

JOHAN H. E. ROVA, PIERO G. DELPRETE, LENNART ANDERSSON, AND VICTOR A. ALBERT. 2002. A *trnL-F* cpDNA sequence study of the Condamineae-Rondeletieae-Sipaneeae complex with implications on the phylogeny of the Rubiaceae. *American Journal of Botany* 89(1): 145-159.

## APPENDIX 2

**Classification history**—Subfamilial and tribal classifications of analyzed Rubiaceae genera as previously proposed by various authors. The historical classifications are also compared to the present *trnL-F* phylogeny. Subfamilies are given with four letters: anti = Antirheoideae, cinc = Cinchonoideae, coff = Coffeioideae, guet = Guettardoideae, rubi = Rubioideae, and urop = Urophyloideae. Tribes are given with three letters: ant = Anthospermeae, cal = Calycophylleae, cat = Catesbaeeae, cep = Cephalantheae, chi = Chiococceae, cin = Cinchoneae, cof = Coffeae, con = Condamineae, cop = Coptosapeltae, cou = Coussareeae, gar = Gardenieae, gue = Guettardeae, ham = Hamelieae, hed = Hedyotideae, hei = Heinsiinae, hen = Henriquezieae, hil = Hillieae, hip = Hippotideae, ise = Isertieae, kno = Knoxieae, mor = Morindeae, nau = Naucleaeae, oct = Octotropideae, oph = Ophiorrhizeae, pae = Paederieae, pau = Pauridiantheae, pav = Pavetteae, por = the “Portlandia group,” psy = Psychotrieae, ret = Retiniphyllae, ron = Rondeletieae, rub = Rubieae, sch = Schradereae, sim = Simireae, sip = Sipaneeae, the = Theligoneae, and van = Vanguerieae. Hooker’s “series” are given with one letter: a = Series A (many ovules in each locule), b = Series B (two ovules in each locule), and c-Series C (solitary ovule in each locule). “—” means that the genus (or a synonym for it) was not considered by the author, and “?” means an uncertain position according to the author. For Isertieae, the illegitimate name *Mussaendeae* was used by Hooker, Schumann, and Verdcourt. For Coffeae, the illegitimate name *Ixoreae* was used by Schumann, Verdcourt, and Bremekamp.

Genus	Hooker (1873)	Schumann (1891) <sup>a</sup>	Verdcourt (1958)	Bremekamp (1966)	Robbrecht (1988)	Robbrecht (1993)	Bremer et al. (1995)	<i>trnL-F</i> support
<i>Acrosynanthus</i> Urban	—	—	—	—	cinc-cin	cinc-ron	—	C5b
<i>Aleisanthia</i> Ridley	—	—	—	—	cinc-ron	cinc-ron	—	I2
<i>Aleisanthiopsis</i> Tange	—	—	—	—	cinc-ron <sup>c</sup>	cinc-ron <sup>c</sup>	—	I2
<i>Allenanthus</i> Standley	—	—	—	—	anti-chi	?	—	C5a
<i>Alseis</i> Schott	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-cal	—	I1

<i>Amphidasya</i> Standley	—	—	—	—	cinc-ise	cinc-ise	—	R
<i>Antirhea</i> Commerson ex A. L. Jussieu	c-gue	coff-gue	guet-gue <sup>d</sup>	guet-gue	anti-gue	anti-gue	cinc-gue	C5a
<i>Arachnothyx</i> Planchon	a-ron <sup>e</sup>	cinc-ron <sup>e</sup>	—	—	cinc-ron	cinc-ron <sup>e</sup>	—	C5a
<i>Ariadne</i> Urban	—	—	—	—	?	?	—	C5b
<i>Asemnantha</i> J. D. Hooker	c-chi	coff-chi	cinc-chi	—	anti-chi	anti-chi	—	C4
<i>Augusta</i> Pohl	a-ron	cinc-ron <sup>f</sup>	—	cinc-ron <sup>b</sup>	cinc-ron	cinc-ron	—	I2
<i>Badusa</i> A. Gray	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-con	cinc-por	—	C4
<i>Bathysa</i> K. B. Presl	a-ron	cinc-ron	—	cinc-ron <sup>b</sup>	cinc-ron	cinc-ron	—	I1
<i>Bertiera</i> Aublet	a-ham	cinc-gar	cinc-ise	urop-hei <sup>?</sup>	?	ixor-gar	ixor-?cof	I2
<i>Bikkia</i> Reinwardt	a-con	cinc-con	cinc-ron	cinc-con <sup>b</sup>	cinc-con	cinc-por	—	C4
<i>Blepharidium</i> Standley	—	—	—	—	cinc-cin	cinc-hil	—	C5b
<i>Calycophyllum</i> DC	a-cin	cinc-cin	cinc-cin	cinc-cin <sup>b</sup>	cinc-cin	cinc-cal	ixor-?	I1
<i>Capirona</i> Spruce	a-cin	cinc-cin	—	—	cinc-cin	cinc-cin	—	I1
<i>Catesbaea</i> L	a-cat	cinc-gar	cinc-cat	—	?-cat	?-cat	cinc-chi	C4
<i>Cephalanthus</i> L	a-nau	cinc-nau	cinc-nau	?	anti-cep	anti-cep	cinc-nau	C3
<i>Ceratopyxis</i> J. D. Hooker	c-chi	coff-chi	—	—	anti-chi	anti-chi	—	C4
<i>Chimarrhis</i> Jaquin	a-con	cinc-con	—	cinc-con <sup>b</sup>	cinc-con	cinc-con	—	I1
<i>Chiococca</i> P. Browne	c-chi	coff-chi	cinc-chi	ixor-chi	anti-chi	anti-chi	cinc-chi	C4
<i>Chione</i> DC	c-chi	coff-chi	—	—	anti-chi	?	—	C2
<i>Chomelia</i> Jaquin	c-gue	coff-gue <sup>g</sup>	—	guet-gue <sup>g</sup>	anti-gue	anti-gue	—	C5a
<i>Cinchona</i> L	a-cin	cinc-cin	cinc-cin	cinc-cin	cinc-cin	cinc-cin	cinc-cin	C1
<i>Coffea</i> L	c-cof	coff-cof	cinc-cof	ixor-cof <sup>b</sup>	ixor-cof	ixor-cof	ixor-cof	I2
<i>Condaminea</i> DC	a-con	cinc-con	cinc-ron	cinc-con	cinc-con	cinc-con	—	I1
<i>Cosmibuena</i> R&P	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-hil	—	C2
<i>Coussarea</i> Aublet	c-cou	coff-cou	rubi-cou	rubi-cou	rubi-cou	rubi-cou	—	R
<i>Coutaportia</i> Urban	—	—	—	—	?	?	—	C4
<i>Coutarea</i> Aublet	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-por	—	C4
<i>Cubanola</i> Aiello	—	—	—	—	cinc-con	cinc-por	cinc-chi	C4
<i>Didymosalpinx</i> Keay	—	—	—	ixor-gar <sup>h</sup>	ixor-gar	ixor-gar	—	I2
<i>Dioicodendron</i> Steyermark	—	—	—	—	cinc-con	cinc-con	—	I1
<i>Dolichodelphys</i> K. Schumann & K. Krause	—	cinc-gar <sup>j</sup>	—	—	ixor-gar	ixor-gar	—	I1
<i>Duroia</i> L	a-gar	cinc-gar	—	ixor-gar	ixor-gar	ixor-gar	—	I2
<i>Elaeagia</i> Weddell	a-ron	cinc-ron	—	cinc-ron <sup>b</sup>	cinc-ron	cinc-ron	—	I1
<i>Emmenopterys</i> D. Oliver	—	cinc-cin <sup>l</sup>	—	cinc-cin <sup>b</sup>	cinc-cin	?	—	I1
<i>Erithalis</i> P. Browne	c-chi	coff-chi	—	—	anti-chi	anti-chi	cinc-chi	C4
<i>Exostema</i> (Persoon) Bonpland	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-por	cinc-chi	C4
<i>Faramea</i> Aublet	c-cou	coff-cou	rubi-cou	rubi-cou	rubi-cou	rubi-cou	—	R
<i>Gardenia</i> J. Ellis	a-gar	cinc-gar	cinc-gar	ixor-gar	ixor-gar	ixor-gar	ixor-gar	I2
<i>Genipa</i> L	a-gar	cinc-gar	—	ixor-gar	ixor-gar	ixor-gar	—	I2
<i>Gleasonia</i> Standley	—	—	non rub	glea-gle	cinc-hen	cinc-hen	—	I3b
<i>Gonzalagunia</i> R&P	a-ise <sup>k</sup>	cinc-ise	cinc-ise	?	cinc-ise	cinc-ise	—	C5a
<i>Greenea</i> R. Wright & Arnott	a-ron	cinc-ron	—	cinc-ron <sup>b</sup>	cinc-ron	cinc-ron	—	I2
<i>Guettarda</i> L	c-gue	coff-gue	guet-gue	guet-gue	anti-gue	anti-gue	cinc-gue	C5a
<i>Hamelia</i> Jaquin	a-ham	cinc-gar	rubi-ham	rubi-ham	rubi-ham	rubi-ham	cinc-ham	C2
<i>Hedyotis</i> L	a-hed	cinc-old <sup>l</sup>	rubi-hed	rubi-hed	rubi-hed	rubi-hed	—	R
<i>Hindsia</i> Bentham ex J. Lindley	a-cin	cinc-cin	?rubi-hed	rubi-hed	rubi/cinc-cin/hed	rubi/cinc-cin/hed	—	R
<i>Hintonia</i> A. A. Bullock	—	—	—	—	?	?	?	C4
<i>Hippotis</i> R&P	a-ise	cinc-ise	—	?	?-hip	?-hip	—	I1
<i>Hoffmannia</i> O. Swartz	a-ham	cinc-gar	—	rubi-ham	rubi-ham	rubi-ham	cinc-ham	C2
<i>Isertia</i> Schreber	a-ise	cinc-ise	cinc-ise	cinc-ise	cinc-ise	cinc-ise	—	C
<i>Isidorea</i> A. Richard ex DC	a-con	cinc-con	—	cinc-con <sup>b</sup>	cinc-con	cinc-por	—	C4
<i>Ixora</i> L	c-cof	coff-cof	cinc-cof	ixor-cof	ixor-pav	ixor-pav	ixor-?	I2
<i>Javorkaea</i> Borhidi & J�arai-Koml�odi	—	—	—	—	cinc-ron	cinc-ron <sup>e</sup>	—	C5a
<i>Keetia</i> E. P. Phillips	c-van <sup>q</sup>	cinc-van <sup>q</sup>	cinc-van <sup>q</sup>	cinc-van <sup>b</sup>	anti-van	anti-van	ixor-van	I2
<i>Ladenbergia</i> Klotzsch	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-cin	—	C1
<i>Luculia</i> Sweet	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-cop	?	L
<i>Macbrideina</i> Standley	—	—	—	—	cinc-ron	cinc-ron	—	I1
<i>Machaonia</i> Bonpland	c-gue	coff-gue	—	not guet-gue	anti-gue	anti-gue	—	C5a
<i>Maguireothamnus</i> Steyermark	—	—	—	—	cinc-ron	cinc-ron	—	I3a
<i>Mazaea</i> K&U	—	cinc-ron <sup>n</sup>	—	cinc-ron <sup>b</sup>	—	cinc-ron	—	C5b
<i>Molopanthera</i> Turczaninow	a-cin	cinc-cin	—	cinc-cin <sup>b</sup>	cinc-cin	cinc-por	—	I3b
<i>Morinda</i> L	c-mor	coff-mor	rubi-mor	rubi-mor	rubi-mor	rubi-mor	rubi-mor	R
<i>Mussaenda</i> L	a-ise	cinc-ise	cinc-ise	cinc-ise	cinc-ise	cinc-ise	ixor-ise	I2
<i>Mycetia</i> Reinwardt	a-ise <sup>x</sup>	cinc-ise	rubi-hed	rubi-rub	cinc-ise	cinc-ise	—	R

<i>Neobertiera</i> Wernham	—	—	—	—	?	cinc-sip	—	I3a	
<i>Neoblakea</i> Standley	—	—	—	—	anti-?gue	anti-?gue	—	C5a	
<i>Nertera</i> Banks ex J. Gaertner	c-ant	coff-ant	—	—	rubi-ant	rubi-ant	rubi-ant	R	
<i>Ophiorrhiza</i> L.	a-hed	cinc-old	rubi-oph	urop-oph	rubi-oph	rubi-oph	rubi-oph	R	
<i>Paederia</i> L.	c-pae	coff-pae	rubi-pae	rubi-pae	rubi-pae	rubi-pae	—	R	
<i>Palicourea</i> Aublet	c-psy	coff-psy	—	—	rubi-psy	rubi-psy	—	R	
<i>Parachimarrhis</i> Ducke	—	—	—	—	cinc-con	cinc-con	—	I1	
<i>Paragenipa</i> Baillon	—	—	—	ixor-gar <sup>o</sup>	ixor-oct <sup>d</sup>	ixor-oct	—	I2	
<i>Pauridiantha</i> J. D. Hooker	a-ise	cinc-ise	rubi-uro	urop-pau	cinc-pau	cinc-pau	—	R	
<i>Pavetta</i> L.	c-cof	coff-cof	cinc-cof	ixor-cof	ixor-pav	ixor-pav	—	I2	
<i>Pentagonia</i> Bentham	a-cat	cinc-ise	—	not	?-hip	?-hip	ixor-hip	I1	
Rubiaceae									
<i>Pentanisia</i> W. H. Harvey	c-kno	coff-kno	cinc-kno	rubi-kno	anti-kno	anti-kno	—	R	
<i>Phialanthus</i> Grisebach	c-chi	coff-chi	—	—	anti-chi	?	—	C4	
<i>Phyllacanthus</i> J. D. Hooker	a-cat	cinc-gar	—	—	?-cat	?-cat	—	C4	
<i>Phyllomelia</i> Grisebach	c-cof	coff-cof	—	not ixor-ixo	?	?	—	C5b	
<i>Picardaea</i> Urban	—	cinc-con <sup>i,p</sup>	—	cinc-con <sup>b</sup>	cinc-con	cinc-con	—	I1	
<i>Pinckneya</i> A. Michaux	a-con	cinc-con	cinc-ron	cinc-con <sup>b</sup>	cinc-con	cinc-con	ixor-?	I1	
<i>Pogonopus</i> Klotzsch	a-con	cinc-con	—	cinc-con <sup>b</sup>	cinc-con	cinc-con	ixor-?	I1	
<i>Portlandia</i> P. Browne	a-con	cinc-con	—	cinc-con <sup>b</sup>	cinc-con	cinc-con	—	C4	
<i>Posoqueria</i> Aublet	a-gar	cinc-gar	?	not ixor-gar	ixor-gar	ixor-gar	—	I3b	
<i>Pseudomussaenda</i> Wernham	—	—	cinc-ise	—	cinc-?con	cinc-ise	—	I2	
<i>Psychotria</i> L.	c-psy	coff-psy	rubi-psy	rubi-psy	rubi-psy	rubi-psy	rubi-psy	R	
<i>Psydrax</i> J. Gaertner	c-psy <sup>y</sup>	coff-van <sup>r</sup>	cinc-van	ixor-van <sup>b</sup>	anti-van	anti-van	—	I2	
<i>Rachicallis</i> DC	a-ron	cinc-ron	—	cinc-ron <sup>b</sup>	rubi-hed	rubi-?hed	cinc-?	C5b	
<i>Randia</i> L.	a-gar	cinc-gar	cinc-gar	ixor-gar	ixor-gar	ixor-gar	—	I2	
<i>Retiniphyllym</i> Bonpland	b-ret	cinc-gar	cinc-ret	not rubi-psy nor ixor-gar	anti-ret	anti-ret	—	I2	
<i>Rogiera</i> J. E. Planchon	—	cinc-ron	—	?cinc-ron	cinc-ron	cinc-ron	cinc-ron	C5a	
<i>Roigella</i> Borhidi & Fernández	—	—	—	—	cinc-ron	cinc-ron	—	C5b	
<i>Rondeletia</i> L.	a-ron	cinc-ron	cinc-ron	cinc-ron	cinc-ron	cinc-ron	—	C5b	
<i>Rubia</i> L.	c-gal	coff-gal	rubi-rub	rubi-rub	rubi-rub	rubi-rub	rubi-rub	R	
<i>Rustia</i> Klotzsch	a-con	cinc-con	—	cinc-con <sup>b</sup>	cinc-con	cinc-con	—	I1	
<i>Sarcocephalus</i> Afzelius ex Sabine	a-nau	cinc-nau	—	cinc-nau	cinc-nau	cinc-nau	cinc-nau	C3	
<i>Schmidtottia</i> Urban	—	—	—	—	?	?	—	C4	
<i>Schradera</i> Vahl	a-ise	cinc-ise	rubi-sch	rubi-sch	rubi-sch	rubi-sch	—	R	
<i>Scolosanthus</i> Vahl	c-chi	coff-chi	—	—	anti-chi	anti-chi	—	C4	
<i>Serissa</i> Commerson ex A. Jusieu	c-ant	coff-ant	—	—	rubi-pae	rubi-pae	—	R	
<i>Siemensia</i> Urban	—	—	—	—	rubi-?hed	rubi-?hed	—	C4	
<i>Simira</i> Aublet	a-cin <sup>s</sup>	cinc-ron <sup>t</sup>	—	urop-sim	cinc-ron	cinc-sim	—	I1	
<i>Sipanea</i> Aublet	a-ron	cinc-ron	cinc-ron	cinc-sip	cinc-sip	cinc-sip	—	I3a	
<i>Sipaneopsis</i> Steyermark	—	—	—	—	cinc-ron	cinc-ron	—	I3a	
<i>Sommeria</i> Schlechtendal	a-cat	cinc-ise	—	?	?-hip	?-hip	—	I1	
<i>Strumpfia</i> N. J. Jaquin	c-cof	coff-cof	—	not ixor-ixo	?	?	—	C4	
<i>Suberanthus</i> Borhidi & Fernández	—	—	—	—	cinc-cin	?	—	C5b	
<i>Tarenna</i> J. Gaertner	a-gar <sup>z</sup>	cinc-gar <sup>u</sup>	cinc-cof <sup>m</sup>	ixor-cof	ixor-pav	ixor-pav	—	I2	
<i>Theligonum</i> L.	—	—	—	—	rubi-the	rubi-the	rubi-the	R	
<i>Timonius</i> DC	c-gue	coff-gue	—	?guet-gue	anti-gue	anti-gue	—	C5a	
<i>Tricalysia</i> A. Richard ex DC	a-gar	cinc-gar	cinc-cof	ixor-cof	ixor-gar	ixor-gar	—	I2	
<i>Uncaria</i> Schreber	a-nau	cinc-nau <sup>v</sup>	—	cinc-cin	cinc-cin	cinc-cop	cinc-nau	C3	
<i>Vangueria</i> A. L. Jussieu	c-van	coff-van	cinc-van	ixor-van	anti-van	anti-van	ixor-van	I2	
<i>Warszewiczia</i> Klotzsch	a-ron	cinc-ron	cinc-ron	cinc-ron <sup>b</sup>	cinc-ron	cinc-ron	—	I1	
<i>Wendlandia</i> Bartling ex DC	a-ron	cinc-ron	—	cinc-ron <sup>b</sup>	cinc-ron	cinc-ron	—	I2	
<i>Wittmackanthus</i> O. Kuntze	a-ron <sup>w</sup>	cinc-ron <sup>w</sup>	—	cinc-ron <sup>b</sup>	cinc-cin	cinc-cal	—	I1	

Footnotes in the table are as follows: <sup>a</sup>with Nachträge, <sup>b</sup>Bremekamp is supposed to follow (1) Schumann and (2) Hooker in these cases, <sup>c</sup>as *Greenea*, <sup>d</sup>implicitly in Guettardoideae, <sup>e</sup>as *Rondeletia*, <sup>f</sup>as *Ucrania* Sprengel, <sup>g</sup>as *Anisomeris* K. B. Presl, <sup>h</sup>as *Gardenia*, <sup>i</sup>see Krause (1915), <sup>j</sup>see Schumann (1897), <sup>k</sup>as *Gonzalea* Persoon, <sup>l</sup>as *Oldenlandia* L., <sup>m</sup>implicitly, <sup>n</sup>see Schumann (1900), <sup>o</sup>as conspecific with *Randia lancifolia*; see Tirvengadam and Robbrecht (1985), <sup>p</sup>see Krause (1908), <sup>q</sup>as *Canthium* Lamarck or *Plectronia* L., <sup>r</sup>as *Plectronia*, <sup>s</sup>as *Sickingia* Willdenow and *Sprucea* Bentham, <sup>t</sup>as *Sickingia*, <sup>u</sup>as *Chomelia* L., <sup>v</sup>as *Orouparia* Aublet, <sup>w</sup>as *Pallasia* Klotzsch, <sup>x</sup>as *Adenosacme* Elmer, <sup>y</sup>as *Mesoptera* J. D. Hooker, <sup>z</sup>as *Coptosperma* J. D. Hooker.

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