower pallid, the upper with scattered white adpressed hairs, the lower glabrous, both with very inconspicuous scattered gold glands, very young leaves pubescent on both surfaces, more densely above, lateral nerves 10-11 pairs, subprominent above, prominent below, curving upwards short of the serrate margin; petioles slender, 2.2-8 cm. long, glabrous. Inflorescences dichasial, peduncles axillary, slender, glabrous, to c. 5 cm. long; bracts at apex of peduncle 2, opposite very wide, almost hemispheric, overlapping each other, c. 4 mm. long, c. 5 mm. wide, glabrous. Calyx glabrous, c. 0.5 cm. deep, widening from c. 1.5 mm. at base to c. 5 mm. at mouth, 5-lobed to about half depth, lobes wide triangular, narrowing abruptly to blunt tips. Corolla, with a few scattered hairs, up to nearly 4 cm. long, tube c. 3 mm. wide at base, narrow for c. 1.7 cm., then widening abruptly especially on anterior side to c. 1.7 cm. across limb, lobes rounded c. 3 mm. deep, c. 5 mm. wide, more or less equal, mouth slightly oblique. Stamens 2, anthers cohering, pubescent, filaments arising from widening part of tube, 8-9 mm. long, stamens 2, slender c. 2.5 mm. long, with tiny slightly pubescent caps. Pistil total length c. 2.8 cm., glabrous, style short c. 2 mm., stigma peltate, concave, papillose. Disc cup-shaped c. 1.5 mm. deep.

SURAT. Ban Kawp, c. 100 m., on rock in evergreen forest. Flowers crimson. *Kerr* 13215 (Type).

Didymocarpus ovatus, Barnett, sp. nov. *D. bicolori*, Craib proximus, caule longiore hirsute sed pilis multicellularibus haud glanduliferis, foliis majoribus acutis vel acuminatis nec obtusis, limbo corollae haud bicolori, antheris barbatis, ovario grabro differt.

Herb, stem slender, hirsute. Leaves opposite, ovate, broadly ovate or oval, apex acute or acuminate, base rounded or cuneate, unequal, 7-15 cm. long, 3.5-7.6 cm. wide, both surfaces pubescent, the nerves below hirsute, margin serrate-crenate or biserrate, ciliate, lateral nerves c. 8 pairs; petioles up to c. 3 cm. long, caniculate above, hirsute. Peduncles axillary, 6-9 mm. long, with scattered spreading gland-tipped hairs, becoming almost glabrous; bracts widely ovate c. 4 mm. long, 5 mm. wide, glabrous, bracteoles similar but slightly smaller, inflorescences dichasial, pedicels with gland hairs as peduncles. Sepals free, linear-lanceolate or oblanceolate, apices rounded apiculate, somewhat boat-shaped glabrous, the 2 anterior slightly longer than the 3 posterior c. 4.5 mm. long, 2 mm. wide. Corolla glabrous, tube narrow c. 1.5 cm. long, 2 mm. wide at base, widening very slightly to the 2-lipped, 5-lobed limb, limb c. 8 mm. wide, lobes shallow, rounded, posterior lip 2-lobed, erect, anterior spreading, 3-lobed. Stamens 2, filaments arising c. 1 cm. from base of corolla, anthers coherent, oval, bearded. Pistil c. 1.8 cm. long, ovary stipitate, c. 1 cm. long, glabrous, style slender, c. 7 mm. long, stigma roundish-capitate. Disc cup-shaped c. 1.5 mm. deep.

SURAT. Kao Nawng, c. 900-1200 m., on rocks in evergreen forest. Corolla tube white, lobes crimson, bracts white. *Kerr* 13259 (Type).

Didymocarpus venosus, Barnett, sp. nov., e sectione *Didymantho* ob inflorescentiam pseudoracemosam, corallam prominenter venosam labio anteriore longo ac horizontaliter patente, calycis persistentis segmenta sub fructu recurva, capsulas breves pubescentes stipitatas notabilis.

Small herbs, stems slender, slightly woody, pubescent. Leaves opposite, the pairs sometime unequal, ovate, more or less acute, base rounded, 2.5-5.1 cm. long, 1.5-4 cm. wide, both surfaces pubescent more densely so below; lateral nerves 7-12 pairs subprominent above, midrib flat nerves subprominent and somewhat hirsute below; petioles long, slender up to c. 3.5 cm. long, hirsute. Inflorescence pseudoracemose; peduncles axillary, slender up to

c. 5 cm. long, bracts slender, c. 3 mm. long, hirsute, some of the hairs gland-tipped; pedicels hirsute as peduncles to 8 mm. long. Calyx 5-partite to base, segments lanceolate, acute or sub-acute, c. 3-3.5 mm. long hirsute; corolla with a few scattered hairs, some gland-tipped, tube narrow c. 2 mm. wide at base, straight for c. 5 mm. then widening abruptly to the very oblique 5-lobed limb, anterior lip horizontal, considerably longer than the more erect posterior lip, lobes widely rounded c. 6-7 mm. wide and deep, total length of corolla to tip of anterior lip c. 2.5 cm., limb pale mauve, throat deep purple, prominent purple veins of tube diverging on limb. Stamens 2, filaments arising c. 6 mm. from base of corolla, i.e. in mouth of flower, c. 2 mm. long, somewhat thick, curving and narrowing towards union with anthers, anthers cohering, lobes divergent, staminodes 2. Ovary shortly stipitate, c. 4 mm. long, pubescent, style short, stigma well below anthers, sub-peltate, very slightly notched. Disc shallow, c. 0.25 mm. deep. Capsules stipitate, c. 1.5 cm. long, pubescent, persistent calyx lobes recurved; seeds very small, apiculate, less than 0.5 mm. long.

RACHABURI. Ratburi, young plants collected on limestone rocks and cultivated in Bangkok, *Kerr* 9341 (Type).

Paraboea glanduliflora, Barnett, sp. nov., a ceteris speciebus siamensibus habitu caulino, floribus campanulatis neque tubo brevi limbo patente praeditis differt; *P. cordatae*, Ridl. ex descriptione proxima, sed foliis nec acuminatis nec undique tomentosis, petiolis longioribus, pedunculis nisi basim versus glabris, secundariis pedicellisque pilis glanduliferis indutis differt.

Stem thickish, woody c. 0.5 cm. diameter, tawny tomentose, becoming glabrous towards the base. Leaves opposite, pairs unequal, oval or obovate, apex sub-acute, base narrowed, decurrent on petiole, c. 12.5-15.5 cm. long, to c. 8.5 cm. wide, upper surface very dark greenish, almost black, with scattered short hairs, lower pale brownish glabrous except for the tawny tomentose lateral nerves and distinct vein network, margin serrate-dentate, ciliate; lateral nerves 11-12 pairs, prominent below;

petioles up to c. 7.5 cm. long, slightly winged, amplexicaul, with scattered remains of tawny tomentum. Inflorescence dichasial; peduncles axillary up to c. 17.5 cm. long, glabrous except for scattered white pubescence towards the base; bracts widely ovate; secondary peduncles and pedicels with spreading gland hairs. Calyx 5-partite to base, segments linear c. 4.5 cm. long, 1 mm. wide, apices rounded, glandular towards the base. Corolla campanulate, c. 1 cm. long (in bud), lobes rounded, equal c. 4 mm. wide and deep. Stamens 2, filaments arising from base of corolla, thick, straight for c. 3 mm. then with S-shaped twist, glandular on the S-bend, anthers coherent, large, c. 4 mm. long, 1.5 mm. wide, glabrous, pale with dark patch at union with filaments. Ovary glabrous c. 0.5 cm. long, style slightly longer, stigma very small, papillose.

PAYAP. Chiangmai, Doi Chiangdao, c. 2000 m., succulent herb common on rocky slope, flowers pinkish-purple, *Smitinand* 4728 (R.F.D 17842) (Type).

Chirita fulva, Barnett, sp. nov. *C. integrum*, Barnett, habitu simulans sed stature multo brevior, foliis crenato-serratis nec integris, floribus multo minoribus albis neque purpureis, calyce ad basim quinquepartito lobis longe acuminate subtiliter acutatis nec aliquantum rotundatis differt.

Acaulis, rootstock short, densely tawny pilose with slender multicellular hairs. Leaves crowded, oval acute or sub-acute, narrowed to the often unequal base, 4.8-8 cm. long, 2-4 cm. wide, papery, tawny pilose when young, later with scattered whitish hairs on both surfaces; lateral nerves more or less obscure above, distinct below and tawny pilose, c. 6-8 pairs, margin crenate-serrate; petioles tawny pilose, 2-5 cm. long. Peduncles axillary, tawny pilose, up to c. 2 cm. long, single-flowered or up to 8-flowers in dichotomous cymes; bracts linear c. 0.5 cm. long, hirsute. Calyx 5-partite to base, segments slender acuminate finely pointed, hirsute, more or less equal, 0.5-0.7 cm. long. Corolla puberulous, to c. 1 cm. long, 1.5 mm. wide at

base, somewhat abruptly widening c. 4 cm. from base, especially on anterior side, to c. 0.8 cm. at mouth, lobes rounded more or less equal, 0.25 cm. deep. 0.3 cm. wide, mouth somewhat oblique. Stamens 2, filaments becoming free c. 3 mm. from base of corolla, c. 5 mm. long, slender, anthers in mouth of corolla, reniform c. 1.5 mm. long, just over 0.5 mm. wide, glabrous. Ovary 2 mm. long, 1 mm. wide, pubescent, style and stigma c. 1 cm. long, stigma flat, emarginate. Young fruit c. 0.5 cm. long, included in the calyx, conical, pubescent, style long 0.6 cm. pubescent.

SURAT. Ban Kawp Kep, c. 50 m., flowers white on limestone rocks, *Kerr* 13171 (Type).

Chirita integra, Barnett, sp. nov. *C. brevipedi*, C.B. Clarke aliquantum affinis sed foliis minoribus integris neque serratis, pedunculis longioribus, antheris glabris differt.

Herb acaulis. Young leaves small ovate-lanceolate or ovate, almost sessile, tawny pilose; mature leaves thin papery, ovate or oval, apex acute or acuminate, base more or less rounded or cuneate, 7.5-18.5 cm. long, 4.5-9 cm. wide, both surfaces with scattered white hairs, the nerves below somewhat hirsute, with long tawny hairs, margins entire, ciliate, lateral nerves arched, somewhat obscure above, distinct below c. 7 pairs; petioles up to 10.5 cm. long, hirsute. Peduncles 3.4-7 cm. long, hirsute, pedicels 1-4, arising together from apex of peduncle, slender, hirsute, 1-1.6 cm. long; bracts at apex of peduncle 2 tiny linear acute c. 3 mm. long. Calyx c. 1.5 cm. deep, hirsute without, glabrous within, lobed to c. half depth, lobes c. 1.5-2 mm. wide at base narrowing gradually to obtuse or slightly rounded tip. Corolla, with scattered hairs, funnel-shaped, c. 2.5 mm. wide at base, widening gradually to the 5-lobed slightly oblique limb, up to c. 4.5 cm. long, c. 2 cm. wide across limb, lobes widely rounded c. 0.9 cm. wide, 0.7 cm. deep. Stamens 2, filaments arising c. 1 cm. from base of corolla, widening to c. 2 mm. at middle then narrowing to junction with anthers, united with anthers along their whole length of c. 2 mm. and ending in an acute tip, anthers

cohering by their inner faces; staminodes 2 with slender filaments and minute coherent immature anthers. Pistil total length c. 2.3 cm. ovary c. 6 mm., pilose with overlapping white hairs, tapering gradually to the long style c. 1.5 cm. long, pilose at the base but becoming glabrous towards the tip, stigma flattened, spatulate c. 2.5 mm. long 2 mm. wide, slightly 2-lobed, papillose.

PUKET. Panom Bencha, Krabi 700-1000 m. on rocks in evergreen forest. Corolla purple, lobes white, two yellow streaks in throat. *Kerr* 18684 (Type).

Chirita rotundata, Barnett, sp. nov. *C. anachoretam*, Hance simulans sed foliis pro rata latioribus apice plerumque rotundatis nec acutis, glabris vel pilis paucis in pagina superiore sparsis, nervis lateralibus paucioribus, marginibus integris, floribus majoribus differt.

Small plants with slender, reddish ribbed stems up to c. 15 cm. long arising from rootstock. Leaves towards the apex of the stem, opposite, the pairs often unequal, ovate, obovate, sometimes almost rotund, occasionally lanceolate, mature 4-6.8 cm. long, 1.8-4 cm. wide, margin entire, sparsely ciliate, very thin papery, both surfaces glabrous or with a few scattered hairs on the upper surface, lateral nerves usually 6-8 pairs, occasionally 4-5; petioles slender usually c. 1 cm. but may be up to 2 cm. long. Peduncles axillary, very slender, most often single-flowered but sometimes bearing 2 or 3 flowers on very short slender pedicels; bracts at base of pedicels wide ovate. Flowers comparatively large up to nearly 5.5 cm. long. Calyx thin, glabrous up to 1.9 cm. long, 5-fid to half its length, lobes tapering to long fine points. Corolla funnel-shaped c. 3 mm. wide at base, widening gradually to the oblique limb, lobes 5, rounded, the three anterior longer than the 2 posterior, c. 5 mm. deep, 6 mm. wide. Stamens 2, filaments arising c. 8 mm. from base of corolla, nearly 1 cm. long with a few scattered hairs towards the base becoming almost pilose at union with the anthers, anthers oval c. 2.5 mm. long, glabrous, coherent. Pistil c. 2.3 cm. long, glabrous, ovary indistinguish-

able from style, stigma flattened decidedly bi-lobed, almost reaching the mouth of the corolla tube, well beyond the anthers. Disc a very shallow cup c. 0.5 mm. deep.

PAYAP. Me Chem, Chiangmai c. 700 m., on rocks near stream in deciduous forest. Corolla lobes mauve with yellow patch in throat. *Kerr* 6274 (Type).

Chirita trisepala, Barnett, sp. nov. *C. brevipedem*, C.B. Clarke atque *C. integrum*, Barnett habitu forma foliorum necnon floribus simulans sed ab ambabus calyce trilobo recedit.

Acaulis, young shoots and leaves tawny hirsute with long multicellular overlapping hairs, later becoming almost glabrous. Leaves thin papery, ovate, acute, base more or less rounded, margin crenate-serrate, to c. 17 cm. long, c. 9 cm. wide, both surfaces with scattered hairs, more densely hairy on the nerves below, laterally nerves usually 7 pairs but occasionally 9 pairs; petioles to 10 cm. long, puberulous. Peduncles up to 20 cm. long, puberulous; bracts at apices of peduncles ovate-triangular, subcordate at base, distinctly serrate, with scattered hairs on both surfaces, more densely below and on margins, bracteoles as bracts but smaller; pedicels pseudo-umbellate, to c. 1 cm. long, with scattered hairs. Calyx somewhat oblique, c. 1.5-1.7 cm. deep, 3-lobed to c. half depth, the posterior lobe shallowly 3-lobed, the cup wider than corolla tube, texture thin, almost glabrous but with a few scattered hairs. Corolla to over 5 cm. long, trumpet-shaped, gradually widening from base to 2-3 cm. at mouth, anterior side slightly longer than posterior, lobes rounded, slightly puberulous without and within. Stamens 2, filaments arising c. 2 cm. from base of corolla, widening almost at once and narrowing near union with anthers, c. 1.2 cm. long, c. 1 mm. wide, anthers with lobes vertically one above the other, coherent, c. 3 mm. long. Pistil, total length c. 3.5 cm., pubescent, ovary c. 7 mm., style long c. 2.8 cm., stigma very slightly widened, flat, becoming shallowly 2-lobed. Disc c. 1.5 mm. deep, 5-lobed. Capsule not extending much beyond the persistent calyx, c. 1.8 cm. long, 3 mm. wide.

CHANTABURI. Chantabun, Kao Sabap, on rocks, *Put* 905 (Type).

Boea glabriflora, Barnett, sp. nov. *B. reticulatae*, Barnett habitu, sed foliis minus dense tomentosis tomento multo pallidiore, nervis transversis haud prominentibus, inflorescentia glabra differt.

Herbs with rootstock up to c. 7 cm. long. Leaves crowded at apex of rootstock, chartaceous pale greyish-green above, pale tawny below, upper surface with scattered short white hairs, lower felted with long fine hairs more tawny on lateral nerves, widely oval or ovate, apex rounded, base rounded or cuneate, unequal, 4.5-8 cm. long, 3.2-5 cm. wide, margin crenate, lateral nerves 5-6 pairs prominent below, transverse veins indistinct; petioles 3.3-7 cm. long, with closely matted pale tawny hairs, bases amplexicaul. Inflorescences axillary, dichasial; peduncles slender glabrous up to 30 cm. long, bracts at apices 2 slender c. 2.5 mm. long, glabrous; pedicels slender up to c. 2 cm. long, glabrous. Calyx 5-partite to base, lobes linear obtuse, cm.c. 2.5-3 mm. long, glabrous persistent. Corolla (poor in specimen) under 0.5 cm. long, c. 1.2 cm. wide in open flower, 5-lobed to c. half depth. Stamens 2, filaments arising from base of corolla, c. 2 mm. long, flat, anthers large, oval c. 3 mm. long 1.5 mm. wide, somewhat pointed at ends and constricted in middle, coherent by anterior edges, filaments attached at middle. Pistil c. 7 mm. long, ovary c. 2 mm., glabrous. Fruits slender, twisted up to 3-3.5 cm. long, glabrous.

SURAT. Ban Kawp Kep, c. 100 m., on limestone rocks in evergreen forest. Flowers pink. *Kerr* 13362 (Type).

Boea minor, Barnett, sp. nov. *B. glabriflorae*, Barnett affinis, sed manifeste minor, foliis minoribus apice acutis vel subacutis neque rotundatis, tomentum candidiore differt.

Plants small, stems short with felting of fine white tangled hairs, jointed by the amplexicaul bases of the opposite leaves. Leaves crowded at apices of stems, opposite, lanceolate or ovate or oval, apex acute or sub-acute, base rounded or cuneate, upper surface pale greyish-green, when young with felting of tangled

white hairs, later becoming almost glabrous, lower surface very pale, almost white, with close felting of white hairs, 4-5 cm. long, 1.6-2.8 cm. wide, margin slightly crenate, lateral nerves 4-5 pairs, subprominent below, somewhat obscure above: petioles up to c. 2 cm. long, with felted tomentum, the wide amplexicaul bases of the opposite pairs meeting round the stem. Inflorescences axillary, dichasial; peduncles slender up to c. 9 cm. long, reddish, almost glabrous but with a few scattered tangled hairs; bracts at apices 2, narrow linear, acute, glabrous; pedicels very slender, c. 1.5 cm. long, glabrous or with scattered remains of tangled hairs. Calyx 5-partite almost to base, lobes linear c. 1.5 mm. long, subacute, glabrous, persistent. Corolla c. 1.7 cm. across, open flower 5-lobed to c. half depth, the 3 anterior lobes slightly longer than the 2 posterior, all rounded. Stamens 2, filaments short, arising from the base of the corolla, flattened, c. 2 mm. long, anthers reniform c. 3 mm. long, 2 mm. wide, coherent by anterior edges. Ovary and style glabrous, stigma minute. Fruits slender, twisted, just over 2 cm. long.

NAKAWN SRITAMARAT. Songkla, on Kao Keo. Plants from this locality cultivated in Bangkok. Flowers pale blue. *Kerr* 17275 (Type).

Boea reticulata, Barnett, sp. nov. *B. multifloram*, R. Br. habitu, tomento caulis foliorum inflorescentiae fulvo, necnon nervis paginae inferioris prominentibus simulans, sed foliis pro rata latioribus, nervis lateralibus paucioribus, petiolis manifeste longioribus, pedunculis brevioribus, floribus in quaque inflorescentia paucioribus differt.

Rootstock short, leaves all radical, chartaceous oval or obovate, apex rounded, base narrowed or cuneate or may be subcordate, upper surface pale greenish, glabrous, lower rich reddish-tawny tomentose on the very prominent nerves and transverse veins, pubescent between the veins, 5.7-11.5 cm. long, 3-5.7 cm. wide, lateral nerves 4-6 pairs, margin crenate especially towards the apex; petioles stout up to c. 4.5 cm. long, tawny tomentose. Inflorescences dichasial; peduncles axillary, slender up to 10-11 cm. long, tawny tomentose but becoming glabrous in parts; bracts at apices 2, small

narrow linear acute c. 3-4 mm. long, tawny tomentose below, glabrous above; pedicels short c. 5 mm. long, tawny tomentose. Flowers c. 20 per dichasium, small c. 0.5 cm. across. Calyx tomentose 5-partite almost to base c. 2.5 mm. long, segments linear obtuse c. 2 mm. long. Corolla 5-partite almost to base, the two posterior lobes slightly wider than the other three and covering them in bud, with slight tawny pubescence without, the others glabrous. Stamens 2, filaments arising a little above the base of the corolla, very short c. 1-1.5 mm. long, thick, anthers large widely oval or almost rotund, rather flat, 2-celled divaricate at base, coherent by flat inner faces, with short whitish pubescence especially towards the centre of the outer faces. Ovary c. 2 mm. long, style c. 1.5 mm. long almost if not quite glabrous, but may have a few scattered hairs towards the stigma.

Additional description taken from *Winit* 740.

Fruits slender c. 1.5 cm. long, twisted, beaked, almost glabrous, but with scattered short pubescence. Seeds very tiny, widely oval, apiculate at both ends.

PAYAP. Chiengmai, Me Wang c. 400 m., common on rocks near streams in mixed deciduous forest. Flowers white. *Kerr* 6356 (Type). MAHARAT. Lampang Me Ngow 420 m. Flowers white, on damp rocks. *Winit* 740.

Dichiloboea albida, Barnett, sp. nov. *D. speciosae*, Stapf proxima, sed foliis multo minoribus ac angustioribus, pubescentia alba, lobo calycino postico haud cucullato differt.

Small Woody plants, young twigs softly white pubescent, later becoming glabrous. Leaves lanceolate or oblanceolate, acute, narrowed to base, c. 4.8-6 cm. long, c. 1.4-1.9 cm. wide, coriaceous, but brittle when dry, upper surface pale olive-green, shortly white pubescent becoming glabrous, lower white tomentose, lateral nerves obscure above, prominent below c. 9 pairs, margin obscurely crenate; petioles short up to c. 1 cm. long, base amplexicaul, white tomentose. Peduncles axillary up to c. 10 cm. long, bearing several almost sessile flowers, white tomentose; bracts very wide, rounded white

tomentose below, green glabrous above, c. 1.2 cm. wide, 0.8 cm. long. Calyx c. 0.9 cm. deep, covering less than half of the corolla, white tomentose, 3-lobed, the posterior lobe almost or quite entire, 0.8 cm. wide, anterior lobes almost free c. 0.5 cm. wide. Corolla glabrous, wide campanulate, c. 1.8 cm. long, nearly 2 cm. wide at mouth, lobes widely rounded, imbricate c. 0.5 cm. deep. Stamens 2, pubescent, filaments arising from base of corolla, thickish c. 6 mm. long, curving to meet the anthers; anthers reniform, coherent by edges, glabrous. Ovary pubescent, c. 6 mm. long, 3 mm. wide, narrowing to style c. 1.1 cm. long, slightly pubescent, stigma small c. 1 mm. long, slightly grooved on one side. Capsule, white pubescent, twisting early.

AYUTHIA. Sarabri, Kao Pang Sawang, Muak Lek. Flowers purple with sweet scent. *Nai Noe* 120 (Type).

Dichiloboea acaulis, Barnett, sp. nov.; a ceteris speciebus habitu acauli differt.

Acaulis, rootstock long, rugged. Leaves in close rosette at apex of rootstock, linear-lanceolate, apex narrowed, rounded, narrowed to base then widening to winged petiole, margin irregularly crenate, up to c. 8 cm. long, 1.5-2 cm. wide, upper surface greenish, densely pilose, lower densely white-woolly, tawny towards the base. Peduncles axillary, tawny woolly, single-flowered. Bracts 2 at apex of peduncle, white woolly without, brownish-green with white overlapping hairs within, 1.5 cm. long, 0.8 cm. wide, oblanceolate, tapering to base, pedicel very short, tawny woolly. Calyx white woolly without, tawny glabrous within, 3-lobed, the 2 anterior lobes free c. 7 mm. long, c. 4 mm. wide, posterior lobe c. 8 mm. long and wide, shallowly 3-lobed, the lobes triangular. Corolla widely campanulate, mouth oblique, c. 1.5 cm. long, posteriorly c. 1.8 cm. long, anteriorly c. 3 mm. wide at base then widening abruptly to c. 1.8 cm. at limb, glabrous without, pubescent in patches within. Stamens 2, filaments arising from base of corolla, c. 4 mm. long, twisting before union with anthers, anthers coherent, large, c. 2.5 mm. wide and long, lobes divergent, brown, shortly pubescent. Ovary short, conical, c. 2 mm. long, glabrous, style long stretching well beyond the anthers, then curving back, c. 1.2 cm. long, stigma c. 1.5 mm. long, slightly wider than style.

Fruits described from *Put* 350.

Capsule short and stout narrowed to apex and slightly to base, c. 2 cm. long nearly 5 mm. wide in middle, stretching little beyond the persistent calyx, glabrous, twisted, seeds on inner surfaces of incurved placentas.

PAYAP. Chiangmai, Doi Chiangdao, 1100 m., herb common on rocks in rocky ridge, flowers purple, *Smitinand* 4688 (Type) ibid on rocks, *Put* 350.

Dichiloboea glabrescens, Barnett, sp. nov. *D. albidam*, Barnett habitu revocans, sed inflorescentia fere vel omnino glabra (bracteis nonnullis pube brevi alba hic illic nonnunquam indutis) differt.

Stem woody whitish-tawny tomentose. Leaves coriaceous, lanceolate, apex acute, base cuneate, up to c. 9 cm. long, c. 3 cm. wide, very finely serrate-crenate, very dark brownish glabrous above, tawny-white tomentose below, lateral nerves prominent below, 11-13 pairs; petioles up to 1.5 cm. long, tomentose as stem, slightly amplexicaul. Inflorescences axillary, up to c. 10 cm. long; peduncles glabrous, pale brown. Bracts wide hemispheric almost if not entirely glabrous, c. 1.6 cm. long, c. 2 cm. wide. Calyx glabrous or with scattered puberulent patches, 3-lobed, the 2 anterior lobes oval, widely rounded at apex, c. 1 cm. long, 0.5 cm. wide, posterior lobe wide, shallowly 3-lobed, c. 1 cm. long, 0.7-0.8 mm. wide, glabrous without, puberulent patches within. Corolla campanulate, to c. 1.7 cm. long, c. 1.8 cm. wide at mouth, 5-lobed, lobes widely rounded, somewhat unequal. Stamens 2, filaments from base of corolla, flat, twisted and widening to union with anthers, c. 4 mm. long, anthers reniform, c. 0.5 cm. long, c. 0.4 cm. wide, coherent. Ovary glabrous c. 3 mm. long, style long, very shortly pubescent. Capsule twisting early.

RACHABURI. Kanburi, Baw Re, among rocks, *Put* 175 (Type).

Dichiloboea glandulifera, Barnett, sp. nov.; a ceteris speciebus adhuc descriptis statura multo minore, foliis minoribus,

inflorescentis dichasialibus, foliis bracteis calycibus glanduliferis differt.

Small woody plants, stems slender c. 2-2.5 mm. diameter, up to c. 8 cm. long, jointed by the amplexicaul bases of the petioles, the main stem appearing to wither early, axillary branches taking its place, pale tawny or whitish pannose-tomentose, later becoming almost glabrous. Leaves opposite or alternate, lanceolate or oblanceolate, apex rather abruptly acute, base narrowed, 1.9-4 cm. long, 0.9-1.5 cm. wide, chartaceous, upper surface dark brown, arachnoid, hairs long, thin, sparsely septate, lower surface tawny-yellow pannose-tomentose especially on the lateral nerves, both surfaces with numerous small spherical glistening yellow glands, margin minutely crenate towards the apex, lateral nerves 4-5 pairs, subprominent below, faint above; petioles short c. 0.45 cm. long, deeply caniculate above, bases amplexicaul, pannose-tomentose. Inflorescences dichasial. Peduncles axillary, slender, glabrous or with scattered remains of tomentum, up to 6 cm. long, pedicels almost glabrous as peduncles, up to c. 4 cm. long; bracts and bracteoles wide, apices rounded, c. 3-4 mm. long, c. 2.5 mm. wide, clasping the peduncles and pedicels respectively, glandular. Calyx persistent, glandular, 3-partite to base, posterior lobe wide hooded, very slightly 3-lobed at apex, to 6 mm. long, 5 mm. wide in middle, slightly narrowed to base, anterior lobes c. 5.5 mm. long, c. 2 mm. wide, rounded at apex, slightly narrowed to base, margins of all lobes scarious. Corolla obliquely campanulate, c. 2.5 mm. wide at base, narrow for c. 2.5 mm. then widening, especially anteriorly to the 5-lobed limb, posterior lobes more or less erect, rounded c. 1 cm. deep, anterior lobes rounded, two lateral c. 4 mm. wide, c. 2 mm. deep, central lobe c. 4 mm. deep. Stamens 2, filaments arising from base of corolla, short and flat c. 3 mm. long, 0.5 mm. widening to c. 1 mm. at union with anthers, anthers reniform, c. 3 mm. wide, 2 mm. long, coherent by apices. Ovary c. 4 mm. long, style and stigma c. 7.5 mm., stigma slightly widened, glabrous. Capsules up to 2.4 cm. long, with fine beak, twisting early, glabrous.

NAKAWN SAWAN. Me Lamung, Kampengpet c. 800 m., on rocks in open ground. Flowers purple. *Kerr* 6102 (Type).

Dichiloboea strobilacea, Barnett, sp. nov. *D. speciosae* (Ridl.) Stapf affinis, foliis ovatis neque lanceolatis, pagina superiore pilis brevibus basi bulbosis induta inferiore denique fere glabra, bracteis glabris, calycis labio posteriore trilobo nec integro differt.

Stem woody, ridged, soft tawny tomentose, the older parts bearing the persistent bases of the amplexicaul petioles. Leaves opposite (in specimen somewhat torn) ovate or ovate-lanceolate, shortly acuminate, narrowed to base, 11-14 cm. long, 4.5-5 cm. wide (One torn leaf c. 7 cm. wide length unknown), margin slightly crenate, upper surface dull tawny-green with short 3-4-celled hairs, basal cell bulbous terminal fine-pointed, lower surface becoming almost glabrous except for the tawny tomentose margin and nerves, lateral nerves prominent below, 10-15 pairs, curving upwards short of margin; upper leaves almost sessile, lower petiolate, petioles up to nearly 4 cm. long, canaliculate above, tawny tomentose, widely amplexicaul, bases of opposite petioles meeting round stem. Peduncles up to c. 5 cm. long, tawny tomentose, terminal strobilus to c. 4 cm. long, 2 cm. wide. Bracts wide hemispherical overlapping, to c. 3 cm. wide, 2 cm. deep, becoming glabrous. Calyx thin 3-partite to base, the 2 anterior lobes oblanceolate c. 1.1 cm. long, 0.5 cm. wide, the posterior c. 1 cm. wide, 3-lobed, lobes c. 5 mm. deep. Corolla campanulate c. 1.5 cm. long, c. 3 mm. wide at base, widening gradually to c. 1 cm. at the slightly oblique 5-lobed limb, lobes rounded, c. 0.5 cm. wide and deep. Stamens 2, filaments arising from base of corolla, c. 2 mm. long, twisted, flat nearly 1 mm. wide, anthers large, brown, glabrous coherent, c. 4.5 mm. wide and deep. pistil very slightly pubescent, c. 1 cm. long, ovary c. 3 mm. long tapering to long style, stigma flattened c. 1.5 mm. long. Disc lobed, very shallow, less than 1 mm. deep. Fruits unknown.

RACHABURI. Baw Re, Kanburi. Among rocks, *Put* 172! (Type).

