

KEY TO CROTON IN SOUTHERN BRAZIL

- 1 Indumentum of foliage never truly lepidote (radii may be in one plane)
- 2 Leaves unlobed or slightly lobed
 - bisexual
 - 3 Lower nodes of/inflorescence with both staminate and pistillate flowers; leaves glandular at base. CYCLOSTIGMA
 - 4 Styles 4-fid to multifid subsect. Palanostigma
 - 5 Leaves distinctly palmatinerved
 - 6 Stamens 50 or more; seeds ribbed
 - 7 Stems and foliage densely floccose; petioles 2.5-5 mm thick; stamens c. 100 vulnerarius
 - 7 Stems and foliage less densely floccose, the petioles 1-2 mm thick; stamens 50-70
 - 8 Fruiting sepals c 3 mm celtidifolius
 - 8 Fruiting sepals 7-8 mm alchorneicarpus
 - 6 Stamens less than 25; seeds smooth sphaerogynus
 - 5 Leaves pinnatinerved; stamens less than 25 piptocalyx priscus
 - 4 Styles bifid; stamens 15-20; leaves + ant. Stipules subulate; stamens c. 30; lvs. glandular-ciliate macrobotrys urucurana
 - 7 Stipules foliose; filaments pilose urucurana
 - 7 Stipules narrow; filaments glabrous paulinianus sancti-pauli?
 - 3 Lower nodes of bisexual inflorescences ^{usually} with pistillate flowers only
 - 8 Pistillate sepals reduplicate-valvate; trichomes stellate (or if stellate-lepidote, the stipules 10 mm long or more)
 - 9 Styles multifid
 - 10 Stamens 13-16; stipules not gland. [LASIOGYNE]
 - 11 Stipules mostly 10-15 mm long, 1 mm broad or more; hairs on upper leaf surface on lower leaf surface stellate-lepidote; fruiting pedicel 5-8 mm long; capsule echinate floribundus
 - 11 Stipules 2-3 mm long, less than 1 mm broad; hairs on ^{both} ~~lower~~ leaf surface stellate; fruiting pedicel 2-3 mm long; capsule not echinate compressus
- 10 Stamens 8-11; stipules gland. not depressed fruiting pedicel less than 1 mm long; pistillate sepals dentate [CALYCIREDUPLICATAE] = CODONOCNYS calycireduplicatus
- 10' Pistillate sepals entire, obtuse; seeds min. equal, 3x2,5 mm cuchillae-nigrae

9 Styles bifid; stipules glandular-dentate

12 Monoecious; ovary stellate-tomentose; pistillate sepals entire

gnaphalii

12 Dioecious [CODONOCALYX]

13 Pistillate sepals dentate; ovary stellate-tomentose

helichrysum

13 Pistillate sepals entire

14 Ovary glabrous

montevidensis

14 Ovary stellate-tomentose

15 Pistillate sepals c. 10 mm long

lanuginosus

15 Pistillate sepals c. 5 mm long

nitriifolius

calyx multifid

8 Pistillate sepals not reduplicate-valvate

16 Styles multifid; plants unisexual or bisexual.

17 Leaves glandular at base, penninerved

18 Leaves entire, smooth and nearly glabrous above; seeds smooth
stamens 12-15; filaments villose

astrogynus

18b Stamens 15-18; lvs. appressed-stellate above; seeds megalose

pomaderis

18 Leaves coarsely serrate, scabrid above; stamens 9 or 10, filaments glabrous

antisiphiliticus

OCALIA

17 Leaves eglandular at base

18 Leaves glabrous above; pistillate sepals unequal; stipules glandular-dentate

pimeleus

MEDEA

18 Leaves stellate above; pistillate sepals not unequal

19 Stipules entire; calyx not glandular-satose.

~ CODON

20 Ovary stellate-tomentose; pistillate sepals entire; leaves not over 0.5 cm broad

21 Filaments nearly glabrous; stipules ovate

erythroxyloides

21 Filaments villose; stipules narrower

parvifolius
santolinus

20 Ovary glabrous; pistillate sepals glandular-dentate; leaves 1 cm broad or more, with colored margin

cinctus

19 Stipules glandular-dentate or lobed MEDEA

ASTRAEA

22 Pistillate sepals over 1 cm long in fruit; stems long-hirsute; staminate sepals 5-6 mm long

langsдорffii

22 Pistillate and staminate sepals smaller

- 23 Inflorescences head-like; pistillate sepals glandular-toothed
but not glandular-setose [TIMANDRA] [MEDCA]
- 24 Filaments pubescent
- 25 Bracts comose; leaves not impressed-punctate heterodoxus
- 25 Bracts not comose; leaves impressed-punctate 'dichotomus'
- 24 Filaments glabrous
- 26 Leaves dentate throughout; seeds rugulose serratus
- 26 Leaves dentate only in distal half; seeds smooth debilis
- 23 Inflorescences more or less elongated; pistillate sepals
glandular-setose
- 27 Styles twice bifid but not flabellate; anthers pubescent
- 28 Leaves glandular-serrate; staminate petals pubescent on
both faces; filaments hirsutulous below vestitus
T. HESTERIDIVM
- 28 Leaves entire; staminate petals glabrous on inner face;
filaments hirsutulous throughout josephinus
- 27 Styles with flabellate branches; anthers glabrous
- 29 Leaves entire garckeanus
- 29 Leaves serrate
- 30 Filaments glabrous; seeds smooth serratifolius
- 30 Filaments hirsutulous; seeds rugulose [MYRIOGYOMPHOS]
- 31 Bracts entire; stipules linear-lanceolate chaetophorus
- 31 Bracts pinnatilobed; stipules triangular fuscus
- 16 Styles bifid; plants bisexual
- 32 Leaves glandular at base CASCARILLA
- 33 Stamens ²13-15 or more
- 34 Leaves glabrous above
- 35 Stems conspicuously setose (hairs over 1 mm); seeds
rugulose kleinii
(ind. polygonoids)
- 35 Stems not conspicuously setose
- 36 Leaves stellate-tomentose beneath; seeds rugulose hilarii/conifinis
- 36 Leaves stellate-lepidote beneath; seeds smooth on back patrum
ichthygaster

CASC

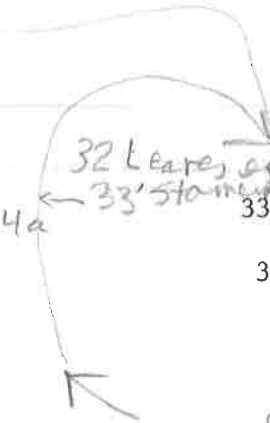
34 Leaves pubescent above

37 Leaves with appressed stellate hairs above, obtuse or acute

38 Pistillate sepals not unequal; seeds 5 mm long

38 Pistillate sepals unequal; seeds 4-4.5 mm long

laseguei
? → bresolinii
lanatus
lachnostachyus reitzii



32 Leaves glandular at base
33 Stamens 15-20

37 Leaves with spreading hairs above, ^{lvs acute,} acuminate, ^{sepal 5} ~~dentate~~
vs. ^{lvs} coarsely ~~duplex~~ ^{duplex} dentate, sepals 6-8

33 Stamens 9-11

39 Shrubs or large coarse herbs; pistillate sepals not markedly unequal

aberrans
parkinsonii
OCTOLOB

40 Stipules and pistillate sepals not stipitate-glandular

41 Leaves obovate, coarsely dentate, palmatinerved, tomentose beneath; pistillate pedicel 4-5 mm long; receptacle of staminate flower lanate

OCTOLOB!
parkinsonii

Stamens 12-14

41 Leaves oblong, less coarsely dentate, penninerved, appressed-stellate beneath; pistillate flowers subsessile, fruiting pedicel c. 1 mm long; receptacle of staminate flower nearly glabrous

ASTRAEA?

patrum →

bonplandianus

40 Stipules and pistillate sepals stipitate-glandular; leaves ovate, coarsely crenate, palmatinerved, villose beneath

Barbhamia?
chaetocalyx

39 Herbs with serrate leaves, pistillate flowers clustered at the base of short (0.5-2 cm) inflorescences

42 Pistillate flowers separated from males by a distinct gap (usually well over 1 cm); pistillate sepals not markedly unequal

Podostachys
lundianus

42 Pistillate flowers not separated from males by a distinct gap; pistillate sepals distinctly unequal

43 Leaves coarsely and sharply serrate; stamens 8-10; styles less than 1.5 mm long

43 Leaves finely or bluntly toothed; stamens mostly 11; styles over 1.5 mm long, erect

trinitatis
verbenifolius

44 Stems coarsely hispid; leaves pointed at tip, petiolar glands stalked; bracts with gland-tipped processes; seeds 2.6-3.1 mm long

hirtus

44 Stems not coarsely hispid; leaves blunt at tip, petiolar glands sessile; bracts eglandular; seeds 2.8-3.5 mm long

glandulosus

42 Leaves with patelliform glands between all the teeth; stems woody at base.

bidentatus
adenodontus

42 Leaves ac to obt, sepals entire; seeds minutely foveolate-reticulate

44 leaves acuminate, larger sepals unidentat, seeds smooth

32 Leaves eglandular at base *Velamea*

33' Stamens 15-20; stipules obsolete or absent; lvs, 1 cm, broad or more;
 33' ~~_____~~ ♀ fls, sev. per spike

34' Filaments pubescent
34" Capsule subglobose

35' Leaves glabrous above, stipules obsolete; seeds smooth, 4 mm long occidentalis

35' Leaves pubescent above

36' Stems stiffly long-hirsute; staminate petals glabrous on both faces ypanemensis

36' Stems loosely tomentose; staminate petals pubescent (?) pohlianus

37' Stems pannose grandivelum

37' Stems closely tomentose campestris

34" Capsule ellipsoid; anthers broad regnellianus

34' Filaments glabrous; seeds ribbed (?) incertus

33" Stipules developed less than 1 mm; lvs .3-4 mm broad; ♀ fl. sol. dracunculoides

33' Stamens 9-12; stipules developed

38' Leaves entire, penninerved, densely pubescent above; seeds minutely punctate chorchoropsis

38' Leaves coarsely serrate, palmatinerved, glabrescent above; seeds smooth on the back glechomifolius ?

2 Leaves (at least in part) distinctly 3-5-lobed; staminate receptacle glabrous or nearly so

45 Stems woody at base, tomentose above; leaves entire and 3-lobed paulinus

45 Stems herbaceous, hirsute above; leaves all 3-lobed lobatus

1 Indumentum of foliage lepidote (at least on lower surface)

46 Pistillate sepals reduplicate-valvate; leaves stellate-lepidote beneath, eglandular

floribundus

46 Pistillate sepals not reduplicate-valvate

alagoensis]

47 Styles 4-fid to multifid; leaves eglandular at base ~ CODON?

Anthers pubescent

48 Leaves glandular at base; ovary stellate-tomentose; filaments pubescent;

dividing in calyx with 1-1.5 mm stripes

sl. 14-16

49 Monoecious; staminate bracts exerted; pycnocephalus

49 Dioecious; staminate bracts not exerted

leptophyllus

48 Anthers usually glabrous.
Leaves eglandular at base

50 Leaves lepidote above; stamens 11; ovary lepidote pubescent

cinerellus

50 Leaves / above; ovary stellate-tomentose

51 Leaves stellate above; scales on lower surface denticulate; stamens 13

serpyllifolius

51 Leaves with simple hairs above; scales on lower surface deeply divided (stellate-lepidote); stamens 11

fallax

7
48 Styles bifid

52 Leaves glandular at base, stellate-puberulent above; stamens 12-18, densely lanate below; ovary stellate-tomentose; seeds rugose

stenotrichus

52 Leaves eglandular at base; pistillate sepals unequal

52! Pistillate sepals not markedly dissimilar

53 Leaves glabrous above

ARGYROCROTON
LAI PRO CROTON

54 Monoecious; petals not lepidote

gaudichaudii

54 Dioecious; petals lepidote

uruguayensis

53 Leaves not glabrous above

55 Leaves with simple hairs above, stellate-lepidote beneath; stamens 11, filaments glabrous

ceanothifolius

55 Leaves with compound hairs above

56 Leaves with stellate hairs above

LAMPROCRON

57 Ovary stellate-tomentose; scales on lower leaf surface deeply divided *mm* pallidulus

57 Ovary lepidote; scales on lower leaf surface denticulate tenellus

56 Leaves lepidote on both faces; pistillate sepals unequal

58 Dioecious myrianthus

58 Monoecious *st 11 erythroxyloides*

59 Pistillate sepals lepidote outside, stellate inside; stamens 15 ericoides

59 Pistillate sepals lepidote on both faces; stamens 11 oleoides

56' Leaves with stipitate scales; stamens 16-20; filaments hirsutulous

60 Bracts laciniate; indumentum pale isabellii

60 Bracts entire; indumentum ferrugineus julopsidium

52' Pistillate sepals not markedly dissimilar

53' Leaves glabrous above; stamens 11

Bahia sp.

54' Leaves stellate-lepidote beneath (radii of scales united less than 1/2); seeds ventrally ribbed, 3.5 mm long linearifolius

54' Leaves lepidote beneath (radii of scales united more than 1/2); seeds smooth, 4 mm long

LAMPROCRON

55' Pistillate sepals c. 2 mm long; tenuissimus

55' Pistillate sepals c. 3.5 mm long, obovate dichrous

53' Leaves stellate above

56' Leaves stellate-lepidote beneath (radii of scales united less than 1/2)

57' Stamens mostly 14-16 chloroleucus

57' Stamens mostly ⁹⁻11

58' Leaves and bracts ovate parvulus

59' :eaves obovate, bracts elliptic thymelinus

clusenii
migrans

56' Leaves lepidote beneath (radii of scales united more than 1/2)

LAMPROCRON