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STUDIES IN THE GESNERIACEAE OF THE OLD WORLD XXXV:
NEW SPECIES AND COMBINATIONS IN *CHIRITA*

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ABSTRACT. Two new species of *Chirita* are described in sect. *Microchirita* and four in sect. *Gibbosaccus*. Four new combinations are made for species transferred from *Didymocarpus* to sect. *Gibbosaccus*. The monotypic genus *Damrongia* is referred to sect. *Chirita*.

During a revision of *Chirita* it has become necessary to recognise six undescribed species and make five new combinations. Two of the new species are in the section *Microchirita* C.B.Cl., which is characterized by the annual caulescent habit, calyx persistent in fruit and the anthers joined by an apical ligature. The remaining new species are in section *Gibbosaccus* C.B.Cl., whose species are perennial, usually rosulate, with the calyx falling in fruit and the anthers cohering face to face.

The distribution of these new species is well within the geographical range of the genus, which reaches from the western Himalayas and peninsular India to central China and Borneo. With these new species and combinations the genus now consists of 83 species in three sections.

NEW SPECIES

Chirita aratriformis D. Wood, species nova

Herba annua; caulis 60 cm usque altus, parce pilosus, glabrescens, viridis vel purpurascens basi curvatus et radicans, ramulis brevibus axillaribus fortasse praesentibus. *Folia* opposita (infimo altero aborto solitario), ovata, usque ad 9×11 cm, acuta, integra, cordata, utrinque parce pilosa, nervis lateralibus utrinsecus 12 usque; petioli c.0.3 cm longi, pilosi. *Inflorescentia* axillaris, floribus 8 usque; pedunculi c.2 mm longi e petiolo orientes, parce pilosi bracteis carentibus; pedicelli 1-3.1 cm longi pilis glandulosis et eglandulosis intermixtis praediti. *Calyx* basin usque divisus; lobi angustissime elliptici, 12×1.2 mm, acuti, marginibus membranaceis ad apices ciliatis, costis pilosis. *Corolla* 2.8 cm longa, ore 1.2 cm diametro; tubus basin versus deorsum

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curvatus, leviter saccatus, extra pilosus, intus parce pilosus, pallide lilacinus fauce luteo-notatus; lobi lilacino-caerulei. *Filamenta* 8 mm supra basin tubi orientia, 6 mm longa, dimidio inferiore leviter geniculata, parce pilosa; antherae inter se ligamento robusto connexae thecis divergentibus 2.5 mm diametro, inferne pilis longis praeditis. *Staminodia* 5 mm supra basin tubi orientia, 1 mm longa, recta, glabra. *Discus* annularis 0.3 mm altus. *Gynoeceum* 1.5 cm longum; ovarium 6×0.8 mm, pilis eglandulosis praeditum; stylus 9×0.2 mm, subglaber; stigma profunde bilobatum, 0.7 mm latum. *Capsula* 7 cm longa, 1.7 mm lata, parcissime pilosa, calyce persistente. VIETNAM. Tonkin, prov. Langson, Khaumoi, fl. violet blue, *Eberhardt* 3332 (holo. P).

This species is distinguished from *C. barbata* Sprague by having the calyx lobes narrowing to the tip, from *C. lavandulacea* Stapf by having entire leaves, and from other blue-flowered species of section *Microchirita* by having a corolla exceeding 2.5 cm in length.

***Chirita bimaculata* D. Wood, species nova**

Herba annua, caule succulento 20 cm usque alto viridi glabro, internodiis 5 cm usque. *Folium* infimum solitarium; superiora jugata, ovata, 8.5–14 $\times$ 4–6.5 cm, acuminata, basi cordata, integra, utrinque parce pilosa, nervis lateralibus utrinsecus 7–18; petiolus 0.5–0.8 cm longus, glaber. *Inflorescentia* axillaris, 7–10 –flora, ad petiolum adnata; bractae carentes; pedicelli 0.3–1 cm, parce pilosa, per paria orientes, post anthesin axem versus recurvati. *Calyx* ad basin divisus; segmenta anguste elliptica, 5 $\times$ 1 mm, apice acuta saepe leviter recurva, costa et apice et marginibus pilosis. *Corolla* 1.6–1.8 cm longa; tubus 1.5 mm latus, 0.5 mm supra basin leviter deflexus, ore 8 mm diametro, extra parce pilosis, intus glaber, aurantiacus (et lobi), ore maculis duobus purpureo-brunneis notatus. *Filamenta* 1 cm supra tubi basin orientia, 2.5 mm longa, geniculata, glabra; antherae thecae divergentes, 1.3 mm latae, apicibus ligamento junctae, margine inferiore dense pilosae staminodia 7 mm supra tubi basin orientia, 1 mm longa, glabra. *Discus* integer, 0.4 mm altus. *Gynoeceum* 1.3–1.5 cm longum; ovarium 4×0.8 mm, glabrum; stylus 0.2 mm latus, eglanduloso-pilosus; stigma profunde bilobum, 1.5 mm latum. *Capsula* 2.5 $\times$ 1.2 mm, leviter curvata, glabra, calyce persistente.

THAILAND. MaeKlang Falls, c. 50 km north-west of Chiangmai, c. 430 m, granite rock, under overhang, orange-yellow flowers brown marked in throat, 3 xi 1967, *Burt* 5611 (holo. E).

This is one of a group of species of sect. *Microchirita* that differ from one another mainly on the form and colour of the corolla. There are five species with deep yellow or orange corolla lobes, all from Thailand.

- | | | |
|---|--|--------------------------------|
| 1 | Corolla uniform orange or orange with deeper orange markings in the throat | 2 |
| + | Corolla yellow or orange with dark purple-brown markings in the throat | 3 |
| 2 | Corolla uniform orange, anthers more than 2.5 mm across | |
| | | <i>C. marcanii</i> Craib |
| + | Corolla with darker orange markings in the throat, anthers less than 2.4 mm across | |
| | | <i>C. micromusa</i> B. L. Burt |

- 3 Markings forming a ring round the mouth of corolla tube *C. oculata* Craib
 + Markings confined to lower surface of throat 4
 4 Fruit more than 4 cm *C. elphinstonian* Craib
 + Fruit less than 3.5 cm *C. bimaculata* D. Wood

***Chirita quercifolia* D. Wood, species nova**

Herba acaulis perennis, rhizomate brevi. *Folia* anguste elliptica, 4.5 × 1.4–9.5 × 3 cm, obtusa, basi decurrentia, margine sinuata, nervis lateralibus utrinsecus 3–4, utrinque pilis eglandulosis parce (in nervis densius) induta, margine dense appresso-pilosa; petiolus haud alatus, parce pilosus, 4 cm usque longus. *Inflorescentia* axillaris, scaposa, triflora; pedunculus 6 cm usque longus, eglanduloso-pilosus; bracteae oppositae, liberae, ovatae, 1.5 × 0.6 cm, acutae, leviter serratae, palmati-nervosae, eglanduloso-pilosae; pedicelli 5 mm usque longi pilis glandulosis et eglandulosis praediti. *Calyx* ad basin divisus; segmenta anguste elliptica, 5.5 × 1.5 mm, apice rotundata, serrata, pilis glandulosis et eglandulosis praedita. *Corolla* 3.9 cm longa; tubus ventraliter leviter saccatus, ore 1.4 cm diametro, ut videtur rubro-purpureus, in fauce luteo-notatus, extra pilosus, intus fere glaber. *Filamenta* 1.2 cm supra corollae basin orientia, 1 cm longa, 3 mm supra basin geniculata, paullo glandulosa; antherae thecae divergentes, coram cohaerentes, 3.5 mm longae, margine inferiore pilosa; staminodia 1 cm supra tubi basin orientia, 3 mm longa, glabra. *Discus* annularis, 0.7 mm altus, leviter lobulatus. *Gynoeceum* glanduloso-pilosum, basi 1.2 mm latum ad 0.4 mm sub stigmate emarginato 8 mm longo attenuatum. *Fructus* haud visus.

CHINA. Kwangsi, Tong Shan (along Kwantung border) near Sap-luk Po village, Sai Yeung Shek Sheung Lin (Waitsap district), fairly common, 5 ix 1933, *W. T. Tsang* 22710 (holo. P).

This species can be distinguished from all other species of *Chirita* by its characteristic leaf-shape and from most others by its serrate calyx-teeth.

***Chirita vestita* D. Wood, species nova**

Herba perennis acaulis, rhizomate brevi basibus foliorum veterum oblecto, et foliis et inflorescentiis eglanduloso-pilosis. *Folia* elliptica, 1.5 × 0.9–3.4 × 2.1 cm, apice obtusa, basi decurrentia, integra, utrinque aequaliter pilosa, nervis lateralibus utrinsecus 3–4 obscuris; petiolus 0.5–1.3 cm, applanatus. *Inflorescentiae* 2–3 eodem tempore, axillares, uniflorae; pedunculus 0.5–2.5 cm, bracteas anguste triangulares minus quam 1 mm longas in triente superiore ferens. *Calyx* ad basin divisus; segmenta anguste triangularia, 4 × 0.5 mm, acuta, extra pilosa, intus glabra. *Corolla* 2.5 cm longa, ore 0.5 cm diametro; tubus rectus haud saccatus, utrinque parce pilosus, pallidus; lobi violaceo-caerulei. *Filamenta* 1.2 cm supra tubi basin orientia, 0.5 cm longa, arcuata, glabra; antherae thecae divergentes, coram cohaerentes, 2 mm longae, glabrae; staminodia 2 cm supra tubi basin orientia, 1.5 mm longa, glabra. *Discus* annularis, 0.3 mm altus. *Gynoeceum* 1.7 cm longum; ovarium 3 × 0.5 mm, dense pilosum; stylus 14 × 0.2 mm, pilosus; stigma profunde bilobum, 0.8 mm diametro. *Capsula* 1.2 cm longa, pilosa, calyce deciduo.

CHINA. Kouy-Tcheou, Pius-fa, 30 v 1907, *Cavalerie* 3228 (holo. P).

Chirita gemella D. Wood, *species nova*

Herba perennis, acaulis, pilis eglandulosis (eis in pedicellis exceptis) induta, rhizomate usque ad 1 cm diametro 6 cm longo stolonifero. *Folia* elliptica vel obovata, $1 \times 0.6 - 2 \times 1.3$ cm, apice rotundata, basi rotundata vel decurrentia, integra, utrinque aequaliter pilosa, nervis lateralibus obscuris; petiolus 0.4-2 cm, applanatus. *Inflorescentia* scapiformis, 1-4-flora; pedunculus 4.5-13.5 cm longus; bractae oppositae, liberae, ellipticae, 1×3 mm; pedicelli 2.5-5 cm, pilis glandulosis et eglandulis intermixtis. *Calyx* ad basin divisus; segmenta triangularia, 3×1 mm, acuta. *Corolla* 1.8 cm longa, campanulata, ore 1.7 cm diametro; tubus leviter saccatus, extra intusque subglaber. *Filamenta* 3 mm supra tubi basin orientia, 3 mm longa, inferne geniculata superne dense pilosa; antherae thecae divergentes, coram cohaerentes, 2.5 mm longae, glabrae; staminodia 2 mm supra tubi basin orientia, 1.5 mm longa, glabra. *Discus* annularis, integer, 0.3 mm altus. *Gynoeceum* 1.1 cm longum; ovarium 5×1 mm, dense pilosum; stylus 6×0.3 mm, pilosus; stigma breviter bilobum, 0.6 mm diametro. *Fructus* haud visus.

VIETNAM. Tonkin, Lemarie 123 (holo. P).

There are three species of *Chirita* sect. *Gibbosaccus* having mature leaves less than 4 cm long: two are *C. gemella* and *C. vestita*, described here, the third was originally placed in *Didymocarpus* and is:—

Chirita speluncae (Hand.-Mazz.) D. Wood, *comb. nov.*

Didymocarpus minutus Hand.-Mazz., Symb. Sin. 7: 880 (Feb.) 1936—non Kraenz.

Didymocarpus speluncae Hand.-Mazz., Symb. Sin. 7: 1377 (15 Sept.) 1936.

The three may be distinguished:—

- | | | |
|---|---|---------------------|
| 1 | Corolla campanulate, more than 1.3 cm wide at the mouth . | <i>C. gemella</i> |
| + | Corolla narrowly tubular, less than 1 cm wide at mouth . | 2 |
| 2 | Corolla tube more than 2 mm wide | <i>C. vestita</i> |
| + | Corolla tube less than 1.5 mm wide | <i>C. speluncae</i> |

Vegetative reproduction in sect. *Gibbosaccus* usually occurs when the apical bud of the short vertical rhizome dies and is replaced by lateral buds which eventually grow on to give two or more separate plants. In *C. vestita* stolons are present, but whether the rhizome also branches apically is not known.

Chirita minutihamata D. Wood, *species nova*

Herba perennis. *Caules* decumbentes, ramosi, usque ad 40 cm longi, dense pilosi pilis aliis glandulosis aliis eglandulosis aliis minutis hamatis, glabrescentes, internodiis 0.8 cm usque, cicatricibus foliorum prominentibus. *Folia* alterna, anguste ovata vel elliptica, $2.5 \times 1.7 - 8.5 \times 4$ cm, apice acuta, basi decurrentia, marginibus leviter crenata. nervis lateralibus utrinsecus 4-5, utrinque pilosa vel dense pilosa pilis glandulosis et eglandulosis eis paginae inferioris praecipue ad costam nervosque; petiolus 2-5.5 cm pilis et glandulosis et eglandulosis et hamatis. *Inflorescentia* axillaris, 1-5-flora; pedunculus 5-8 cm uti petioli pilosus; bractae oppositae, liberae, ovatae, $4 \times 1.5 - 12 \times 5$ mm, acuminatae, pilis et glandulosis et hamatis praeditae; pedicelli 0.8-1.8 cm, uti petiolus pilosi. *Calyx* ad basin divisus; segmenta anguste

ovata, $12 \times 1.5-2$ mm, extra pilis et glandulosis et eglandulosis et hamatis, intus glabra. *Corolla* 3.5-4 cm longa, ore ca. 1.2 cm diametro, tubo leviter curvato et saccato, lobis caeruleis, extra parce pilosa, intus glabra. *Filamenta* 1.3 cm supra tubi basin orientia, 1 cm longa, dimidio inferiore geniculata, superne parce pilosa; antherae thecae valde divergentes, acutae, parce pilosae; staminodia 1.3 cm supra tubi basin orientia, 6 mm longa, glabra. *Discus* annularis, lobulatus, 0.5 mm altus. *Gynoeceum* c. 2.3 cm longum; ovarium 9×1.3 mm, dense glanduloso-pilosum; stylus 14×0.3 mm, parce pilosus; stigma bilobum, usque ad 1 mm diametro. *Capsula* 2.5×0.5 cm, basi angustata, parce pilosa.

VIETNAM. Annam, Massif du Ngok Pau, prov. du Kontum, 2300 m, sur roche en vieille forêt, fl. bleu, 12 xii 1946, *Poilane* 35803 (holo. P).

There are three species of *Chirita* with hooked hairs: *C. eberhardtii* Pellegr., *C. minutihamata* and *C. cynostyla* B. L. Burt. The last of these is a rosette plant and all are probably best placed in sect. *Gibbosaccus*. *C. eberhardtii* and *C. minutihamata* are caulescent (*C. minutihamata* having by far the longer stem) with prominent leaf scars and alternate leaves. An unusual feature of *C. eberhardtii* is that the leaves are subpeltate. Alternate leaves are unusual in *Gesneriaceae*; in *Chirita* they are found in repent species, for example *C. reptans* Burt & Panigrahi, apparently by reduction. There is no sign of reduction in *C. minutihamata*. The hooked hairs, which are very small, probably serve to discourage small insects reaching the flowers from the ground. In other species of sect. *Gibbosaccus* this protective function is carried out by dense glandular hairs on the pedicels.

NEW COMBINATIONS

The following new combinations are necessary:—

***Chirita purpureo-lineata* (Kerr) D. Wood, comb. nov.**

Syn.: *Damrongia purpureo-lineata* Kerr in Kew Bull. 1918: 364 (31 Dec. 1918).

This species from Thailand is very close to *C. lacunosa* (Hook. f.) B. L. Burt, and is best placed in section *Chirita*.

***Chirita fordii* (Hemsl.) D. Wood, comb. nov.**

Syn.: *Didymocarpus fordii* Hemsl. in Journ. Linn. Soc. (Bot.) 26: 229 (12 Apr. 1890).

***Chirita heucherifolia* (Hand.-Mazz.) D. Wood, comb. nov.**

Syn.: *Didymocarpus heucherifolius* Hand.-Mazz., Symb. Sin. 7: 880 (Feb. 1936).

***Chirita rotundifolia* (Hemsl.) D. Wood, comb. nov.**

Syn.: *Didymocarpus rotundifolius* Hemsl. in Journ. Linn. Soc. (Bot.) 26: 230 (12 Apr. 1890).

The last three species are all Chinese and belong to section *Gibbosaccus* C.B.Cl.