

TABLE 1. Former generic placement of Macaronesian Genisteae taxa included in this study, after Gibbs (1967), Gibbs & Dingwall (1972), Gibbs (1974), Santos-Guerra (1975), Arco Aguilar, Acebes Ginovés & Wildpret de la Torre (1978), Arco Aguilar (1982), Arco Aguilar & Acebes Ginovés (1982), Arco Aguilar (1983), Marrero & Suarez (1988), Arco Aguilar (1993). Dates of homotypic synonyms are given, heterotypic synonyms are in brackets.

Current name	<i>Adenocarpus</i>	<i>Convolvulus</i>	<i>Cytisus</i>	<i>Genista</i>	<i>Rivasgodaya</i>	<i>Spartium</i>	<i>Telinaria</i>	<i>Teline</i>
<i>Adenocarpus foliolosus</i>	1815	—	1789	—	—	—	—	—
<i>Adenocarpus ombriosus</i>	1947	—	—	—	—	—	—	—
<i>Adenocarpus viscosus</i>	1842	—	—	1802	—	—	—	—
<i>Genista tenera</i>	—	—	1784	1891	—	1798	—	—
<i>Genista benhoavensis</i>	—	1861	1954	1982	—	—	—	1975
<i>Teline canariensis</i>	—	—	1891	1753	—	(1801)	—	1842
<i>Teline gomerae</i>	—	—	—	—	—	—	—	1974
<i>Teline maderensis</i>	—	—	1881	1868	—	—	—	1842
<i>Teline microphylla</i>	—	—	(1878)	1825	—	—	—	1972
<i>Teline nervosa</i>	—	—	—	—	1973	—	—	1979
<i>Teline osyroides</i>	—	—	1949	(1891)	—	—	—	1974
<i>Teline paivae</i>	—	—	1881	1868	—	—	—	1972
<i>Teline pallida</i>	—	—	1881	(1819)	—	(1826)	—	1975
<i>Teline rosmarinifolia</i>	—	—	1881	—	—	—	1844	1842
<i>Teline salsoloides</i>	—	—	—	—	—	—	—	1982
<i>Teline splendens</i>	—	—	(1894)	1836	—	—	—	1983
<i>Teline stenopetala</i>	—	—	1887	1836	—	—	—	1842

TABLE 2. Distribution of taxa and location of samples included in this study. RBGE = Royal Botanic Garden Edinburgh, TFC = Herbario de la Universidad de La Laguna, Tenerife.

no.	taxon	distribution	origin of sample	lat. long.	voucher no.
1	<i>Adenocarpus anagyriifolius</i> Coss. & Ball	Morocco: High Atlas	Tizi n' Tichka (1650 m)	31°20'N 07°25'W	DP 305
2	<i>Adenocarpus bacquei</i> Batt. & Pitard	Morocco: High and Middle Atlas	Midelt (1500 m)	32°33'N 04°38'W	DP 309
3	<i>Adenocarpus boudyi</i> Batt. & Maire	Morocco: Middle Atlas	Azrou, Forêt de Cèdres (1800 m)	33°15'N 05°15'W	DP 243
4	<i>Adenocarpus complicatus</i> (L.) J. Gay	S Europe, Madeira, E Mediterranean	Spain, Andalusia, Aracena (400 m)	37°52'N 06°30'W	DP 258
5	<i>Adenocarpus complicatus</i> (L.) J. Gay		Portugal, Serra do Caramulo (500 m)	40°30'N 08°15'W	DP 262.1
6	<i>Adenocarpus complicatus</i> (L.) J. Gay		Madeira, Funchal (1000 m)	32°42'N 16°50'W	DP 269
7	<i>Adenocarpus decorticans</i> Boiss.	S Spain, N Morocco	Spain, Andalusia, Sierra Nevada (1850 m)	37°05'N 03°02'W	DP 128
8	<i>Adenocarpus decorticans</i> Boiss.		Morocco, W Rif Mountains (1400 m)	34°56'N 04°50'W	DP 254
9	<i>Adenocarpus foliolosus</i> (Aiton) DC.	Central and W Canary Islands (except El Hierro)	Tenerife, Las Raices (1350m)	28°25'N 16°23'W	DP 156
10	<i>Adenocarpus mannii</i> (Hook. fil.) Hook. fil.	Central and Southern Africa	N Malawi, Nyika Plateau (> 2000 m)	10°40'S 33°50'E	Salubeni 3012 (RBGE)

11	<i>Adenocarpus mannii</i> (Hook. fil.) Hook. fil.		N Tanzania, Shira Ridge, Kilimanjaro (3300 m)	03°02'S 37°14'E	Carmichael 1469 (RBGE)
12	<i>Adenocarpus nainii</i> Maire	N Morocco	El Harcha (1000 m)	33°25'N 06°18'W	DP 150
13	<i>Adenocarpus nainii</i> Maire (<i>bracteatus</i>)		Central Rif Mountains (1400 m)	34°55'N 04°40'W	DP 252
14	<i>Adenocarpus ombriosus</i> Ceballos & Ortuño	W Canary Islands: El Hierro	Fileba (1300 m)	27°45'N 17°59'W	Pérez de Paz 24,625 (TFC)
15	<i>Adenocarpus telonensis</i> (Loisel.) DC.	S Europe, N Morocco	Spain, Andalusia, Algodonales (500 m)	36°50'N 05°20'W	DP 134
16	<i>Adenocarpus telonensis</i> (Loisel.) DC.		N Morocco, W Rif Mountains (1800 m)	35°10'N 05°23'W	DP 257
17	<i>Adenocarpus viscosus</i> (Willd.) Webb & Berthel.	Central and W Canary Islands: Tenerife, La Palma	La Palma, La Caldera rim (2200 m)	28°45'N 17°51'W	DP 209
18	<i>Argyrocystis battandieri</i> (Maire) Raynaud	Morocco: Middle Atlas, Rif Mountains	Azrou, Forêt de Cèdres (1800 m)	33°15'N 05°15'W	DP 244
19	<i>Anagyris foetida</i> L.	S Europe, E Mediterranean, N Africa	Spain, Andalusia, Zahara de la Sierra (1000 m)	36°50'N 05°25'W	DP 108
20	<i>Genista benehoavensis</i> (Bolle) del Arco	W Canary Islands: La Palma	La Caldera rim (2250 m)	28°45'N 17°50'W	DP 81
21	<i>Genista cinerea</i> (Vill.) DC.	SW Europe, NW Africa	Spain, Andalusia, Campillos (500 m)	37°02'N 04°55'W	DP 132
22	<i>Genista clavata</i> Poir.	N Morocco	Larache (30 m)	35°23'N 06°08'W	DP 151
23	<i>Genista florida</i> L.	Spain, Portugal, Morocco	Portugal, Serra da Estrela	40°15'N	DP 266

			(800 m)	07°45'W	
24	<i>Genista florida</i> L. var. <i>maroccana</i> Ball	Morocco: High Atlas	Tizi n' Test (2080 m)	30°50'N 08°30'W	DP 238
25	<i>Genista ramosissima</i> (Desf.) Poir.	S Spain, NW Africa	Andalusia, Sierra del Chaparral (1100 m)	36°55'N 03°43'W	DP 125
26	<i>Genista segonnei</i> (Maire) P.E. Gibbs	Morocco: Anti-Atlas	Col du Kerdous (1050m)	29°30'N 09°15'W	DP 302
27	<i>Genista tenera</i> (Jacq. ex Murray) Kuntze	Madeira	Encumeada (1050 m)	32°45'N 17°05'W	DP 273
28	<i>Genista tinctoria</i> L.	Europe, E Mediterranean	France, Haute-Loire (1500 m)	45°10'N 04°00'E	RBGE 1979 2627
29	<i>Genista umbellata</i> (L'Hér.) Poir.	S Spain, NW Africa	Andalusia, Otivar (500 m)	36°50'N 03°42'W	DP 124
30	<i>Teline canariensis</i> (L.) Webb & Berthel.	Central and W Canary Islands: Tenerife	Anaga, Pico del Inglés (960 m)	28°32'N 16°16'W	DP 179
31	<i>Teline gomerae</i> (P.E. Gibbs & Dingwall) G. Kunkel	W Canary Islands: La Gomera	Tamargada (350 m)	28°11'N 17°13'W	DP 218
32	<i>Teline linifolia</i> (L.) Webb & Berthel.	SW Europe, NW Africa	Spain, Andalusia, Ubrique (650 m)	36°37'N 05°25'W	DP 139
33	<i>Teline maderensis</i> Webb & Berthel.	Madeira	Encumeada (1100 m)	32°45'N 17°05'W	DP 274
34	<i>Teline microphylla</i> (DC.) P.E. Gibbs & Dingwall	Central and W Canary Islands: Gran Canaria	Cruz de Tejada (1500 m)	28°00'N 15°35'W	DP 172
35	<i>Teline monspessulana</i> (L.) Koch	S Europe, E Mediterranean, NW Africa	S Spain, Andalusia, Ubrique (650 m)	36°35'N 05°30'W	DP 143

36	<i>Teline monspessulana</i> (L.) Koch		N Morocco, W Rif Mountains (1000 m)	35°10'N 05°20'W	DP 146
37	<i>Teline nervosa</i> (Esteve) Hansen & Sunding	Central Canary Islands: Gran Canaria	Riscos de Jimenez (500 m)	28°05'N 15°31'W	DP 164
38	<i>Teline osyroides</i> (Svent.) P.E. Gibbs & Dingwall ssp. <i>osyroides</i>	Central Canary Islands: Tenerife	Masca (700 m)	28°18'N 16°50'W	DP 153
39	<i>Teline osyroides</i> ssp. <i>sericea</i> (Kuntze) del Arco	Central Canary Islands: Tenerife	Fasnía, Barranco de Herques (550 m)	28°15'N 16°26'W	DP 184
40	<i>Teline paivae</i> (Lowe) P.E. Gibbs & Dingwall	Madeira	Ribeira da Janela (400 m)	32°48'N 17°10'W	DP 271
41	<i>Teline pallida</i> (Poir.) G. Kunkel ssp. <i>pallida</i>	Central Canary Islands: Tenerife	Anaga, Roque de Enmedio (300 m)	28°31'N 16°12'W	DP 180
42	<i>Teline rosmarinifolia</i> Webb & Berthel.	Central Canary Islands: Gran Canaria	Fataga (800 m)	27°54'N 15°34'W	DP 159
43	<i>Teline salsoloides</i> del Arco & Acebes	Central Canary Islands: Tenerife	Teno (200 m)	28°21'N 16°53'W	DP 181
44	<i>Teline splendens</i> (Webb & Berthel.) del Arco	W Canary Islands: La Palma	Santa Cruz, La Asomada Alta (600 m)	28°43'N 17°46'W	DP 203
45	<i>Teline stenopetala</i> (Webb & Berthel.) Webb & Berthel. ssp. <i>stenopetala</i>	W Canary Islands: La Palma	Los Tilos, Barranco del Agua (500 m)	28°47'N 17°48'W	DP 192
46	<i>Teline stenopetala</i> ssp. <i>microphylla</i> (Pit. & Proust) del Arco	W Canary Islands: La Gomera, El Hierro	La Gomera, Los Barranquillos de Vallehermoso (1000 m)	28°09'N 17°18'W	Bramwell 2035 (RBGE)
47	<i>Teline stenopetala</i> ssp. <i>microphylla</i> (Pit. & Proust) del Arco		El Hierro, El Golfo (1100 m)	27°44'N 18°01'W	DP 212

48	<i>Teline stenopetala</i> ssp. <i>pauciovulata</i> (del Arco) del Arco	W Canary Islands: La Gomera	Roque Agando (1000 m)	28°6'N 17°11'W	DP 344
49	<i>Teline stenopetala</i> ssp. <i>sericea</i> (Pit. & Proust) del Arco	W Canary Islands: La Palma	La Cumbrecita (1250 m)	28°41'N 17°51'W	DP 190
50	<i>Teline stenopetala</i> ssp. <i>spachiana</i> (Webb) del Arco	Central Canary Islands: Tenerife	Güímar, Caldera de Pedro Gil (1775 m)	28°20'N 16°28'W	DP 182

TABLE 3. Sequence characteristics of ITS1, 5.8S and ITS2 regions of 50 individuals representing 41 taxa (36 species) of Genisteeae (Leguminosae). Sequence divergence was estimated using uncorrected pairwise distances.

parameter	ITS 1	5.8S	ITS 2	whole region
length range (total) bp	219-241	163	217-221	600-624
length mean (total) bp	235.7	163	217.9	616.6
length range (ingroup) bp	219-241	—	217-220	600-622
length mean (ingroup) bp	235.6	163	217.8	616.4
length range (outgroup) bp	240	163	221	624
aligned length bp	250	163	224	637
G + C content range %	57.1-66.4	51.3-60.9	56.5-64.7	56.2-64
G + C content mean %	61.9	53.1	61.7	59.3
sequence divergence (ingroup) %	0-14	0-1.7	0-11.5	0-8.3
sequence divergence (in/outgroup) %	11.5-16.7	3.1-3.7	14.3-21.1	11.4-14.5
number of indels (ingroup)	13	0	8	21
number of indels (total)	18	0	9	27
size of indels (ingroup)	1-17	—	1-2	1-17
size of indels (total)	1-17	—	1-2	1-17
number of variable sites (%)	89 (35.6)	7 (4.3)	88 (39.3)	184 (28.9)
number of constant sites (%)	161 (64.4)	156 (95.7)	136 (60.7)	453 (71.1)
number of informative sites (%)	60 (24)	3 (1.8)	53 (23.7)	116 (18.2)
number of autapomorphic sites (%)	29 (11.6)	4 (2.5)	35 (15.6)	68 (10.7)
transitions (minimum)	68	2	55	125
transversions (minimum)	32	1	36	69
transitions/transversions	2.1	2	1.53	1.8

TABLE 4. Tests for monophyly in the genus *Teline*. Significant length difference ($P = < 0.05$) for constraints is indicated by *.

constraint	no. of species	cost of monophyly: MP tree length difference	Templeton (Wilcoxon signed-rank) test	cost of monophyly: Log-likelihood difference	Kishino-Hasegawa likelihood ratio test
<i>T. stenopetala</i>	1 (5 ssp.)	7	$P = 0.0082$ *	35.180	$P = 0.0035$ *
<i>T. stenopetala</i> excl. spp. <i>spachiana</i>	1 (4 ssp.)	2	$P = 0.1797$	4.793	$P = 0.2222$
Macaronesian ‘ <i>monspessulana</i> group’	7	1	$P = 0.3173$	2.763	$P = 0.3129$
Macaronesian clade	12	21	$P = < 0.0001$ *	69.445	$P = < 0.0001$ *
genus	14	10	$P = 0.0328$ *	26.140	$P = 0.0112$ *
genus + <i>Genista segonnei</i>	15	4	$P = 0.1025$	6.241	$P = 0.1937$