A dichotomous key to the genus *Drosera* L. (Droseraceae)

by
Dr. Jan Schlauer, Zwischenstr. 11, D-60594 Frankfurt/Main, Germany
email: jan@pbc-ths1.pci.chemie.uni-tuebingen.de

Introduction

Since the world-wide monograph of the genus ***Drosera*** by Diels, (1906), many new species were described, and several treatments for local floras appeared. In order to be able to identify even wrongly labelled (or unlabelled) specimens in herbaria as well as in horticultural collections, and to provide field workers with a guidance, a dichotomous key was compiled from the data available by herbarium and literature study. As far as possible, all taxa described validly (and considered distinguishable) until present were included. The key is thought to reflect phylogenetic development to a certain degree, inasmuch as the taxa are probably of monophyletic origin (with the exception of ***sects.Oosperma*** and ***Drosera***, which may be more closely related to each other than is evident in the key). The key does rely on morphological characters even if in some cases the taxa share additional (phytochemical or cytological) features, which cannot be examined in dried herbarium specimens.

The infrageneric rearrangement by Seine & Barthlott (1994) provides little new insight, and it suffers considerably from the omission of recent information, e.g. Kondo & Lavarack's important cytological work (1984) is ignored. The key by Marchant (1982) is misleading in important distinguishing features (e.g. stipules are not "usually absent or inconspicuous" in ***subgen.Drosera***, not even in his version of this subgenus, and not even in the Australian representatives!). Substantial work has been performed on palynology (Takahashi & Sohma, 1982), and phytochemistry (Zenk, Fürbringer & Steglich, 1969; Culham & Gornall, 1994). A reference list of synonyms (at the rank of species or below) for the genus ***Drosera*** was already published in an earlier paper (Schlauer, 1987). A permanently updated version thereof is accessible via internet (http://www.hpl.hp.com/bot/cp_home; the Carnivorous Plant Homepage, maintained by Rick Walker).

The realignments and the key to this second largest genus of carnivorous plants (about 135 species recognized here, compared with 215 in ***Utricularia***, Lentibulariaceae) are not meant to represent a final conclusion. These should rather be understood as a help and a starting point for the many enthusiasts as well as the quite numerous scientists interested in this fascinating group. Even if some of the new combinations proposed here are rather preliminary, it is prefered to give all taxa used in the key valid names (however, due to lack of suitable type material, this is impossible in one case discussed below). I am well aware of several remaining shortcomings and numerous unresolved problems but I hope this modest contribution may incite efforts to overcome these.

Infrageneric realignment of the genus ***Drosera*** L.

The infrageneric subdivision of the genus as presented in the key necessitates formal validation of some taxa. To this purpose, a nomenclatural conspectus of the taxa of ***Drosera*** above the rank of species, including the most important synonyms, is presented below. In this, some abbreviations are used:

T	Type
LT	Lectotype
S	Synonym(s)
BN	Basionym

Drosera L., Spec.Pl.ed.1:281 (1753)
T: ***D.rotundifolia*** L.
S: *Rossolis* (Tournef. ex) Adans., Fam.2:245 (1763) *nom.superfl.*
T: *R.rotundifolia* (L.) Adans. *nom.illeg.* = ***D.rotundifolia*** L.
Rorella (Hall.ex) Allioni, Fl.Pedem.2:88 (1785) *nom.superfl.*
T: *R.rotundifolia* (L.) Allioni *nom.illeg.* = ***D.rotundifolia*** L.
Esera Neck., Elem.Bot.2:160 (1791)
T: *E.cistiflora* (L.) Neck. = ***D.cistiflora*** L.
Adenopa Raf., Fl.Tellur.3:37 (1836)
T: *A.anglica* (Huds.) Raf. = ***D.anglica*** Huds.
Dismophyla Raf., l.c.:36
T: *Dismophyla binata* (Labill.) Raf. = ***Drosera binata*** Labill.
Filicirna Raf., l.c.:37
T: *F.filiformis* (Raf.) Raf. = ***D.filiformis*** Raf.
Sondera Lehm., Pugill.8:44 (1844)
T: *S.macrantha* Lehm. = ***D.heterophylla*** Lindl.

D.subgen.Thelocalyx (Planch.) Drude in Engl. & Prantl, Nat.Pflanzenfam.3:271 (1891)
BN: *D.sect.Thelocalyx* Planch., Ann.sci.nat.3.ser.9:92 (1848)
T: ***D.burmannii*** Vahl
S: *D.sect.Rorella* DC., Prodr.1:317 (1824) *p.p.*
The pentamerous gynoecium, known only in one other subgenus (viz. ***Bryastrum***), is a sufficient reason to keep this distinct from the rest of the genus. The two species belonging here, one from tropical Asia and N Australia, the other from S America share so many (assumedly primitive) features that a phylogenetic position close to the origins of the genus may be supposed.

D.subgen.Arcturia (Planch.) Schlauer *stat. nov.*
BN: *D.sect.Arcturia* Planch., Ann.sci.nat.3.ser.9:91 (1848)
T: ***D.arcturi*** Hook.
S: *D.sect.Rorella* DC., Prodr.1:317 (1824) *p.p.*
D.sect.Drosera auct. non L.: Seine & Barthlott, Taxon 43:584 (1994) *p.p.*
D.sect.Psychophila auct. non Planch.: Diels, Pflanzenr.26:62 (1906) *p.p.*
The separation of this subgenus, native from SE Australia to New Zealand, from the rest of the genus is claimed here on the basis of exstipulate, sheating leaf bases. As pollen seems to be different between the two species (Culham, Am.J.Bot.80 Suppl.6:142, 1993), the leaf characteristics may be of convergent nature to a certain degree, however. Contrary to Diels (1906), inclusion of ***D.uniflora*** here is not supported (cf. ***D.subgen.D.sect.Ptycnostigma***).

D.subgen.Stelogyne (Diels) Schlauer *stat.nov.*
BN: *D.sect.Stelogyne* Diels, Pflanzenr.26:103 (1906)
T: ***D.hamiltonii*** C.R.P.Andrews
S: *D.sect.Drosera* auct. non L.: Seine & Barthlott, *l.c. p.p.*
The fusion of the styles in this monotypic Australian subgenus is such a unique feature that segregation at more than sectional level seems inevitable.

D.subgen.Meristocaulis (Maguire & Wurdack) Schlauer *stat.nov.*
BN: *D.sect.Meristocaulis* Maguire & Wurdack, Mem.NY Bot.Gard.9:332 (1957)
T: ***D.meristocaulis*** Maguire & Wurdack
A single species with numerous distinguishing features, the most imortant of which

being undivided styles. Apparently a rather ancient relict on the Neblina peak.
D.subgen.Regiae Seine & Barthlott, *l.c.*:586
T: ***D.regia*** Stephens
S: *D.sect.Psychophila* auct.non Planch: Stephens, Trans.Roy.Soc.S.Af.13:309 (1926) *p.p.*
D.sect.secundistyla Culham, Novon (in press)
D.ser.Eurossolis Diels in Engler & Prantl, Nat.Pflanzenfam.2.ed.17b:781 (1936) *p.p.*
Sufficient palynological reasons for subgeneric separation of this primitive S African species have been presented by Takahashi & Sohma (1982), already.

D.subgen.Coelophylla (Planch.) Schlauer *stat. nov.*
BN: *D.sect.Coelophylla* Planch., Ann.sci.nat.3.ser.9:93 (1848)
T: ***D.glanduligera*** Lehm.
The obviously primitive pollen type does not allow inclusion of this Australian species in ***subgen.Drosera.***

D.subgen.Lasiocephala (Planch.) Schlauer *stat. nov.*
BN: *D.sect.Lasiocephala* Planch, Ann.sci.nat.3.ser.9:93 (1848)
T: ***D.petiolaris*** R.Br.
S: *D.sect.Rorella* DC., *l.c.*:317 *p.p.*
D.sect.Ergaleium DC., *l.c.*:319 *p.p.*
D.sect.Rossolis auct. non Planch.: Diels, (1906):62 *p.p.*
D.sect.Polypeltes Diels, (1906):62 *p.p.*
The most outstanding feature of this subgenus (native to tropical N Australia and New Guinea) is the subpeltate to peltate lamina, not known in any species of ***subgen.Drosera*** proper. The completely peltate lamina alone was sufficient for both Diels (1906) and Marchant (1982) to shift ***D.banksii*** (which was included here by Planchon, 1848) to ***subgen.Ergaleium***. Kondo & Lavarack (1982) have shown by cytological similarity that this species is closest to the ***D.petiolaris*** complex. Morphological features (presence of stipules and absence of tuber) have led Seine & Barthlott (1994) to the same conclusion. Another important argument is style morphology.
Of all subgenera segregated here, this is the closest to ***subgen.Drosera***, but in the present situation a separation seems favourable.
As the lamina margin of ***D.neocaledonica*** (endemic to New Caledonia) is continuous with the petiole margin, this species (formerly included here because of dubious stipule and indumentum features by Diels, 1906) should be shifted to ***subgen.Drosera*** (***sect.Oosperma***).

D.subgen.Drosera
S: *D.sect.Rorella* DC., *l.c. p.p. nom. superfl.* (cf. ***D.subgen.Bryastrum***)
S: *D.subgen.Rorella* (DC.) Diels, (1906):92 *nom. superfl.*
(cf. ***D.subgen.Bryastrum***)

D.subgen.D.sect.Prolifera C.White, Vict.Nat.57:94 (1940)
T: ***D.prolifera*** C.White
S: *D.sect.Drosera* auct. non L.: Seine & Barthlott, *l.c.*:584 *p.p.*
D.sect.Arachnopus auct. non Planch.: Diels, (1906):77 *p.p.*
This section includes not only ***D.prolifera*** but also ***D.schizandra*** and ***D.adelae***. These three tropical N Australian species are considered more closely related to each other than is any of them to ***D.indica***, which should be excluded from this section, therefore.

D.subgen.D.sect.Arachnopus Planch., *l.c.*:92
T: ***D.indica*** L.
S: *D.subgen.Arachnopus* (Planch.) Drude, *l.c.*:272

D.sect.Rorella DC., l.c. :319 p.p.
D.sect.Drosera auct.non L.: Seine & Barthlott, *l.c. p.p.*

A single paleotropic species.

D.subgen.D.sect.Ptycnostigma Planch.

BN: *D.sect.Ptycnostigma* Planch., Ann.sci.nat.3.ser.9:92 (1848)
LT: ***D.pauciflora*** Banks ex DC. (Seine & Barthlott, *l.c.*:585)
S: *D.sect.Rorella* DC., *l.c.* :317 *p.p.*
D.sect.Rossolis Planch., *l.c.*:92 *p.p.*
D.sect.Drosera auct. non L.: Seine & Barthlott, *l.c. p.p.*
D.sect.Psychophila Planch., *l.c.*:91
T: ***D.uniflora*** Willd.
D.subgen.Ptycnostigma (Planch.) Diels, (1906):62
BN: *D.sect.Ptycnostigma* Planch.

With the distinguishing features as considered significant here (reduced stipules, but rudiments often visible, frequently thickened roots as storage organs, a tendency to form rather large corollas with wide corolla lobes), the circumscription of this section is widened considerably. It now includes all species of ***subgen.Drosera*** with the stipules adnate to the petiole. A noteworthy rearrangement is the inclusion of the two American species ***D.brevifolia*** (formerly included in ***sect.Drosera***) and especially ***D.uniflora*** (formerly grouped with or near what is considered another subgenus in this treatment, viz. ***Arcturia***). The last mentioned species shows close morphological (incl. palynological) affinities with ***subgen.Drosera***, however, and it is felt that its placement here does more accurately reflect phylogenetic relationship.

D.subgen.D.sect.Oosperma Schlauer *sect.nov.*

Folia stipulis conspicuis obsita. Styli 3, basi bifurcati, deinde integri, stigma integrum vel nonnunquam bilobum, rarissime iterum divisum. Semina ellipsoidea ad ovoidea.

T: ***D.intermedia*** Hayne
S: *D.sect.Rorella* DC., *l.c.* :318 *p.p.*
D.sect.Rossolis Planch., *l.c.*:92 *p.p.*
D.ser.Eurossolis Diels, (1906):81 *p.p.*

This section is a possibly fairly inhomogeneous grouping of all species formerly included in ***sect.Drosera***, but differing from ***D.rotundifolia*** and its allies by the seeds being ovoid rather than fusiform. Further research is necessary to elucidate the natural affinities of this section. In its present circumscription, this section is nearly as widespread as ***sect.Drosera***.

D.subgen.D.sect.Drosera

S: *D.sect.Rorella* DC., *l.c.* :317 *nom. superfl.* (cf. ***D.subgen.Bryastrum***)
D.sect.Rossolis Planch., *l.c. nom.superfl.*
T: ***D.rotundifolia*** L.
D.ser.Eurossolis Diels (1906):81 *nom.superfl.*
T: ***D.rotundifolia*** L.
D.sect.Cripterisma Planch., *l.c.*
T: ***D.hilaris*** Cham. & Schlechtd.
D.sect.Vagae Drude, *l.c.*:271
T: ***D.capensis*** L.

A rather homogeneous grouping, and the only one which has reached a wide distribution on all continents with the exception of Antarctica (however with only few species in the northern hemisphere). Considerable range extensions at least of the

(nearly) circumboreal species must have occurred in rather recent evolutionary times. Some of the youngest species of the genus have to be sought here. The group itself is not necessarily an advanced one, however.

D.subgen.Bryastrum (Planch.). Schlauer *stat. nov.*
BN: *D.sect.Bryastrum* Planch., Ann.sci.nat.3.ser.9:94 (1848)
T: ***D.pygmaea*** DC.
S: *D.sect.Rorella* DC., *l.c. p.p.*
D.subgen.Rorella (DC.) Diels, (1906):81 *p.p.*
D.subgen.Rorella auct. non (DC.) Diels: N.Marchant, Fl.Au. 8:10 (1982) *nom.illeg.*

At generic level, *Rorella* (Hall.ex) Allioni is a superfluous name for ***Drosera***, originally containing only *R.longifolia* (= ***D.anglica***) and *R.rotundifolia* (= ***D.rotundifolia***). As defined by De Candolle, *sect.Rorella* was not assigned a type species, but he evidently considered this to be the typical section (including ***D.rotundifolia***).
Even when elevated to *D.subgen.Rorella* by Diels, it contained ***D.rotundifolia*** (in a separate *sect.Rossolis*, which is a superfluous name for ***sect.Drosera***). Thus, *sect.Rorella* DC., and *subgen.Rorella* (DC.) Diels are superfluous names for ***sect.Drosera*** and ***subgen.Drosera***, respectively.
Selecting a name for a new subgenus including ***D.pygmaea*** as the type species and excluding ***D.rotundifolia***, N.Marchant chose the name *Rorella*, which included ***D.rotundifolia*** in all of its circumscriptions (v.s.). Violating the original intention of Diels (*Rorella* should include ***D.rotundifolia***), this is considered illegitimate. For these reasons, it is proposed here to elevate the rank of Planchon's *sect.Bryastrum*, and thus to retain the type of N.Marchant's *subgen.Rorella*, but replace it with a legitimate name.
When elevated to subgenus (because of style morphology and the unique formation of asexual propagules called gemmae), this purely SW Australian (***sect.Lamprolepis***) or SE Australian to New Zealandic group (***sect.Bryastrum***, monotypic) group includes two subsets, separated from each other geographically as well as morphologically.
Even if the value of sectional distinction has been doubted in recent times (cf. Cheek, 1990), it is considered necessary in the context of the present grouping (especially compared with the other sections recognized here).

D.subgen.Bryastrum sect.Bryastrum Planch., *l.c.*:94
S: *D.sect.Rorella* DC., *l.c. p.p.*
D.sect.Rorella auct. non DC.: N.Marchant, *l.c.*

D.subgen.Bryastrum sect.Lamprolepis Planch., *l.c.*:93
T: ***D.platystigma*** Lehm.
S: *D.sect.Rorella* DC., *l.c. p.p.*
D.sect.Bryastrum auct. non Planch.: Seine & Barthlott, *l.c.*:585 *p.p.*

D.subgen.Phycopsis (Planch.) Schlauer, *stat. nov.*
BN: *D.sect.Phycopsis* Planch., Ann.sci.nat.3.ser.9:93 (1848)
T: ***D.binata*** Labill.
S: *D.sect.Ergaleium* DC., *l.c.* :319 *p.p.*

A monotypic subgenus (from E Australia to New Zealand) intermediate between the previous subgenera and those below, but closer to the last (by phytochemistry, style morphology). It is unique at first glance (forked lamina!), and it cannot be united with any of these.

D.subgen.Ergaleium (DC.) Drude, *l.c.* :271
BN: *D.sect.Ergaleium* DC., Prodr.1:319 (1824)
T: *D.menziesii* R.Br. ex DC.

The most natural grouping of all recognized here, sharing (apparently with one notable exception) corm formation and basally multipartite style branches, and almost

endemic to Australia, only two species reaching New Zealand (***D.peltata ssp.auriculata***) tropical Asia (***D.p.ssp.peltata***) and even E Africa (***D.insolita***, almost certainly a recent -synanthropous?- range extension). The systematic tripartition by DeBuhr (1977) has not been doubted since.

D.subgen.Ergaleium sect.Ergaleium

S: *D.sect.Polypeltes* Diels, (1906):62 *p.p. nom.superfl.*
T: ***D.menziesii*** R.Br. ex DC.
D.ser.Scutelliferae Planch., *l.c.*:95 *nom.superfl.*
T: ***D.menziesii*** R.Br. ex DC.
D.ser.Luniferae Planch., *l.c.*
T: ***D.peltata*** Thunb.

D.subgen.Ergaleium sect.Stolonifera (Planch.) DeBuhr, Austral.J.Bot.25:215 (1977)
BN: *D.subser.stoloniferae* Planch., Ann.sci.nat.3.ser.9:95 (1848)
T: ***D.stolonifera*** Endl.

D.subgen.Ergaleium sect.Erythrorhiza (Planch.) Diels, (1906):62
BN: *D.ser.erythrorhizae* Planch., Ann.sci.nat.3.ser.9:95 (1848)
T: ***D.erythrorhiza*** Lindley
S: *D.ser.rosulatae* Lehm., Pugill.8:36 (1844)
T: ***D.rosulata*** Lehm.
D.subser.rosulatae (Lehm.)Planch., *l.c.*
BN: *D.ser.rosulatae* Lehm.

New combinations in ***Drosera*** L.

In dealing with the whole genus on a world wide basis, the circumscriptions of ranks should preferably be comparable to each other. Theoretical as well as practical reasons necessitate alterations of rank in several taxa. For infraspecific subdivision as proposed here, subspecies are allopatric, whereas varieties are sympatric. The rank of form does not seem applicable in a genus as variable as ***Drosera***.

D.barbigera subsp.silvicola (Lowrie & Carlquist) Schlauer *comb. & stat. nov.*
BN: *D.silvicola* Lowrie & Carlquist, Phytologia 73:105 (1992)
T: 7 km S N Bannister on the Albany Hwy., W.A., 11. 11. 1991, A.Lowrie 513 (PERTH)

D.citrina var.nivea (Lowrie & Carlquist) Schlauer *comb. & stat.nov.*
BN: *D.nivea* Lowrie & Carlquist, Phytologia 73:104 (1992)
T: beside Midlands Rd., 37.3 km SE Carnamah, ca. 10 km SE of Coorow, W. A., 22. 9. 1990, A.Lowrie 278 (PERTH)

D.dichrosepala subsp.enodes (N.Marchant & Lowrie) Schlauer *comb. & stat.nov.*
BN: *D.enodes* N.Marchant & Lowrie, Kew Bull.47:323 (1992)
T: NE Augusta, junction of Courtney Road and Scott River Road, W.A., 9. 11. 1983, A.Lowrie 83/049 (PERTH)

D.parvula subsp.sargentii (Lowrie & N.Marchant) Schlauer *comb. & stat. nov.*
BN: *D.sargentii* Lowrie & N.Marchant, Nuytsia 8:330 (1992)
T: Junction of Stockyard Road & Merivale Road, SE corner, c. 20 km E Esperance, W.A., 22. 11. 1989, A.Lowrie s.n. (PERTH)

D.paleacea subsp.stelliflora (Lowrie & Carlquist) Schlauer *comb. & stat. nov.*
BN: *D.stelliflora* Lowrie & Carlquist, Phytologia 73:107 (1992)

T: at motocross track, E end of N Jindong Rd., S Busselton, W.A., 24. 11. 1990, A.Lowrie 204 (PERTH)

D.paleacea subsp.leioblastus (N.Marchant & Lowrie) Schlauer *comb. & stat.nov.*
BN: *D.leioblastus* N.Marchant & Lowrie, Kew Bull.47:325 (1992)
T: Brand Highway, 14.3 km NW Cataby, W.A., 29. 9. 1985, A.Lowrie 85/084 (PERTH)

D.paleacea subsp.roseana (N.Marchant & Lowrie) Schlauer *comb. & stat.nov.*
BN: *D.roseana* N.Marchant & Lowrie, Kew Bull.47:327 (1992)
T: Millbrook Road, 5 km E Albany Highway, W.A., 7. 10. 1987, A.Lowrie 87/025 (PERTH)

D.occidentalis var.microscapa (Debbert) Schlauer *comb. & stat.nov.*
BN: *D.microscapa* Debbert, Mitt.Bot.Staatss.Muenchen 30:377 (1991)
T: S coast of W.A., P.Debbert 94 (M)

D.nitidula var.allantostigma (N.Marchant & Lowrie) Schlauer *stat. nov.*
BN: *D.nitidula subsp.allantostigma* N.Marchant & Lowrie, Kew Bull.47:325 (1992)
T: Brand Highway, 1.3 km N Hill River, W.A., 7. 11. 1987, A.Lowrie 87/056 (PERTH)

D.nitidula var.leucostigma N.Marchant & Lowrie) Schlauer *stat. nov.*
BN: *D.nitidula subsp.leucostigma* N.Marchant & Lowrie, Kew Bull.47:325 (1992)
T: Brand Highway, 14.3 km NW Cataby, W.A., 7. 11. 1987, A.Lowrie 87/058 (PERTH)

D.gigantea var.geniculata (N.Marchant & Lowrie) Schlauer *stat. nov.*
BN: *D.gigantea subsp.geniculata* N.Marchant & Lowrie, Kew Bull.47:316 (1992)
T: 2 km N Brennans Ford on Scott River Road, W.A., 16. 9. 1984, A.Lowrie s.n. (PERTH)

D.stricticaulis subsp.eremaea (N.Marchant & Lowrie) Schlauer *comb.nov.*
BN: *D.macrantha subsp.eremaea* N.Marchant & Lowrie, Kew Bull.47:318 (1992)
T: 30 km S Mt. Magnet, W.A., 1. 7. 1984, A.Lowrie 84/072 (PERTH)

One apparently new variety of ***D.nitidula*** (confused with ***D.n.subsp.omissa*** by A.Lowrie in Carniv. Pl. of Australia 2,1989) cannot be given a valid name at present because no specimen was cited. This is symbolized by "var.?" in the key.

The "collective species" ***D.capillaris***, ***D.montana*** and ***D.leucoblasta*** need a reinvestigation. As long as this is not performed, it is assumed best to maintain the names and ranks which were used as the "microspecies" were first described (with some exceptions in ***D.montana***). Also, a thorough examination of the widespread and polymorphic species ***D.spatulata*** may allow infraspecific subdivision in the future.

A perhaps unusual type of numbering is presented with this key. The position of a digit in a number reflects the position of a corresponding character pair in the key. The value of a digit reflects the character state. Thus, the opposite of

"001100. Lamina lanceolate, 4-7 mm long"

is

"001101. Lamina ovoid or circular, up to 3 mm long"

and vice versa. This kind of numbering has the advantage of facilitating direct comparison and identification of the difference between any two given taxa by just comparing their appropriate numbers, e.g.:

"1011011. (...)
D.macrantha Endl."

and

(***D.stricticaulis***...)
"1010101. (...)
subsp.eremaea (N.Marchant & Lowrie) *comb.nov.*"

The most significant different digit (in this case at 4. position) indicates the specific difference between the two, i.e.:

"1011. Styles divided to base but not apically"

vs.

"1010. Styles divided to base and apically plurifid"

Key to the genus ***Drosera*** L.

0. Plants without corms, stipules present or styles basally bipartite or entire, leaves never peltate
00. Lamina entire, never dichotomously branched, styles entire or dichotomously branched and not basally multipartite
000. Styles connate or divided or at least stigmatic apex flabellately multifid or dichotomously branched, no asexual propagules (gemmae) formed
0000. Gynoeceum 5-merous
Subgen.Thelocalyx (Planchon) *stat.nov.*
00000. Leaves obovate, longer than 12 mm, stigmata dichotomously divided
D.sessilifolia St.Hil.
00001. Leaves cuneate, shorter than 12 mm, stigmata flabellately multifid
D.burmannii Vahl
0001. Gynoeceum 3-merous
00010. Leaves exstipulate, leaf base sheating, flowers single, rarely 2- 3, pedicels glabrous, petals not upturning and uniting after anthesis
Subgen.Arcturia (Planch.) *stat. nov.*
000100. Leaves linear, lamina continuous with petiole, sepals oblong, not much shorter than petals
D.arcturi Hook.
000101. Lamina spathulate, sepals scarcely longer than wide, much shorter than petals
D.stenopetala Hook.f.
00011. Leaves not sheating, petals upturning and uniting after anthesis

000110. Styles connate for at least 1/2 of their length
Subgen.Stelogyne (Diels) *stat.nov.*
D.hamiltonii C.R.P.Andrews
000111. Styles not connate, divergent from base
0001110. Styles not divided below stigmatic area
00011100. Flowers single, stem branched, stipules present, leaves petiolate, lamina oblanceolate and up to 5 cm long
Subgen.Meristocaulis (Maguire & Wurdack) *stat. nov.*
D.meristocaulis Maguire & Wurdack
00011101. Flowers mostly not single, stem not branched, stipules absent, petioles indistinct, lamina linear, usu. longer than 20 cm
Subgen.Regiae Seine & Barthlott
D.regia Stephens
0001111. Styles divided below stigmatic area
00011110. Floral bracts absent, inflorescence many-flowered, styles repeatedly dichotomously divided
000111100. Scapes glandular, lamina not subpeltate-peltate
Subgen.Coelophylla (Planch.) *stat. nov.*
D.glanduligera Lehm.
000111101. Scapes eglandular pubescent, lamina subpeltate-peltate
Subgen.Lasiocephala (Planch.) *stat. nov.*
0001111010. Stems elongate, ascending
D.banksii R.Br.
0001111011. Stems short, acaulescent
00011110110. Tomentum consisting of single or shortly branched hairs
000111101100. Petioles narrower than 5 mm
0001111011000. Stigma branched from centre, petioles broader than 1 mm in the broadest point
D.dilatatopetiolaris Kondo
0001111011001. Stigma branched from base, petioles up to 1 mm wide
D.petiolaris R.Br.ex DC.
000111101101. Petioles broader than 5 mm
D.falconeri Tsang ex Kondo
00011110111. Tomentum of dendritic hairs, woolly
000111101110. Petiole linear with a maximum width 1-1.5 mm; lamina 2-2.5 mm long, 2.5-3 mm wide; pedicels 1.5-2.5 mm long
D.lanata Kondo
000111101111. Petiole oblanceolate with a maximum width 2-4 mm; lamina 3-4 mm long, 3.5-5 mm wide; pedicels 2-4.5 mm long
D.ordensis Lowrie
00011111. Floral bracts present or inflorescence single flowered
Subgen.***Drosera***
000111110. Seeds ovoid or ellipsoid, testa not produced beyond embryo
0001111100. Stipules absent, reduced to two lateral trichomes or rarely present, if stipules present leaves with short indistinct petioles and large, broad laminae and anther thecae separated by large connective and petals scarcely reaching sepals in length
00011111000. Anther thecae separated by large connective, petals scarcely reaching sepals in length
Sect.Prolifera C.White
000111110000. Leaves with very short, indistinct petioles, lamina longer than wide, stipules conspicuous
0001111100000. Lamina pointed apically, broadest near the centre
D.adelae F.Muell.
0001111100001. Lamina truncate to emarginate apically, broadest near apex

D.schizandra Diels

000111110001. Leaves distinctly petiolate, lamina reniform, stipules reduced to lateral, gland-tipped trichomes

D.prolifera C.White

00011111001. Anther thecae not separated by large connective, petals longer than sepals

000111110010. Inflorescence arising laterally from ascending stem and bearing usu. more than 6 flowers, roots not thickened as storage organs

Sect.Arachnopus Planch.

D.indica L.

000111110011. Inflorescence arising centrally from basal rosette or terminal on ascending stem with up to 4 flowers, roots thickened as storage organs if stems ascending

Sect.Ptycnostigma Diels

0001111100110. Stipules present, adnate for their whole length with the exception of two inconspicuous lateral setae, cauline leaves absent

00011111001100. Petals shorter than 8 mm or scape absent

000111110011000. Scape conspicuous

0001111100110000. Seeds papillate

D.brevifolia Pursh

0001111100110001. Seeds favose

00011111001100010. Leaves distinctly petiolate, lamina spathulate-orbicular, scape glabrous

D.uniflora Willd.

00011111001100011. Leaves sessile, lamina cuneate, scape glandular-pilose

D.trinervia Spreng.

000111110011001. Scape absent, flowers almost sessile

D.acaulis L.f.

00011111001101. Petals longer than 10 mm, scape conspicuous

D.pauciflora Banks ex DC.

0001111100111. Stipules absent, cauline leaves present

D.cistiflora L. *s.l.*

00011111001110. Petals up to 20 mm long, with a dark base

D.cistiflora L. *s.str.*

00011111001111. Petals up to 10 mm long, without dark base

D.alba Phill.

0001111101. Stipules always present and conspicuous, if adnate then lateral stipule-segments large and divided and leaves with long and narrow laminae and petals longer than sepals

Sect.Oosperma *sect.nov.*

00011111010. Seeds papillate

000111110100. Stipules adnate to petiole for their whole length, laminae more than 4 times as long as wide

000111110101010. Petioles distinct 2-5 cm long

D.linearis Goldie

000111110101011. Petioles indistinct, almost absent

D.filiformis Raf.

0001111101010110. Leaves up to 25 cm long, stamina up to 7 mm long, glands on leaves red

var.filiformis

0001111101010111. Leaves up to 50 cm long, stamina longer than 8 mm, glands on leaves green

var.tracyi (Macf.) Diels

000111110101. Stipules adnate to petiole for up to 1/2 of their length, laminae not more than 3 times as long as wide

0001111101010. Seeds crateriform-papillate, scapes erect, petiole distinct

00011111010100. Scapes glabrous or inconspicuously glandular-puberulent

000111110101000. Plants forming stems covered by remains of dead leaves

D.hirticalyx R.Duno & Culham

000111110101001. Plants with +/- flat rosette, not forming stems

D.capillaris Poir. *s.lat.*

0001111101010010. Scapes longer than 5 cm, sepals longer than 2 mm

D.capillaris Poir. *s.str.*

0001111101010011. Scapes shorter than 5 cm, sepals shorter than 2 mm

D.tenella Willd. ex Roem. & Schult.

00011111010101. Scapes with conspicuous indumentum

000111110101010. Scapes glandular-pilose

D.panamensis Correa & A.S.Taylor

000111110101011. Scapes eglandular pilose

D.colombiana Fernandez-Perez

0001111101011. Seeds bullate to muricate-papillate, scapes ascending, plants acaulescent and petiole gradually widening into lamina, or +/- ascendidng with distinct petioles

00011111010110. Seed papillae shallow and inconspicuous (seeds almost foveolate- reticulate), scapes pubescent, mostly also glandular, petioles short, gradually broadening into lamina, plants acaulescent, scapes 1-15 cm long with usu. fewer than 10 flowers,

D.montana St.Hil. *s.l.*

000111110101100. Scapes only inconspicuously ascending with narrow curve at the base

D.montana St.Hil. *s.str.*

0001111101011000. Scape base glandular-pilose

var.montana

0001111101011001. Scape base eglandular-pilose

00011111010110010. Sepals glandular-pilose, scape apex only with +/- stalked glands or glabrous

var.tomentosa (St.Hil.) Diels

00011111010110011. Sepals eglandular-pilose, scape apex eglandular-pilose

var.schwackei Diels

000111110101101. Scapes more conspicuously ascending with wide curve at the base, scapes long eglandular-pilose at base and glandular + eglandular-pilose above

D.hirtella St.Hil.

0001111101011010. Scapes red, strikingly ascending, with shorter red hairs in lower 2/3 or all of the scape, calyx lobes frequently with some eglandular hairs, petioles glabrous or almost so, leaves less numerous, usu. red

var.hirtella

0001111101011011. Scapes yellowish green, more erect, with longer, yellowish hairs in lower 1/2 of the scape, missing or very sparse in upper portion which is mainly glandular hairy, calyx lobes with only glandular hairs, petioles hairy, leaves more numerous, deeper purple red

var.lutescens St.Hil

00011111010111. Seed papillae conspicuous, plants (mostly) ascending or forming stems, petiole distinct, scapes glandular puberulent or glabrous

000111110101110. Plants forming stems covered with remains of dead leaves, scapes glandular puberulent, 10-25 cm long, more than 4 times as long as leaves, with usu. more than 10 flowers

D.roraimae (Klotzsch ex Diels) Maguire & Laundon

000111110101111. Plants often caulescent but not covered with remains of dead leaves, scapes glabrous, shorter and not more than twice as long as leaves, with usu. less than 10 flowers

D.intermedia Hayne

00011111011. Seeds foveolate or reticulate

000111110110. Plants ascending, scape erect

0001111101100. Styles apically entire

D.bequaertii Taton

0001111101101. Styles divided apically
D.neocaledonica Hamet

000111110111. Plants acaulescent, leaves in basal rosettes

0001111101110. Scapes erect

00011111011100. Scapes glabrous or inconspicuously glandular puberulent

000111110111000. Sepals shorter than 3 mm
D.esmeraldae (Steyerm.) Maguire & Wurdack

000111110111001. Sepals longer than 3 mm
D.pusilla H.B.K.

00011111011101. Scapes with conspicuous indumentum

000111110111010. Scapes glandular-pilose, petiole gradually widened into lamina

0001111101110100. Petioles setaceous-pilose beneath, lamina narrowly oblanceolate
D.arenicola Steyerm.

00011111011101000. Scapes up to 2 cm long with up to 4 flowers
var.arenicola

00011111011101001. Scapes longer than 2 cm with more than 4 flowers
var.occidentalis Maguire & Wurdack

0001111101110101. Leaves glabrous or sparingly, i.e.not setaceous pilose beneath, lamina obovate
D.cayennensis Sagot ex Diels

000111110111011. Scapes eglandular-pilose, petioles distinct, lamina rotundate- obovate to suborbicular

0001111101110110. Flowers 2-5, peduncle longer than 2 cm
D.kaieteurensis Brumm.-Ding.

0001111101110111. Flowers single, rarely 2, peduncle scarcely 2.5 mm long
D.felix Steyerm.& L.B.Smith

0001111101111. Scapes ascending

00011111011110. Styles thickened basally, tapering towards apex
D.spatulata Labill.

00011111011111. Styles thickening towards apex

000111110111110. Scapes glabrous, stigma divided
D.oblanceolata Y.Z.Ruan

000111110111111. Scapes with tomentum, stigma entire

0001111101111110. Petiole gradually widening into lamina, flowers red
D.dielsiana Exell & Laundon

0001111101111111. Petiole abruptly widening into lamina, flowers white to pale pink

00011111011111110. Scapes glandular
D.burkeana Planch.

00011111011111111. Scapes eglandular-pilose
D.pilosa Exell & Laundon

000111111. Seeds narrowly fusiform with testa produced below and above the embryo

Sect.Drosera

0001111110. Plants acaulescent with basal rosette, if scape glandular then petiole indistinct

00011111100. Scapes glabrous or eglandular pubescent, lamina orbicular to linear, not cuneate, petiole glabrous or sparsely pilose beneath

000111111000. Lamina linear, longer than 1.5 cm
D.anglica Huds.

000111111001. Lamina oblong to orbicular, up to 1 cm long

0001111110010. Lamina oblong, stipules divided to base
D.communis St.Hil.

0001111110011. Lamina orbicular, stipules divided above centre
D.rotundifolia L.

00011111101. Scapes glandular-pilose, petiole indistinct or strigose-

pilose beneath
000111111010. Styles not repeatedly forked, stigma swollen
0001111110100. Petiole indistinct, not strigose-pilose beneath, lamina cuneate
D.cuneifolia L.f.
0001111110101. Petiole distinct
00011111101010. Lamina orbicular-spathulate
D.slackii M.R.Cheek
00011111101011. Lamina linear, about 8 times as long as wide
D.cendeensis Tamayo & Croizat
000111111011. Styles repeatedly forked, stigma not much swollen
0001111110110. Leaves obovate, rounded at apex, thin, flowers light red to white, rosette with 1 layer of green leaves
D.natalensis Diels
0001111110111. Leaves cuneate, +/- triangular, coriaceous, flowers darker red, rosette with several layers of functional leaves
D.aliciae Hamet
0001111111. Plants caulescent, stems at least 2 cm long, if acaulescent then petiole distinct
00011111110. Lamina scarcely 3 times as long as wide
000111111100. Stems very long (usu. 60-90 cm)
D.elongata Exell & Laundon
000111111101. Stems shorter (up to 30 cm)
0001111111010. Leaves evenly spaced on the stem
D.katangensis Taton
0001111111011. Leaves crowded apically on the stem
00011111110110. Petioles +/- densely pilose, especially on the lower surface, leaves reflexed in age
000111111101100. Scapes +/- erect, stipules deeply dissected
D.glabripes (Harv.) Stein
000111111101101. Scapes conspicuously curved basally, stipules lacerated apically
D.madagascariensis DC.
00011111110111. Petioles sparsely pubescent on both surfaces, leaves erect in age
D.affinis Welw.ex Oliv.
00011111111. Lamina at least 4 times as long as wide
000111111110. Stipules divided to base, inconspicuous in the dense tomentum of the stem
D.hilaris Cham.& Schlechtd.
000111111111. Stipules entire at least to centre
0001111111110. Leaf lamina glabrous or pilose, not woolly beneath
00011111111100. Scapes glabrescent
D.humbertii Exell & Laundon
00011111111101. Scapes glandular pilose
000111111111010. Stipules divided into subulate setaceous appendages apically, petioles with rust-brown hairs
D.ramentacea Burch. ex DC.
000111111111011. Stipules slightly cleft apically, nearly entire, petioles glabrescent, not with rust-brown indumentum
D.capensis L.
0001111111111. Lamina with wooly indumentum beneath
00011111111110. Lamina oblong spathulate, up to 2 cm long
D.chrysolepis Taub.
00011111111111. Lamina linear, at least 3 cm long
000111111111110. Lamina scarcely 8 cm long, scapes glabrous
D.villosa St.Hil.
000111111111111. Lamina longer than 10 cm, scapes villous

D.graminifolia St.Hil.

001. Styles never divided, stigmatic apex sometimes broadened or flabellate, asexual propagules (gemmae) usually formed
Subgen.Bryastrum (Planch.) *stat. nov.*

0010. Flowers 4-merous
Sect.Bryastrum
D.pygmaea DC.

0011. Flowers 5-merous
Sect.Lamprolepis Planch.

00110. Stigma confluent with style, not widest near apex, lamina shallow

001100. Lamina lanceolate, 4-7 mm long

0011000. Calyx red-hirsute, corolla orange, leaf lamina 6-7 mm long
D.barbigera Planch.

00110000. Scapes covered with long, lanate, glandular hairs, corolla red or bright orange, black in throat, styles and stigmas black
subsp.barbigera

00110001. Scapes with short, studlike glandular hairs, corolla pink, red in throat, styles red, stigmas white
subsp.silvicola (Lowrie & Carlquist) *comb. & stat. nov*

0011001. Calyx transparent-hirsute, corolla white or pink, leaf lamina 2.5-6 mm long
D.scorpioides Planch.

001101. Lamina ovoid or circular, up to 3 mm long

0011010. Petals emarginate, 3 mm long
D.eneabba N.Marchant & Lowrie

0011011. Petals ovate or longer than 3 mm

00110110. Styles 5, filiform and horizontal, stipule-cluster angled and acute or petioles flattened and 2-2.5 mm wide

001101100. Stipule-cluster angled, acute, petioles narrower than 1 mm
D.androsacea Diels

001101101. Stipule-cluster ovoid, petioles flattened, 2-2.5 mm wide
D.pulchella Lehm.

00110111. Styles 3-4, very rarely 5, stipule-cluster not angled, petioles up to 1 mm wide

001101110. Stipule-cluster compact and hemispherical
D.pycnoblasta Diels

001101111. Stipule-clusters tipped, not compact and hemispherical

0011011110. Petals white, mostly yellow in outer half, petiole minutely glandular on upper surface only, style+stigma filiform, not thickened
D.citrina Lowrie & Carlquist

00110111100. Flowers with petals yellow in outer half
var.citrina

00110111101. Flowers white
var.nivea (Lowrie & Carlquist) *comb. & stat.nov.*

0011011111. Flowers white, pink or orange, never yellow, petiole glandular beneath, marginally, on both surfaces, or glabrous, style+stigma slightly thickened

00110111110. Scapes 4.5-12 cm long, sepals not reflexed in flower, petals (5-) 7-10 mm long, orange, white, or pink
D.leucoblasta Benth. *s.l.*

001101111100. Fruiting pedicels all erect

0011011111000. Style+stigma tapering from base

00110111110000. Flowers orange
D.echinoblastus N.Marchant & Lowrie

00110111110001. Flowers white or pink
D.helodes N.Marchant & Lowrie

0011011111001. Style+stigma widest near centre

00110111110010. Stipule-cluster 4 mm long, stipules multipartite
001101111100100. Flowers orange
D.callistos N.Marchant & Lowrie
001101111100101. Flowers white or pink
D.closterostigma N.Marchant & Lowrie
00110111110011. Stipule-cluster 7 mm long, compact and smooth
D.leucoblasta Benth. s.str.
001101111101. Fruiting pedicels reflexed
0011011111010. Petals pandurate
00110111110100. Flowers orange
D.miniata Diels
00110111110101. Flowers white or pink
D.walyunga N.Marchant & Lowrie
0011011111011. Petals obovate
D.spilos N.Marchant & Lowrie
00110111111. Scapes up to 5 cm long or sepals reflexed in flower, petals never orange
001101111110. Petals up to 6.5 mm long, dark pink
D.lasiantha Lowrie & Carlquist
001101111111. Petals shorter than 6 mm, white, sometimes with pink spots
0011011111110. Flowers usu. fewer than 15, well-spaced
00110111111100. Sepals reflexed in flower
D.dichrosepala Turcz.
001101111111000. Peduncle, pedicels, and base of sepals minutely glandular puberulent
subsp.dichrosepala
001101111111001. Peduncle, pedicels, and sepals glabrous
subsp.enodes (N.Marchant & Lowrie) *comb. & stat.nov.*
00110111111101. Sepals not reflexed in flower
001101111111010. Petals narrowly obovate, without pink spots
0011011111110100. Petiole widest near center, sepals elliptic
D.oreopodion N.Marchant & Lowrie
0011011111110101. Petiole widest near base, sepals orbicular
D.grievei Lowrie & N.Marchant
001101111111011. Petals broadly obovate, with pink spots
D.parvula Planch.
0011011111110110. Innermost fringe of lateral lobes of stipule produced into seta up to 2 mm long, pedicels erect in fruit
subsp.parvula
0011011111110111. Innermost fringe of lateral lobes of stipule produced into 5 mm long seta, pedicels pendulous in fruit
subsp.sargentii (Lowrie & N.Marchant) *comb. & stat. nov.*
0011011111111. Flowers more than 20, crowded, seemingly in several rows
D.paleacea DC.
00110111111110. Scapes minutely glandular puberulent to glabrous
001101111111100. Petiole up to 5 mm long, petals obovate
subsp.paleacea
001101111111101. Petiole 10 mm long, petals lanceolate
subsp.stelliflora (Lowrie & Carlquist) *comb. & stat. nov.*
00110111111111. Scapes with hairy pubescence
001101111111110. Scapes covered with eglandular pubescence
subsp.trichocaulis (Diels) N.Marchant & Lowrie
001101111111111. Scapes covered with glandular pubescence
0011011111111110. Stipules 3-cleft, forming compact clusters
subsp.leioblastus (N.Marchant & Lowrie) *comb.*

& stat.nov.

0011011111111111. Stipules multifid, forming loose clusters
subsp.roseana (N.Marchant & Lowrie) *comb. & stat.nov.*

00111. Style abruptly widened into a flattened stigma or stigma clavate and widest near apex and lamina deeply concave

001110. Stigma clavate, not knob-like or ovate, lamina deeply concave

0011100. Styles 3, lamina elliptic, inflorescence with usu. more than 10 flowers
D.rechingeri Strid

0011101. Styles 5, lamina circular, inflorescence usu. with fewer than 10 flowers
D.occidentalis Morrison

00111010. Rosette loosely open with 5-8 leaves, scapes c. 1 cm long with 1- 2 flowers
subsp.occidentalis

001110100. Lateral lobes of stipules entire
var.occidentalis

001110101. Lateral lobes of stipules two-cleft
var.microscapa (Debbert) *comb. & stat.nov.*

00111011. Rosette compact with 20-30 leaves, scapes c. 2.5 cm long with 1-8 flowers
subsp.australis N.Marchant & Lowrie

001111. Style abruptly widened into stigma, stigma sometimes only knob- like or ovate, lamina shallow

0011110. Gemmae with warts at apex, stigma ovoid or knob-like

00111100. Stigma ovoid to oblong, inflorescence bracteate, gemmae flattened laterally

001111000. Style and stigma dark, flowers orange
D.platystigma Lehm.

001111001. Style and stigma white, flowers white or pink
D.mannii Cheek

00111101. Stigma knob-like, inflorescence ebracteate, gemmae flattened dorsiventrally

001111010. Styles 3
D.hyperostigma N.Marchant & Lowrie

001111011. Styles 5
D.sewelliae Diels

0011111. Gemmae with a stalked gland at apex, stigma peltate, circular or allantoid-reniform
D.nitidula Planch.

00111110. Stigma allantoid-reniform
subsp.nitidula

001111100. Leaf lamina up to 2.5 mm long, orbicular

0011111000. Stigma reddish

00111110000. Stigma reniform
var.nitidula

00111110001. Stigma allantoid
var.allantostigma (N.Marchant & Lowrie) *stat. nov.*

0011111001. Stigma white
var.leucostigma (N.Marchant & Lowrie) *stat. nov.*

001111101. Leaf lamina 3-5 mm long, spathulate
var.?

00111111. Stigma circular

subsp.omissa (Diels) N.Marchant & Lowrie

01. Lamina dichotomously branched, styles basally multipartite

Subgen.Phycopsis (Planch.) *stat.nov.*

D.binata Labill.

1. Plants with corms and/or leaves peltate, styles multipartite, stipules always absent

Subgen.Ergaleium DC.

10. Leaves peltate, cauline, basal rosette sometimes present, lowermost leaf whorls not fimbriate-eglandular

Sect.Ergaleium

100. Leaves usu. not 3 together, stem glabrous, sometimes branching, sepals glabrous, if sepals not totally glabrous plants erect

1000. Sepals at least marginally deeply fringed and/or glandular or sepals pilose on the whole surface, if sepals glabrous lamina distinctively crescentic and plants less tan 0.5 m tall, few branched with few prophylls

10000. Leaves not crescentic, but sometimes reniform

100000. Sepals glandular throughout

D.marchantii DeBuhr

1000000. Basal bracts few, flowers pink

subsp.marchantii

1000001. Basal bracts numerous, flowers white

subsp.prophylla N.Marchant & Lowrie

100001. Sepal margins deeply fringed and/or glandular

1000010. Flowers usu. 5-merous, sepals deeply fringed and/or glandular marginally

10000100. Lamina campaniform-concave, pointing downwards

D.huegelii Endl.

10000101. Lamina reniform, pointing horizontally outwards

100001010. Bracts present, inflorescence with up to 5 flowers, styles irregularly divided

D.bulbigena C.Morrison

100001011. Bracts absent, inflorescence with more than 5 flowers, styles divided to base into c. 18 flattened filiform segments, c. 12 horizontal and upturning, the others erect

D.radicans N.Marchant

1000011. Flowers with usu. 8 sepals, petals, and stamina, sometimes more, sepals marginally non-stalked glandular

D.heterophylla Lindl.

10001. Leaves distinctively crescentic

100010. Bracts dentate apically, cauline leaves rarely developped

D.insolita Taton

100011. Bracts not dentate apically, cauline leaves developped

1000110. Lamina of basal leaves transversely elliptic, flat, inflorescence 5-20 flowered, erect stem straight

10001100. Petioles of lower cauline leaves appressed to stem, 1-1.5 mm long, petioles of upper cauline leaves semierect, 4-7 mm long

D.bicolor Lowrie & N.Marchant

10001101. Petioles of cauline leaves all semierect, 12 mm long

D.peltata Thunb.

100011010. Seeds usu. narrow ellipsoid 0.3-0.5 mm long, basal unbranched part of style 0.1-0.3 mm long, sepals 2-4 mm long, hairy or glabrous, petals 5-6 mm long

subsp.peltata

100011011. Seeds narrow linear 0.5-1 mm long, basal part of style 0.3-0.5 mm long, sepals 3-6 mm long, glabrous, petals 5- 8 mm long

subsp.auriculata (Backh.ex Planch.) Conn

1000111. Lamina of basal leaves flabellate, folded, inflorescence 1-2

flowered, erect stem flexuous

D.salina N.Marchant & Lowrie

1001. Sepals totally glabrous, if lamina crescentic plants many-branched, up to 1 m tall with many prophylls

10010. Stem usu. branching and/or inflorescence branched, sepals not iridescent green

100100. Lamina crescentic or reniform

1001000. Lamina distinctively crescentic, more than 4 mm wide, uppermost prophylls without lamina, sepals more than 2 mm long, styles up to 0.8 mm long

D.gigantea Lindl.

10010000. Leaves and lateral branches bent towards apex of branch or stem, stem erect

var.gigantea

10010001. Leaves and lateral branches sometimes bent towards base of branch or stem, stem flexuose

var.geniculata (N.Marchant & Lowrie) *stat. nov.*

1001001. Lamina broadly reniform, less than 2 mm wide, uppermost prophylls with undeveloped lamina, sepals up to 2 mm long, styles longer than 1 mm

D.graniticola N.Marchant

100101. Lamina orbicular

1001010. Inflorescence branched, petals 4-6 mm long, corm present

D.myriantha Planch.

1001011. Inflorescence not branched, petals up to 4 mm long, corm apparently absent or inconspicuous

D.subtilis N.Marchant

10011. Stem and inflorescence usu. not branched, lamina orbicular, sepals iridescent green

D.microphylla Endl.

101. Leaves usu. 3 together, stem never branching or very rarely few- branched, sepals glandular-pilose throughout, if sepals glabrous plants climbing

1010. Styles divided to base and apically plurifid

10100. Basal leaf rosette present

D.andersoniana Fitzg.ex Ewart & White

10101. Basal leaves absent

101010. Stem erect, lamina orbicular

D.stricticaulis (Diels) O.H.Sargent

1010100. Basal adventitious stolons absent

subsp.stricticaulis

1010101. Basal adventitious stolons present

subsp.eremaea (N.Marchant & Lowrie) *comb.nov.*

101011. Stem climbing or lamina crescentic

1010110. Lamina orbicular, petals yellow

D.subhirtella Planch.

10101100. Sepals hirsute

subsp.subhirtella

10101101. Sepals glabrous

subsp.moorei (Diels) N.Marchant

1010111. Lamina crescentic, petals white, pink, or pale yellow

10101110. Stem glabrous, sepals 5-7 mm long

D.neesii Lehm.

101011100. Leaves yellow green, stem up to 1.5 mm in diameter, petals pale yellow

subsp.neesii

101011101. Leaves red, stem more tan 1.5 mm in diameter, petals pink

subsp.borealis N.Marchant

10101111. Stem glandular, sepals 3-5 mm long

D.modesta Diels

1011. Styles divided to base but not apically
10110. Petals obovate, white, corm white
101100. Lamina reniform
D.erythrogyne N.Marchant & Lowrie
101101. Lamina circular
1011010. Stem glabrous, flexuose, sepals only marginally glandular, ovary red
D.pallida Lindl.

1011011. Stem glandular pubescent, straight, sepals glandular pilose on whole surface, ovary green
D.macrantha Endl.
10111. Petals cuneate, red, pink or rarely white ageing pink, corm red or pink
D.menziesii R.Br.ex DC.
101110. Leaves at base of stem not crowded
1011100. Petals not white, sepals fimbriate
10111000. Stolon below ground up to 10 cm long, corm red
subsp.menziesii
10111001. Stolon below ground up to 45 cm long, corm white blushed pink
subsp.penicillaris (Benth.) N.Marchant & Lowrie
1011101. Petals white, ageing pink, sepals distally fimbriate
subsp.thysanosepala (Diels) N.Marchant
101111. Leaves at base of stem crowded, forming a closed cylinder
subsp.basifolia N.Marchant & Lowrie
11. Leaves not peltate or lowermost whorls fimbriate-eglandular
110. Cauline leaves present
Sect.Stolonifera DeBuhr
1100. Lowermost whorls of leaves fimbriate-eglandular, cauline leaves peltate
D.fimbriata DeBuhr
1101. Lowermost leaves neither fimbriate nor eglandular, cauline leaves with the margins of petiole and lamina confluent
11010. Cauline leaves whorled, stigmas clustered in two groups, one erect, the other spreading horizontally
D.stolonifera Endl.
110100. Lamina of the upper leaves obovate or reniform
1101000. Leaves and stems red, yellow-red, or dark green
11010000. Lateral branches erect or absent
110100000. Rosette leaves transversely elliptic, upper leaves with petioles up to 5 mm long
subsp.stolonifera
110100001. Rosette leaves spathulate, upper leaves with petioles 10-30 mm long
1101000010. Petals pink, secondary cormiferous stolons present
subsp.monticola Lowrie & N.Marchant
1101000011. Petals white, secondary stolons absent
subsp.compacta N.Marchant & Lowrie
11010001. Lateral branches prostrate
subsp.prostrata N.Marchant
1101001. Leaves and stems light green or yellow-green
11010010. Leaves light green, lamina 5-8 mm long
subsp.rupicola N.Marchant
11010011. Leaves yellow-green, lamina 2-4 cm long
subsp.humilis (Planch.) N.Marchant
110101. Lamina of the upper leaves orbicular with a wedge shaped incision

subsp.porrecta N.Marchant & Lowrie

11011. Cauline leaves not whorled, stigmas not grouped conspicuously into 2 groups

110110. Stems usu. 2, inflorescence arising from basal rosette
D.ramellosa Lehm.

110111. Stems single, inflorescence terminal
D.platypoda Turcz.

111. Cauline leaves absent, all leaves in flat basal rosette
Sect.Erythrorhiza (Planch.) Diels

1110. Scapes many-flowered or leaves 2.5-10 cm long

11100. Scape single, cymose, erect in flower and fruit, leaves broadly spathulate or flabellate, up to 5 cm long

111000. Lamina broadly spathulate, green, red, or green with a red midrib
D.erythrorhiza Lindl.

1110000. Midrib of leaves not raised

11100000. Flowering after leaves are well developed

111000000. Leaf lamina broadly obovate, almost flabellate 3 cm long and wide
subsp.erythrorhiza

111000001. Leaf lamina obovate, elliptic or oblong, to 6 cm long
subsp.collina N.Marchant & Lowrie

11100001. Flowering before leaves develop
subsp.squamosa (Benth.) N.Marchant & Lowrie

1110001. Midrib of leaves slightly raised
subsp.magna N.Marchant & Lowrie

111001. Lamina flabellate, distal margin red
D.zonaria Planch.

11101. Scapes 3-40 or if 1 prostrate in fruit, single-flowered or with up to 6 flowers, leaves spathulate to obovate, 2-10 cm long, often reddish

111010. Scapes erect in fruit, leaves sessile
D.macrophylla Lindl.

1110100. Scapes 2-4-flowered
subsp.macrophylla

1110101. Scapes 1-flowered
subsp.monantha Lowrie & Carlquist

111011. Scapes prostrate in fruit, leaves petiolate
D.prostratoscaposa Lowrie & Carlquist

1111. Scapes single-flowered, rarely 2-flowered, leaves 0.8-3.5 cm long

11110. Petals 5-10 mm long, leaves entire

111100. Midrib of leaves raised

1111000. Styles short, tubaeform
D.tubaestylis N.Marchant & Lowrie

1111001. Styles filiform

11110010. Styles divided, scape erect in fruit, flowering at the end of the rainy season
D.browniana Lowrie & Carlquist

11110011. Styles entire, scape secund in fruit, flowering at the beginning of the rainy season
D.bulbosa Hook.

11110010. Calyx punctate, lamina to 2.5 cm long
subsp.bulbosa

11110011. Calyx not punctate, lamina up to 5.5 cm long
subsp.major (Diels) N.Marchant & Lowrie

111101. Midrib of leaves depressed

1111010. Leaves obovate, almost sessile
D.rosulata Lehm.

1111011. Leaves spathulate or orbicular, petiolate
11110110. Leaves spathulate, petioles gradually broadening into lamina, crowded more than 10
D.lowriei N.Marchant
11110111. Leaves orbicular, petioles abruptly broadened into lamina, 4-6
D.orbiculata N.Marchant & Lowrie
11111. Petals 10-12 mm long, leaves crenate-dentate apically
D.whittakeri Planch.
111110. Plants without stolons
subsp.whittakeri
111111. Plants with cormiferous stolons
subsp.aberrans Lowrie & Carlquist

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Saturday, 17 May	
8.00am-5.00pm	6 Speakers throughout the day followed by ABG cp collection tour
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8.30am-3.45pm	6 Speakers throughout the day
Monday, 19 May - Tuesday, 20 May	Two day field trip to visit cps in Georgia and surrounding states

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