ACANTHACEAE

Dicladanthera forrestii

9. DICLIPTERA, Juss.

(Brochosiphon, *Nees.*)

Calyx deeply divided into 5 lobes or segments. Corolla-tube usually slender, dilated at the throat, the upper lip concave entire or notched, the lower broader nearly entire or 3-lobed, the middle lobe much broader than the others. Stamens 2, ascending under the upper lip; anthers 2-celled, the cells placed usually one higher than the other, but without any basal appendage. Ovules 2 in each cell. Capsule usually flat, shortly contracted and seedless at the base, the dissepiment separating from the valves when opened and turning upwards elastically with the retinacula. Seeds flat.—Herbs. Flowers 1 to 3 together, sessile within a flattened involucre of 2 bracts concealing the calyx, the involucres usually several in clusters or short cymes, in the axils of the floral leaves or forming terminal loose spikes or racemes, with usually 2 subulate or spinescent bracts outside the flat ones. Corolla, owing to the peculiar inflorescence, appearing frequently resupinate with relation to the main axis, the upper entire or 2-notched lip becoming the lowest.

A considerable genus dispersed over the tropical and subtropical regions of the New and the Old World. The two Australian species extend at least to Timor.

Involucral bracts orbicular, very flat, glabrous or glandular-pubescent, all in axillary clusters . . . . . 1. *D. glabra.*

Involucral bracts ovate, aristate, convex, ciliate-hirsute on the upper side, the clusters forming terminal loose spikes or racemes . . . . . 2. *D. spicata.*

1. **D. glabra,** *Dcne. Herb. Tim.* 55. A much-branched annual of 1 to 2 ft., glabrous or the foliage sprinkled with a few rather rigid hairs. Leaves lanceolate or almost linear, mostly acute, contracted into a very short petiole, 1 to 2 in. long. Involucres either 2 sessile in the axils or 4 in pairs on 2 very short peduncles or several in a more or less cymose but very dense cluster, the involucral bracts very broadly ovate or nearly orbicular, mucronate-acute, glabrous or glandular-pubescent and ciliate, flat and usually unequal, the larger one 3 to 6 lines diameter, and always with an outer pair of rigid linear-subulate spreading or recurved outer bracts or spines. Flowers within the bracts solitary or rarely 2 or 3, with minute bracteoles. Calyx 1 to 1½ lines long, divided to below the middle into linear-lanceolate lobes. Corolla shortly exceeding the bracteoles, the lips nearly as long as the tube, the upper one ovate and notched, the lower one broad and 3-toothed. Capsule very small, flat, nearly orbicular, usually 2-seeded.—Nees in DC. Prod. xi. 476; *Brochosiphon australis*, Nees, l. c. 492; *Dicliptera armata*, F. Muell. Fragm. vi. 88.

N. Australia. Glenelg river, N.W. coast, *Marten;* Upper Victoria river and Stirling Creek, *F. Mueller;* S. Goulburn island, *A. Cunningham.* The specimens agree perfectly with Decaisne's character as well as with Cunningham's Timor specimens.

NIB

ACANTHACEAE

Dicliptera leunotis

3. EBERMAIERA, Nees.

Calyx divided to the base into 5 segments, the upper one broader than the others. Corolla-lobes 5, nearly equal, the 2 upper ones outside in the bud. Stamens 4, in pairs, included in the corolla-tube; anthers ovate, transverse, 2-celled. Ovules numerous; stigmatic lobes of the style unequal. Capsule oblong-linear, not beaked, 2-celled from the base. Seeds numerous, very small, nearly globular; retinacula reduced to minute papillæ or quite inconspicuous.—Herbs. Flowers small, sessile in the axils of the floral leaves or bracts, forming terminal dense or interrupted leafy or leafless spikes.

The genus comprises a considerable number of species from tropical Asia and Africa, with a few American ones. The only Australian species is a common Asiatic one.

1. **E. glauca,** *Nees in DC. Prod.* xi. 73. Stems at first simple and erect, at length diffuse prostrate or creeping and rooting at the nodes, with ascending or erect branches of $\frac{1}{2}$ to 1 ft., the whole plant slightly pubescent, the inflorescence often glandular. Leaves oblong-lanceolate or elliptical, obtuse, narrowed into a petiole, 1 to 2 in. long, the floral ones much smaller, mostly under $\frac{1}{2}$ in. Flowers nearly sessile in the axils of the floral leaves, between 2 leafy bracteoles about as long as the calyx, forming rather long leafy spikes, terminal or sometimes also in the axils of the upper stem-leaves. Calyx upper segment lanceolate, 3 to 4 lines long, lower ones linear and rather shorter. Corolla-tube about as long as the calyx, slightly dilated upwards; lobes short, obovate, obscurely 2-lipped. Capsule as long as the calyx.—T. Anders. in Journ. Linn. Soc. ix. 450; Wight, Ic. t. 1488.

N. Australia. Providence Hill and Macadam Range towards Fitzmaurice river, *F. Mueller.* Common in E. India and the Archipelago.

ACANTHACEAE

4. **HYGROPHILA**, R. Br.

Calyx more or less deeply divided into 5 or rarely 4 lobes or segments. Corolla-limb 2-lipped, the upper lip 2-lobed, the lower 3-lobed, the lobes usually short and contorted in the bud. Stamens 4, in pairs, or in species not Australian only 2 perfect; anthers erect, the cells parallel and equal. Style subulate, with a small upper tooth. Ovules several in each cell of the ovary. Capsule oblong or linear, 2-celled from the base. Seeds flat; retinacula hooked.—Erect or decumbent herbs. Flowers sessile in axillary clusters.

A small genus, widely distributed over the tropical and subtropical regions of the New and the Old World. The only Australian species is a common Asiatic one.

1. **H. salicifolia,** *Nees in Wall. Pl. As. Rar. and in DC. Prod.* xi. 92. Stems erect or ascending, branched, from ½ to 1½ ft. high, glabrous or slightly pubescent with appressed hairs as well as the foliage. Leaves lanceolate or almost linear, contracted into a short petiole, 3 or 4 in. long in stout specimens, half that size in others. Flowers usually 2 or 3 together in the axils of the stem-leaves, purple or pale blue (or yellow according to *Dallachy*). Bracteoles concave, acute, usually shorter than the calyx. Calyx pubescent, tubular, the lobes shorter than the entire part, the 2 lower ones often more united. Corolla-tube scarcely exceeding the calyx, upper lip 2-lobed, the lower lip 3-lobed, convex, with 2 lines of hairs decurrent from the sinus, the lobes all nearly equal, slightly contorted or almost valvate in the bud. Stamens inserted near the top of the tube. Capsule linear, about ½ in. long. Seeds about 6 to 8 in each cell.—T. Anders. in Journ. Linn. Soc. ix. 456, with the synonyms adduced; *Ruellia salicifolia*, Vahl, Symb. iii. 84; *Hygrophila angustifolia*, R. Br. Prod. 479; Nees in DC. Prod. xi. 91.

N. Australia. Van Diemen's Gulf, N.W. coast, *A. Cunningham*; Victoria river, *F. Mueller*; Port Essington, *Armstrong*.
Queensland. Endeavour river, *Banks and Solander, R. Brown*; Rockingham Bay, *Dallachy*; Broad Sound, *Bowman*; Beddome Creek, *Thozet*; Moreton Bay, *W. Hill*.

It has appeared to me that the æstivation of the corolla-lobes is somewhat variable in *Hygrophila*, but the overlapping is often so slight as to make it difficult to ascertain it correctly from dried specimens.

ACANTHACEAE

10. HYPOESTES, R. Br.

Calyx more or less deeply divided into 5 lobes or segments. Corolla with a slender tube, deeply 2-lipped, the upper lip narrow entire or rarely notched, the lower 3-lobed. Stamens 2, often nearly as long as the corolla; anthers linear, 1-celled. Ovules 2 in each cell of the ovary. Style bifid at the top. Capsule compressed and seedless at the base, oblong or clavate. Seeds flat; retinacula subulate.—Herbs shrubs or small trees. Flowers solitary or 2 or 3 together, within a cylindrical or clavate involucre of 2 pairs of bracts often united to the middle, the inner pair alternating with the outer, the involucres in axillary clusters or spikes or in terminal panicles.

The genus is dispersed over Africa and tropical Asia. The Australian varieties or species appear to be endemic, but require further comparison with some forms from the Eastern Archipelago of which we have very imperfect specimens.

1. **H. floribunda,** *R. Br. Prod.* 474. An erect branching perennial, attaining 2 or 3 ft. and usually glabrous except the minutely glandular-pubescent inflorescence. Leaves ovate-lanceolate or almost linear, acutely acuminate, contracted into a rather long petiole, usually thin and membranous and 2 to 4 in. long, but occasionally much larger. Involucres usually numerous in dense axillary clusters or racemes or loose terminal panicles each involucre tubular, concrete, 2 to 4 lines long, 4-lobed to about the middle, the lobes acute, the 2 inner ones rather smaller. Flowers solitary in the involucre or rarely 2 or 3 together, but the accessary ones mostly rudimentary. Calyx very thin, divided to about the middle, much shorter than the involucre. Corolla slender, about ¾ in. long or rather larger, the lips as long as the tube, the upper one linear and entire, the lower one much broader, very shortly 3-lobed. Stamens nearly as long as the lips. Capsule rather narrow, 5 to 6 lines long.—Endl. Iconogr. t. 105; *H. laxiflora* and *H. floribunda* (partly), Nees in DC. Prod. xi. 508, 509.

The following forms of this very variable plant might be distributed according to the inflorescence into three principal varieties or perhaps species:—

1. *Densiflora.* Involucres mostly 2 to 3 lines long in short dense spikes or clusters chiefly axillary.

N. Australia. Lagrange Bay, N.W. coast, *Marten.*

Queensland. Moreton Bay, *A. Cunningham, F. Mueller;* Rockhampton, *Thozet;* Edgecombe and Rockingham Bays, *Dallachy;* Nerkool Creek, *Bowman;* Port Denison *Fitzalan.* (All nearly glabrous.)

Var. *canescens.* Branches inflorescence and under side of the leaves hoary with a very minute pubescence.—Cape York, *Daemel.*

Var. *pubescens.* Rather densely clothed with a scabrous or a soft pubescence.—Wide Bay, *Bidwill;* Burdekin river, *Leichhardt;* N. coast of Arnhem's Land, *Kinley.*

N. S. Wales, Clarence river, *Beckler.*

2. *Paniculata.* Involucres usually 3 to 4 lines long, in elongated interrupted spikes, usually numerous in the upper axils, forming rather large terminal panicles.

N. Australia. South Goulburn Island, *A. Cunningham;* Cape Upstart, *Bynoe;* Port Essington, *Armstrong.*

Queensland. Shoalwater Bay, *R. Brown.*

Var. *angustifolia.* Leaves narrow-lanceolate or almost linear.—Victoria and Fitzmaurice rivers, *F. Mueller.*

3. *Distans.* Stems long and decumbent. Involucre few and very distant along the branches of a very loose terminal panicle.

N. Australia. Hunter's River, N.W. coast, *A. Cunningham.*

R. Brown's specimens belong to the paniculate form, which is included by Nees in his *H. laxiflora* β, with some Javanese specimens which appear to me quite different. Nees's typical *H. laxiflora* has a remarkably dense inflorescence and long subulate-acuminate involucral bracts, and agrees much better with the Javanese plants determined by him to be *H. rosea,* Dcne., but not agreeing with Decaisne's character. Why he suppressed Decaisne's *H. rosea* to substitute a *H. rosea* of his own (p. 503) does not appear.

NIS

ACANTHACEAE

Hypoestes suaveolens

7. JUSTICIA, Linn.

(Rostellularia *and* Rhaphidospora, *Nees.*)

Calyx divided to the base into 5 or 4 segments. Corolla 2-lipped, the upper lip erect, concave, entire or notched, the lower convex or with a longitudinal fold and veined in the centre, 3-lobed. Stamens 2; anther-cells oblique, one attached higher up than the other, the lower one usually mucronate or spurred. Ovules 2 in each cell of the ovary. Style usually entire. Capsule contracted or compressed and seedless at the base. Seeds flat; retinacula obtuse.—Herbs or shrubs. Flowers solitary or in clusters or cymes, axillary or forming terminal spikes or panicles. Bracts various.

A large genus, widely distributed over the tropical and subtropical regions of the globe. Of the five Australian species, two are common tropical weeds in Asia, another is closely allied to, if not identical with an Asiatic one, the remaining two are, as far as is known, endemic.

Flowers (small) in dense terminal bracteate spikes.
- Bracts linear or lanceolate, acute, hispid or ciliate, not bordered. 1. *J. procumbens.*
- Bracts obtuse, bordered by a broad white margin . . . . . 2. *J. peploides.*

Flowers in axillary sessile clusters surrounded by a few broad obcordate bracts . . . . . 3. *J. hygrophiloides.*

Flowers in pairs on axillary simple or forked peduncles. Bracts setaceous . . . . . 4. *J. cavernarum.*

Flowers in a terminal dichotomous panicle . . . . . 5. *J. eranthemoides.*

NSD

ACANTHACEAE

Justicia diffusa

2. NELSONIA, R. Br.

Calyx of 4 distinct segments, the lowest 2-fid. Corolla-lobes 5, nearly equal, the 2 upper ones outside in the bud. Stamens 2, included in the corolla-tube; anther-cells distinct, divergent; no staminodia. Ovules rather numerous; stigmatic lobes of the style unequal. Capsule 2-celled from the base, terminating in a seedless beak. Seeds small, globular, resting on minute scarcely conspicuous papillæ.—Diffuse herb. Flowers small, sessile in terminal leafy spikes.

The genus appears to be limited to a single species, a common tropical weed.

NJB

ACANTHACEAE

Nelsonia brunelloides

NSD

ACANTHACEAE

Pseuderanthemum variable

NIB

ACANTHACEAE

Rostellularia diffusa

NIB

ACANTHACEAE

Rostellularia pogonanthe