**APPENDIX 1.** Leaf-morphotype categorization of the Río Pichileufú flora.

Notes: For “Organ”, PL, PR= pteridophyte leaf/reproductive; CYL= cycad leaf; GL=ginkgophyte leaf; CL, CR= conifer leaf/reproductive; ML= monocot leaf; DL, DR=dicot leaf/reproductive. Representative specimens are cited using either the repository number or with a unique field number, written as “(BAR) RP quarry\_ year collected\_field tally number.” See Appendix 5 for additional nomenclatural information.

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| Morphotype number | Figure | Corresponding name, if applicable | Representative specimen | Organ | Distinguishing features | Comments |
| GZ001 | 3A, 14C | *“Dicksonia” patagonica* E.W. Berry | USNM PAL 40379a | PL, PR | Fronds at least thrice pinnate. Penultimate rachis stout. Penultimate pinnae alternate. Pinnules alternate, confluent. Pinnule venation craspedodromous. | Provisionally includes sterile and fertile leaf pinnae following Berry 1938, although they are not found in attachment. |
| GZ002 | 3B | *“Asplenium” incertum* E.W. Berry | USNM PAL 40380 | PL | Pinnule fragment narrow, oblong. Secondary veins dichotomizing, craspedodromous, angles acute (ca. 17°), spacing close and regular, parallel. Margin irregularly toothed. | \_ |
| GZ003 | 3C | *“Goniopteris” patagoniana* E.W. Berry | USNM PAL 40382 | PL | Fronds at least bipinnate. Penultimate rachis stout, tapering distally. Pinnules alternate to subopposite, confluent. Pinnule venation craspedodromous. | \_ |
| GZ004 | 3D | n/a | (BAR) RP3\_2005\_610 | PL | Pinnules pinnatisect. Pinnule margin serrate. Apex round. Secondaries thin, dichotomize from midvein, subparallel, terminate in tooth apex. | \_ |
| GZ005 | 3E | n/a | BAR 5600 | CYL | Margin toothed. Midvein prominent. Secondaries dichotomize at and near midvein, numerous, thin, angles regular (60-70°), parallel, terminate in the sinuses of teeth. Marginal vein present. | Possible cycad leaflet. |
| GZ006 | 3F | *Ginkgoites patagonicus* (E.W. Berry) Villar de Seoane, Cúneo, Escapa, Wilf et Gandolfo | BAR 4312 | GL | Leaves simple, flabelliform, deeply incised, bilobed, with 2 major lobes and two to eight secondary or minor lobes. Veins dichotomize from a single pair in the petiole up to five times until reaching apex. | \_ |
| GZ007 | 3G; 14 A, B | *Araucaria pichileufensis* E.W. Berry | BAR 5347 | CL, CR | Leafy branch segments: Leaves helically arranged, sessile, and univeined. Leaves dimorphic with one foliage type longer, keeled, sublate spreading and one type shorter, adpressed lanceolate type. Ovuliferous complexes: samara-like with a single embedded central seed and thin lateral wings. Pollen cones: terminally attached, solitary, cylindrical, with triangular basal bracts. | \_ |
| GZ008 | 3H; 14E | *Agathis zamunerae* Wilf | USNM PAL 40378d | CL, CR | Leaves: well-spaced on twigs, opposite to subopposite decussate, or preserved in isolation. Leaves elliptic to lanceolate, base pseudopetiolate. Veins parallel. Ovuliferous complexes: fan shaped, thick, with basal embayments, usually without remaining seed. | \_ |
| GZ009 | 3I | *Papuacedrus prechilensis (*E.W. Berry) Wilf, Little, Iglesias, Zamaloa, Gandolfo, Cúneo et Johnson | (BAR) RP3\_2005\_1035 | CL | Foliage branching in a single plane, dimorphic. Leaves opposite-decussate or whorled. Lateral leaves larger, bilaterally flattened, in pairs fused across the twig. Facial leaves reduced, bifacially flattened. | \_ |
| GZ010 | 3J | *Retrophyllum oxyphyllum* (Freng. & Parodi) Wilf | (BAR) RP3 2002 93A | CL | Leaves ovate-lanceolate, decurrent and clasping twig, heterofacially flattened. Leaves have a central longitudinal band of thickened transfusion tissue. Leaf apices acuminate. | \_ |
| GZ011 | 3K | *Dacrycarpus engelhardti* (Berry)Wilf et Andruchow-Colombo | USNM PAL 40385h | CL | Leafy branches. Leaves decurrent, dimorphic, either bifacially flattened or larger and bilaterally flattened, arrayed on feather-like short shoots. | \_ |
| GZ012 | 3L | *Podocarpus andiniformis* E.W. Berry | USNM PAL 40384 | CL | Leaves well-spaced on twigs, arrangement opposite. Leaves bifacial, slender, lanceolate, and narrowed at base. Leaf base decurrent, apex acute. | \_ |
| GZ013 | 4A | n/a | BAR 4365 | ML | Leaf segments long, strap-like. Margin entire. Midvein absent. Parallel veins numerous. | Differs from GZ014 in the absence of a midvein. |
| GZ014 | 4B | n/a | (BAR) RP3 2002 265 | ML | Leaf segments long, strap-like. Margin entire. Midvein present. Parallel veins fine, numerous. | Differs from GZ013 in the presence of a midvein. |
| GZ015 | 4C | n/a | BAR 1178 | ML | Lamina broad, possibly lobed. Midvein prominent. Parallel veins fine, numerous. | ?Araceae |
| GZ016 | 4D | n/a | (BAR) RP3\_2005\_747 | ML | Lamina long, narrow, elliptic. Margin entire. Midvein prominent. Lateral primaries acrodromous, ascending over the full length of the leaf. Interior secondaries straight, regular. Weak intra marginal vein present. | Ripogonaceae |
| GZ017 | 4E | *“Cissus” pichileufensis* E.W.Berry | USNM PAL 40455 (Berry 1938 pl. 31 fig. 3) | DL | Petiole long, thick. Lamina ovate, medially asymmetrical. Blade pinnately incipiently lobed, margin toothed. Primary venation pinnate. Agrophic veins present. Secondaries craspedodromous, about 6 pairs. Tertiaries weak, some alternate percurrent. Epimedial tertiary departure perpendicular to midvein. Tooth spacing irregular. Teeth in 2 orders, shape cc/cv to cc/st, apices glandular. | \_ |
| GZ018 | 4F | n/a | BAR 4361 | DL | Blade pinnately lobed, margin toothed. Primary venation pinnate. Secondaries semicraspedodromous. Interior secondaries present. Marginal secondary present. Tertiaries reticulate. Areolation well developed. FEVs present, branched. | ?Proteaceae |
| GZ019 | 4G, 14D | *“Cochlospermum” previtifolium* E.W. Berry | USNM PAL 40468c (leaf; Berry 1938 pl. 39)  USNM PAL 40468d (fruit) | DL, DR | Blade palmately 5-7 lobed, symmetrical. Lobe shape ovate to lanceolate. Blade margin toothed to entire. Base wide-obtuse, cordate. Primary venation basal actinodromous. Agrophic or intersecondary veins absent. Secondaries semicraspedodromous. Interior secondaries present. Minor secondaries craspedodromous. Bracing veins terminate in nadirs of the deep, rounded sinuses. Fruits are subspherical/globose capsules with (3.75 cm diameter) with a prominent pedicel and long fibers that radiate outward, probably associated with the seeds. | Fruits are not attached to the leaves.  Carvalho et al. (2011) noted that Bixaceae/ Cochlospermum have prominent veins terminating in the sinuses of the teeth, and these fossils do not have this feature. |
| GZ020 | 4H | *“Oreopanax” guinazui* E.W. Berry (part) | USNM PAL 40486a (Berry 1938 pl. 45 fig. 3) | DL | Petiole long, thick. Blade palmately trilobed, margin toothed. Lobe sinuses rounded and bracing vein present. Base acute concave. Primaries three, divergence suprabasal, strong and straight, lateral primaries offset. Secondaries semicraspedodromous, regular. Minor secondaries craspedodromous. Fimbrial vein present. Teeth regular, sinuses rounded, shape cc/cc. | Differs from GZ021 in the acute, concave base and the suprabasal primary venation. |
| GZ021 | 4I | *“Oreopanax” guinazui* E.W. Berry (part) | USNM PAL 40486c (Berry 1938 pl. 45 fig. 1) | DL | Petiole long, thick. Blade palmately trilobed, margin toothed. Base obtuse, convex. Primary venation basal actinodromous, with three primaries. Secondaries semicraspedodromous, irregular. Interior secondaries present. Teeth regular, shape cc/st to cc/cc. | Differs from GZ020 in the obtuse, convex base and the basal actinodromous primary venation. |
| GZ022 | 4J | *“Triumfetta” irregulariter-serrata* Engelhardt | USNM PAL 40465 (Berry 1938 pl. 32 fig. 1) | DL | Petiole stout. Lamina ovate, unlobed, medially and basally asymmetrical; margin toothed. Primary venation basal actinodromous, with three primaries. Base obtuse, straight or convex. Major secondaries decurrent, angles 40 to 50°. Agrophic veins present. Interior secondaries present, numerous, spacing close, angles wider than secondaries (60-70°). Intramarginal secondary vein present. Tooth shape cc/rt. | Primary venation could be considered pinnate with acute basal secondaries. |
| GZ023 | 4K | n/a | BAR 4516 | DL | Petiole stout, insertion peltate excentric. Blade margin toothed. Base angle circular. Primary venation basal actinodromous, with seven primary veins. Tooth shape cc/cc. | \_ |
| GZ024 | 5A | *“Sterculia” patagonica* E.W. Berry | USNM PAL 40461  (Berry 1938 pl. 33 fig. 2) | DL | Blade palmately five lobed; margin entire. Base angle obtuse, base shape cordate. Primary venation basal actinodromous, with five primary veins. Secondaries eucamptodromous. | \_ |
| GZ025 | 5B | *“Sterculia” guinazui* E.W. Berry | USNM PAL 222688a  (Berry 1938 pl. 34 fig. 2) | DL | Blade palmately trilobed, lobes long and narrow; margin entire. Base asymmetrical. Three strong, straight primaries present, lateral primaries offset. Secondaries festooned brochidodromous. Marginal secondary present. Tertiaries reticulate. | \_ |
| GZ026 | 5C | n/a | (BAR) RP3\_2005\_810 | DL | Blade palmately trilobed, lobes long and narrow; margin entire. Base cuneate. Primary venation basal actinodromous, with three strong primary veins. Bracing vein to sinuses present. Secondaries brochidodromous, weak, numerous. | Malvaceae? |
| GZ027 | 5D | “*Strychnos” patagonica* E.W. Berry | USNM PAL 40507  (Berry 1938 pl. 46 fig. 4) | DL | Laminar shape elliptic; blade unlobed, margin entire. Base shape obtuse, convex. Primary venation basal actinodromous with seven primaries, two running on the margin. Interior secondaries present. Areolation well developed with square areoles, freely ending veinlets absent. | Menispermaceae? |
| GZ028 | 5E | n/a | (BAR) RP3\_2005\_978 | DL | Laminar shape ovate; blade unlobed, margin entire. Apex shape acute, straight. Base shape shallow cordate. Primary venation basal acrodromous, with seven primaries. Fimbrial vein present. | Menispermaceae or *Smilax*? |
| GZ029 | 5F | *“Bignonia” pichileufana* E.W. Berry (part) | USNM PAL 40495b (Berry 1938 pl. 49 fig. 2) | DL | Laminar shape ovate; blade unlobed, margin entire. Primary venation suprabasally actinodromous with strong subtending secondary pair. Secondaries brochidodromous. Marginal secondary present. Epimedial tertiary proximal course perpendicular to midvein. | Primary venation could be considered pinnate with acute suprabasal secondaries. |
| GZ030 | 5G | n/a | BAR 4595 | DL | Laminar shape flabellate; blade unlobed, margin entire. Base angle obtuse, shape cuneate. Primary venation basal actinodromous, with seven primary veins, course straight, dichotomizing. | Differs from GZ031 in having straight, dichotomizing primaries. |
| GZ031 | 5H | n/a | BAR 4226 | DL | Margin entire. Base angle obtuse. Primary venation basal actinodromous with seven primary veins, angles and spacing irregular. Agrophic veins present, well developed, looping. Secondaries brochidodromous. Interior secondaries present. | Differs from GZ030 in the irregular angles and spacing of the primary veins.  Differs from GZ032 in not having offset lateral primaries. |
| GZ032 | 5I | *“Polioexolobus” prenuntius* Berry, 1938 (part) | USNM PAL 40504d (Berry 1938 pl. 51 fig. 3) | DL | Lamina unlobed; margin entire. Base shape obtuse. Primary venation basal actinodromous with five primary veins, lateral primaries offset from middle three primaries. Secondaries brochidodromous. Tertiaries reticulate, spacing wide. | Differs from GZ031 in having offset lateral primaries.  Differs from GZ033 in having five primary veins that do not dichotomize near the base. |
| GZ033 | 5J | n/a | BAR 4494 | DL | Petiole long. Lamina unlobed; margin entire. Base shape cordate. Primary venation basal actinodromous. Seven primary veins, weak, dichotomizing. Naked basal primary veins and agrophic veins present. Minor secondaries brochidodromous. Marginal secondary vein present. | Differs from GZ032 in having seven primary veins that dichotomize near the base.  Differs from GZ034 in having a cordate base and seven primaries. |
| GZ034 | 5K | n/a | BAR 4486 | DL | Base angle obtuse, shape rounded. Primary venation palinactinodromous. Five primaries, dichotomizing laterally. Interior secondaries present. Tertiaries opposite percurrent, convex, fine. Quaternaries irregular reticulate. | Differs from GZ033 in having a rounded base and five primary veins. |
| GZ035 | 5L | n/a | BAR 4717 | DL | Petiole long, thick, insertion peltate excentric. Margin entire. Base angle circular, shape rounded, basal width asymmetrical. Primary venation basal actinodromous, seven primaries. |  |
| GZ036 | 6A | *Lomatia preferruginea* E.W. Berry | USNM PAL 219145 (Berry 1938 pl. 14 fig. 6) | DL | Leaf organization compound, imparipinnate; leaflet insertion opposite or subopposite. Lamina lobed, shape ovate or elliptic, asymmetrical; margin toothed. Base shape decurrent, asymmetrical. Apex shape acute. Primary venation pinnate. Secondaries craspedodromous. Teeth serrate, compound. Tooth shape cc/st. | \_ |
| GZ037 | 6B | n/a | BAR 4272 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin toothed. Base shape cuneate, symmetrical. Primary venation pinnate. Secondaries craspedodromous, straight, angle regular. Teeth large, irregular, compound. Tooth shape rt/st, cv/rt, to rt/cc. | \_ |
| GZ038 | 6C | n/a | (BAR) RP3\_2005\_1105 | DL | Lamina unlobed; margin toothed. Base angle acute. Primary venation pinnate. Midvein prominent, tapers distally. Secondaries craspedodromous, numerous, angles 35 to 45 degrees, spacing irregular. Tertiaries convex to sinuous, mixed percurrent. Quaternaries mixed percurrent. Quinternaries reticulate. Teeth, large, compound. Tooth shape cv/cv. Principal vein present, terminates in apex. | Urticaceae? |
| GZ039 | 6D | *“Banara” cuadrae* Engelhardt | USNM PAL 40450c (*sensu* Berry 1938) | DL | Lamina medially asymmetrical; blade unlobed, margin toothed. Apex shape acute. Primary venation pinnate. Secondaries craspedodromous, spacing irregular, angle uniform. Minor secondaries craspedodromous. Marginal secondary present. Intersecondary veins absent. Tertiaries alternate percurrent, weak. Epimedial tertiaries opposite percurrent, proximal course perpendicular to midvein. Teeth large, spacing irregular. Tooth shape triangular, st/st. | \_ |
| GZ040 | 6E | n/a | BAR 4662 | DL | Laminar shape ovate, symmetrical; blade unlobed, margin crenate. Apex shape acute, acuminate. Base angle obtuse, shape convex, basal insertion asymmetrical. Primary venation pinnate. Secondaries craspedodromous, few (~7 subopposite pairs), spacing wide, terminate in tooth sinuses, angle increasing basally. Minor secondaries craspedodromous. Tertiaries opposite percurrent, sinuous, angle exmedially decreasing. Sinus shape angular. Tooth shape cv/cv, cv/fl. | \_ |
| GZ041 | 6F | *“Celtis ameghinoi”* E.W. Berry | USNM PAL 40395a (*sensu* Berry 1938) | DL | Laminar shape ovate, unlobed; margin toothed. Base angle obtuse, shape decurrent. Apex angle acute, shape acuminate. Primary venation pinnate. Midvein deflected by secondaries. Secondaries craspedodromous, flexuous, and crowded basally. Tertiaries mixed (opposite percurrent sinuous and alternate percurrent), well defined, spacing close. Tooth shape st/rt. | Differs from GZ042 in having flexuous secondaries, mixed percurrent tertiaries and st/rt teeth. |
| GZ042 | 6G | n/a | (BAR) RP3\_2005\_874 | DL | Lamina asymmetrical; blade unlobed; margin toothed. Apex angle acute, shape acuminate. Primary venation pinnate. Secondaries craspedodromous, numerous, spacing close, irregular. Tertiaries opposite percurrent, straight. Tooth shape st/cv. | Differs from GZ041in having straight, closely spaced secondaries, the straight opposite percurrent tertiary fabric, and minute, st/cv teeth. |
| GZ043 | 6H | *“Eucryphia” tertiaria* E.W. Berry | USNM PAL 40456 (Berry 1938 pl. 36 fig. 1) | DL | Laminar shape ovate, symmetrical; blade unlobed; margin crenate. Base angle reflexed, shape cordate. Apex angle acute, shape straight. Primary venation pinnate. Secondaries craspedodromous, spacing basally crowded, angle abruptly increases proximally. Minor secondaries craspedodromous. Tertiaries opposite percurrent forming a chevron, fine, spacing close. Teeth in two orders. Tooth shape rt/cv. | \_ |
| GZ044 | 6I | *“Tabebuia” ipiformis* E.W. Berry (part) | USNM PAL 40508b (Berry 1938, pl. 52 fig. 1) | DL | Petiole/petiolule stout. Laminar shape ovate, asymmetrical; blade unlobed, margin toothed. Base angle acute, shape cuneate, slightly decurrent, asymmetrical. Midvein stout. Primary venation pinnate. Secondaries craspedodromous, numerous, straight, spacing irregular and close; angle smoothly increases proximally. Minor secondaries craspedodromous, terminate at sinuses and tooth apices. Sinus shape angular. Teeth large, angular, sometimes compound. Tooth shape st/st to st/cv. | \_ |
| GZ045 | 6J | n/a | (BAR) RP3\_2005\_827 | DL | Leaf organization compound. Lamina shape ovate; blade unlobed, margin crenate. Base angle obtuse, shape convex, basal width asymmetrical. Apex angle acute, shape straight. Primary venation pinnate. Secondaries craspedodromous. Tertiaries mixed percurrent. Tooth shape rt/cv to st/cv. | Possible sapindalean affinity. |
| GZ046 | 6K | *“Cupania” grosse-serrata* (Engelhardt) E.W. Berry  *“Diatenopteryx” fossilis* E.W. Berry (part)  *“Tabebuia” ipiformis* E.W. Berry (part)  *“Tetracera patagonica”* E.W.Berry(part) | BAR 4270 | DL | Petiole/petiolule pulvinate. Laminar shape ovate to elliptic, asymmetrical; blade unlobed, margin crenate. Base angle obtuse, shape convex, width and insertion asymmetrical. Apex angle acute to obtuse, shape rounded. Primary venation pinnate. Secondaries craspedodromous, spacing close and regular. Minor secondaries craspedodromous, branching to sinuses. Tertiaries opposite straight to slightly subopposite sinuous percurrent, thin, spacing close. Tooth shape rt/cv to cv/cv. | Possible sapindalean affinity. |
| GZ047 | 6L | *Anacardites pichileufensis* E.W.Berry  *“Cupania” cordinii* E.W.Berry  *“Tetracera” patagonica* E.W.Berry(part) | (BAR) RP3\_2005\_812 | DL | Lamina long and narrow (L:W=5:1), shape ovate to elliptic, asymmetric medially; blade unlobed, margin toothed. Base angle obtuse, shape convex, basal width asymmetrical. Apex angle acute, shape straight. Primary venation pinnate. Secondaries craspedodromous, spacing irregular, angle abruptly increasing proximally, dichotomizing near margin. Minor secondaries craspedodromous, terminate in sinuses and tooth apices. Tertiaries opposite percurrent, sinuous or convex. Tooth shape cv/cv or st/cv. | Possible sapindalean affinity. |
| GZ048 | 7A | *“Diatenopteryx” sorbifoliiformis* E.W. Berry  *“Diatenopteryx” fossilis* E.W. Berry (part)  *“Cupania” patagonica* E.W. Berry  *“Allophylus” graciliformis* (E.W. Berry) E.W. Berry (part) | (BAR) RP3\_2005\_813 | DL | Laminar shape elliptic, slightly asymmetrical; blade unlobed, margin toothed. Base angle acute, shape cuneate. Apex angle obtuse, shape convex. Primary venation pinnate. Secondaries craspedodromous angle and spacing regular, course to sinuses. Tertiaries opposite percurrent, weak. Tooth spacing regular. Sinuses angular. Tooth shape st/cv. | Possible sapindalean affinity. |
| GZ049 | 7B | n/a | (BAR) RP3\_2005\_537 | DL | Laminar shape elliptic, unlobed; margin toothed. Base angle acute, shape convex, basal insertion asymmetrical. Apex angle acute. Primary venation pinnate. Secondaries craspedodromous, spacing irregular, recurved, terminating in sinuses. Marginal secondary present. Tertiaries weakly opposite percurrent, straight, fine, angle decreasing exmedially. Tooth spacing irregular. Tooth distal flank deeply incised. Tooth shape angular, st/fl. | Cunoniaceae? |
| GZ050 | 7C | n/a | BAR 4627 | DL | Laminar shape elliptic, slightly medially asymmetrical; blade unlobed, margin crenate. Base angle acute, shape cuneate, basal insertion asymmetrical. Primary venation pinnate. Secondaries craspedodromous, numerous, spacing close and regular, angle uniform. Tooth incision shallow on distal flank. Tooth shape st/cv. | Differs from GZ051 in the close, regular spacing and uniform angles of the secondaries. |
| GZ051 | 7D | *“Cupania” latifoliodes* E.W. Berry (part) | USNM PAL 219129 (Berry 1938 pl. 30 fig. 1) | DL | Laminar shape elliptic; blade unlobed, margin toothed. Base angle acute, shape cuneate, basal insertion asymmetrical. Apex angle acute. Primary venation pinnate. Secondaries craspedodromous, numerous, spacing irregular, angle smoothly increases proximally. Tertiaries opposite percurrent, course convex. Areolation tight, quadrangular. Tooth spacing regular. Tooth shape st/cc. | Cunoniaceae or Juglandaceae?  Differs from GZ050 in the irregular spacing and angles of the secondaries.  Differs from GZ052 in the craspedodromous secondaries, convex opposite percurrent tertiaries, and the st/cc teeth. |
| GZ052 | 7E | *“Cupania” vernaliformis* E.W. Berry | USNM PAL 40438g (*sensu* Berry 1938) | DL | Laminar shape elliptic, slightly medially asymmetrical; blade unlobed, margin toothed. Base angle acute, shape cuneate. Apex angle acute. Primary venation pinnate. Secondaries semicraspedodromous. Minor secondaries craspedodromous. Tertiaries opposite percurrent, straight, weak. Tooth spacing regular. Tooth shape angular, st/st. | Differs from GZ051 in the semicraspedodromous secondaries. and straight opposite percurrent tertiary vein course, and angular teeth. |
| GZ053 | 7F | *“Villaresia” congonhafolia* E.W. Berry | USNM PAL 40445 | DL | Laminar shape elliptic, medially asymmetrical; blade unlobed, margin toothed. Base angle acute, shape decurrent, symmetrical. Primary venation pinnate. Secondaries semicraspedodromous, weak, attachment decurrent, angle uniform, spacing wide and decreases proximally. Secondaries occur in ~5 opposite pairs. Minor secondaries craspedodromous. Intramarginal secondary present. Tertiaries opposite percurrent, straight, thin, spacing wide, angle proximally increasing from obtuse to almost perpendicular to midvein (70 degrees). Epimedial tertiaries distally ramifying. Teeth small, tooth spacing irregular. Sinus shape angular. Tooth shape st/st. Principal vein present, termination at tooth apex. | Differs from GZ054 in the symmetrical base, wide spacing and decurrent attachment of secondaries, and irregularly spaced teeth that are st/st. |
| GZ054 | 7G | n/a | (BAR) RP3\_2005\_1111 | DL | Laminar shape elliptic; blade unlobed, margin toothed. Base angle acute, shape decurrent, basal width asymmetrical. Apex angle acute. Primary venation pinnate. Secondaries semicraspedodromous, spacing regular, angle uniform, attachment excurrent. Marginal secondaries at base. Intersecondaries absent. Tertiaries opposite percurrent with straight course, angle obtuse, exmedially decreasing and perpendicular. Quaternaries opposite percurrent. Quinternaries regular reticulate. Areolation moderate. Tooth spacing regular. Sinus shape angular. Tooth shape st/cv. | Differs from GZ053 in the asymmetrical base, excurrently attached secondaries, and teeth that are regularly spaced and st/cv. Differs from GZ054 in having larger, st/cv teeth. |
| GZ055 | 7H | n/a | (BAR) RP3\_2005\_1130 | DL | Lamina medially asymmetrical; blade unlobed, margin toothed. Base angle acute, shape cuneate, basal width asymmetrical. Primary venation pinnate. Secondaries semicraspedodromous, angle and spacing irregular. Intersecondaries absent. Tertiaries opposite percurrent, angle obtuse. Epimedial tertiaries opposite percurrent, proximal course perpendicular to midvein. Teeth small, irregular. Tooth shape st/st. | Differs from GZ053 and GZ054 in having small st/st teeth. |
| GZ056 | 7I | *“Fagara” serrata* E.W. Berry, 1938 | USNM PAL 40418 (Berry 1938 pl. 23 fig. 3) | DL | Laminar shape oblong, medially symmetrical; blade unlobed, margin toothed. Base angle acute, shape decurrent, basal insertion asymmetrical. Apex angle acute, shape straight. Midvein prominent. Primary venation pinnate. Naked basal secondary present on one side of leaf. Secondaries semicraspedodromous, spacing and angle irregular. Intersecondaries present, proximal course parallel to major secondaries, length >50% of subjacent secondary, distal course parallel to major secondary, frequency one per intercostal area. Tertiaries opposite percurrent, sinuous, weak, angle obtuse and inconsistent. Teeth spacing regular, wide. Sinus shape rounded. Tooth shape cc/fl. Principal vein present. | Differs from GZ057 in the decurrent base, semicraspedodromous secondaries, and regularly spaced teeth. |
| GZ057 | 7J | n/a | (BAR) RP3\_2005\_617 | DL | Laminar shape oblong, medially asymmetrical; blade unlobed, margin toothed. Base angle acute, shape cuneate to convex, basal insertion and width asymmetrical. Midvein prominent. Primary venation pinnate. Secondaries craspedodromous, spacing close, angle regular. Tooth spacing irregular, present only on the distal blade portion. Tooth shape st/cc. | Differs from GZ056 in the cuneate to convex base, craspedodromous secondaries, and irregular tooth spacing. |
| GZ058 | 7K | n/a | BAR 4569 | DL | Laminar shape oblong, medially asymmetrical; blade unlobed, margin minutely toothed. Basal width asymmetrical. Primary venation pinnate. Secondaries  craspedodromous, fine, angle and spacing uniform but differs on each respective side of the lamina. Intersecondaries absent. Tertiaries opposite percurrent, spacing close and regular, angle obtuse and decreasing exmedially. Epimedial tertiaries’ proximal course parallel to secondaries. Teeth small, spacing irregular. Tooth shape st/cc to st/fl. | \_ |
| GZ059 | 7L | n/a | (BAR) RP3\_2005\_583 | DL | Lamina shape oblong; blade unlobed, margin irregularly toothed. Base angle obtuse, shape cuneate, basal width asymmetrical. Apex angle obtuse, shape rounded. Primary venation pinnate. Secondaries semicraspedodromous, numerous, spacing irregular and angles regular. Marginal secondary present. Tertiaries random reticulate, weak. Epimedial tertiaries reticulate. Quaternaries opposite percurrent. Tooth spacing irregular. Teeth small, shape st/st to cv/cv. | \_ |
| GZ060 | 7M | n/a | (BAR) RP3\_2005\_1052 | DL | Petiole stout. Laminar shape elliptic, medially asymmetrical; blade unlobed, margin toothed. Base angle obtuse, shape convex, symmetrical. Apex angle acute, shape convex, mucronate. Primary venation pinnate. Secondaries semicraspedodromous, spacing irregular, angle uniform. Fimbrial vein present. Intersecondary veins present, proximal course parallel to major secondaries, length <50% of subjacent secondary, distal course ramifying, frequency of one per intercostal area. Tertiaries regular reticulate. Teeth spacing irregular. Sinus shape rounded. Tooth shape cc/cc, spinose (2 mm extension). | Akaniaceae? |
| GZ061 | 7N | *Atherospermophyllum guinazui* (E.W. Berry) C.L. Knight | USNM PAL 40403a (Berry 1938 pl. 19 fig. 4) | DL | Laminar shape elliptic, medially symmetrical; blade unlobed, margin toothed. Base angle acute, shape decurrent, straight to convex, symmetrical. Apex angle acute, shape straight. Midvein prominent proximally. Primary venation pinnate. Major secondary veins eucamptodromous to semicraspedodromous, with weak secondary loops\*; attachment decurrent, spacing irregular. Basal pair of secondaries acute. Intersecondaries present, usually less than one per intercostal area. Teeth large, 1-2 orders. Tooth spacing irregular. Tertiaries irregular reticulate. Exterior tertiaries weakly looped. Quaternary and quinternary veins irregular reticulate. Teeth large, two orders, some compound. Tooth spacing irregular. Sinuses rounded. Tooth shape cc/st to cc/rf to cc/fl. Principal vein terminates in tooth apex. Tooth apices markedly glandular. | \*This description differs slightly from the generic diagnosis (Knight and Wilf 2013).  Differs from GZ062 in having more secondaries (~eight or more) with loops, irregular reticulate tertiaries, rounded tooth sinuses, and cc/st to cc/rf or cc/fl teeth. |
| GZ062 | 7O | *Laurelia guinazui*E.W. Berry | USNM PAL 40403e (*sensu* Berry 1938) | DL | Laminar shape elliptic; blade unlobed, margin toothed. Primary venation pinnate. Secondaries eucamptodromous, spacing irregular, recurved, attachment decurrent. Intersecondaries present, usually less than one per intercostal area. Tertiaries opposite percurrent, straight, numerous, spacing close, angle perpendicular to midvein. Tooth spacing irregular. Sinus shape angular. Tooth shape cv/st, cc/cv. Tooth apices glandular. | Differs from GZ061 in having fewer secondaries (~five pairs), with a recurved course, and the lack of loops. Also differs in the opposite percurrent tertiary course, the angular tooth sinus, and cv/st to cc/cv tooth flanks. |
| GZ063 | 8A | n/a | (BAR) RP3\_2005\_514 | DL | Laminar shape elliptic, symmetrical; blade unlobed, margin toothed. Base angle acute, shape cuneate, symmetrical. Apex angle acute, shape convex, mucronate, apical width asymmetrical. Secondaries semicraspedodromous, spacing irregular, angles irregular. Intersecondaries present, one or less per major secondary. Tertiaries opposite percurrent, straight, weak, angle obtuse and exmedially decreasing. Quaternary and quinternary veins irregular reticulate. Tooth spacing irregular. Tooth shape cv/rt. Tooth apices glandular. Sinus shape rounded. | \_ |
| GZ064 | 8B | *“Paullinia” prerufescens* E.W. Berry | USNM PAL 40441b (Berry 1938 pl. 25, fig. 11) | DL | Petiole pulvinate. Laminar shape elliptic to ovate, asymmetrical; blade unlobed, margin toothed. Base angle obtuse, shape convex. Apex angle obtuse to acute, shape convex to acuminate. Primary venation pinnate. Secondaries craspedodromous, dichotomizing, spacing and angles irregular. Intersecondaries present. Tertiaries opposite percurrent, straight. Quaternaries regular reticulate. Tooth spacing irregular. Tooth shape cc/st, cc/cv. Sinuses rounded. | \_ |
| GZ065 | 8C | “*Casearia” patagonica* E.W. Berry (part) | USNM PAL 40454b (Berry 1938 pl. 36, fig. 3) | DL | Laminar shape elliptic; blade unlobed, margin toothed. Base shape convex. Apex angle acute, shape rounded. Primary venation pinnate. Major secondary veins craspedodromous, 15, spacing wide and regular, angles regular, ca. 35 degrees. Intramarginal secondary present. Teeth small, angular. Tooth shape cc/st, st/st. Tooth spacing close but irregular, teeth continue around the apex. Sinuses rounded. | \_ |
| GZ066 | 8D | **“***Casearia” patagonica* E.W. Berry (part) | USNM PAL 40454a (Ber­­­ry 1938 pl. 36, fig. 5) | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin toothed. Base angle obtuse, shape cuneate. Primary venation pinnate. Secondaries semicraspedodromous, numerous, spacing irregular and close, angles ca. 60 degrees. Tertiaries opposite percurrent, straight, fine, numerous. Epimedial tertiaries may be long, angle obtuse. Tooth spacing regular, closely spaced. Tooth shape st/st, st/fl, st/cv. Sinuses angular. Principal vein terminates in tooth apex. | \_ |
| GZ067 | 8E | n/a | (BAR) RP3\_2005\_1089 | DL | Laminar shape ovate-oblong; blade unlobed, margin toothed. Base shape convex. Apex shape acuminate. Naked basal secondaries present. Primary venation pinnate. Secondaries semicraspedodromous, spacing irregular. Tertiaries opposite percurrent, angle perpendicular to midvein, spacing close. Teeth minute. Tooth shape st/st. | Differs from GZ068 in having more ovate-oblong shape and minute, st/st teeth. |
| GZ068 | 8F | *“Styrax” glandulifera* E.W. Berry | USNM PAL 40491 (Berry 1938 pl. 46, fig. 5) | DL | Laminar shape ovate, symmetrical; blade unlobed, margin toothed. Apex shape acuminate. Midvein prominent. Primary venation pinnate. Secondaries semicraspedodromous, weak, spacing and angles regular. Marginal secondary present. Teeth small, spinose. Tooth shape st/st. | Differs from GZ067 in the more ovate lamina and the spinose, more widely spaced teeth. |
| GZ069 | 8G | *“Psidium” aracaforme* E.W. Berry | USNM PAL 40489 (Berry 1938 pl. 44, fig. 10) | DL | Laminar shape broad, elliptic; blade unlobed, margin irregularly toothed. Base angle obtuse, shape convex. Midvein stout and prominent. Primary venation pinnate. Secondaries robust in at least 10 pairs, craspedodromous, straight proximally and distally recurved, becoming more recurved in the toward the blade apex, some dichotomizing before margin into teeth apices; angles regular, spacing close and irregular; attachment decurrent. Marginal secondary present. Tertiaries opposite percurrent, convex. Teeth minute. | \_ |
| GZ070 | 8H | “*Azara” celastriniforma* E.W. Berry (part) | USNM PAL 40448a (Berry 1938 pl. 36, fig. 8) | DL | Laminar shape ovate-elliptic, asymmetrical; blade unlobed, margin toothed. Base angle reflex, shape cordate, basal width asymmetrical. Apex angle obtuse, shape rounded. Primary venation pinnate. Major secondaries semicraspedodromous, spacing regular. Marginal secondary present. Tertiaries opposite percurrent, straight, well-defined. Quaternaries regular reticulate. Areolation moderately developed. Tooth spacing wide, regular. Tooth shape st/cv, st/st. Sinuses angular. | \_ |
| GZ071 | 8I | *“Azara” celastriniforma* E.W. Berry (part) | USNM PAL 40448b (Berry 1938 pl. 36, fig. 9) | DL | Laminar shape round-elliptic to obovate, slightly asymmetrical medially and basally; blade unlobed, margin toothed. Base angle obtuse, shape cuneate. Apex angle obtuse, shape rounded. Primary venation pinnate, deflected. Secondaries semicraspedodromous, straight, spacing regular and wide, in at least 5 pairs. Teeth large, glandular to spinose, spacing irregular. Sinus shape angular. Tooth shape cc/cv to cc/cv. | \_ |
| GZ072 | 8J | n/a | BAR 4542 | DL | Petiole thickened. Laminar shape ovate, medially symmetrical; blade unlobed, margin toothed. Base angle obtuse, shape convex to rounded, basal width asymmetrical. Apex angle obtuse, shape convex, mucronate. Primary venation pinnate. Secondaries semicraspedodromous, spacing irregular, angle increases proximally. Intersecondaries present, <1 per intercostal area. Tertiaries opposite percurrent, straight. Epimedial tertiaries obtuse to the midvein. Tooth spacing regular. Sinus shape rounded. Tooth shape cc/cv. | \_ |
| GZ073 | 8K | *“Maytenus” latifolioides* E.W. Berry (part) | USNM PAL 219096 (Berry 1938 pl. 25, fig. 9) | DL | Laminar shape oblong, medially asymmetrical; blade unlobed, margin toothed. Base shape obtuse, cuneate, asymmetrical. Primary venation pinnate. Secondaries craspedodromous, recurved, angle irregular, ca. 60 to 65°, spacing abruptly increasing proximally. Tertiaries opposite percurrent, straight, fine, obtuse to midvein. Tooth spacing close. Sinus shape angular. Tooth shape angular, st/cv. | \_ |
| GZ074 | 8L | n/a | BAR 4649 | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin toothed. Base angle obtuse, shape rounded, asymmetrical. Apex angle acute. Primary venation pinnate. Secondaries semicraspedodromous, angles smoothly increasing basally, 50 to 85 degrees, spacing regular, close. Intersecondaries present, parallel to major secondaries and >50% of the length of the subjacent secondaries. Tertiaries opposite percurrent, irregular. Tooth spacing irregular and wide. Tooth shape cv/st. Sinuses angular. | \_ |
| GZ075 | 8M | n/a | BAR 4611 | DL | Laminar shape oblong, slightly asymmetrical; blade unlobed, margin toothed. Base angle obtuse, shape rounded. Primary venation pinnate. Acute basal secondaries present. Secondaries eucamptodromous, thin, in five opposite pairs, recurved. Tertiaries opposite percurrent, straight, spacing regular, angle obtuse and exmedially decreasing to become perpendicular to midvein. Epimedial tertiaries diverge perpendicular to midvein. Quaternary veins opposite percurrent. Quinternary venation regular reticulate. Areolation well developed; areoles square. Tooth spacing regular. Tooth apices glandular. Sinuses shallow, rounded. Tooth shape st/st, st/cv. | \_ |
| GZ076 | 8N | *“Ouratea” firmifolia* (Engelhardt)E.W. Berry | USNM PAL 40459c (Berry 1938 pl. 32, fig. 4) | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin toothed. Base angle obtuse, shape convex, basal width asymmetrical. Apex angle acute, shape straight. Primary venation pinnate. Naked basal secondaries present, thin. Secondaries craspedodromous, spacing irregular, decreasing basally. Tertiaries opposite percurrent, straight, spacing close. Epimedial tertiaries’ divergence obtuse to midvein. Teeth numerous, small, spacing close and regular. Tooth shape st/st. | \_ |
| GZ077 | 8O | n/a | BAR 4714 | DL | Petiole thick. Laminar shape ovate; blade unlobed, margin toothed. Base angle obtuse, shape decurrent. Apex angle acute, shape straight. Primary venation pinnate. Secondaries eucamptodromous, spacing wide, organized in at least four offset pairs. Tertiaries opposite percurrent, straight, weak. Tooth spacing regular. Sinuses rounded. Tooth shape st/fl, cc/st. | \_ |
| GZ078 | 8P | *“Banara prehernandiensis”* E.W. Berry | BAR 4622 | DL | Laminar shape ovate; blade unlobed, margin toothed. Base angle obtuse, shape concave. Apex angle acute, shape straight. Primary venation pinnate. One pair of acute basal secondaries present, naked near the petiole insertion. Agrophic veins simple. Major secondaries eucamptodromous, spacing abruptly increases proximally; most (three of four pairs) secondaries occur in upper half of lamina, spacing regular. Several intersecondaries present between the first and second pairs of secondaries. Tertiaries opposite percurrent, straight or convex, perpendicular divergence from midvein. Epimedial tertiaries opposite percurrent, perpendicular to midvein. Quaternary and quintenary venation irregular reticulate. Areolation well developed. Tooth spacing regular. Tooth shape cc/rt. | Rhamnaceae |
| GZ079 | 9A | *“Tetracera”* sp. E. W. Berry | USNM PAL 40463 (Berry 1938 pl. 32, fig. 2) | DL | Petiole stout. Laminar shape elliptic, asymmetrical; blade unlobed, margin toothed. Base angle acute, shape decurrent, basal width asymmetrical. Apex angle acute, shape convex. Primary venation pinnate. Secondaries craspedodromous, numerous, at least 9 pairs, subparallel, spacing close. Tertiaries opposite percurrent, straight, to reticulate. Quaternaries irregular reticulate. Tooth spacing regular. Sinuses rounded. Tooth apices glandular. Tooth shape cc/cc, cc/cv, cv/rt. | \_ |
| GZ080 | 9B | *“Myrica mira”* E.W. Berry (part)  *“Allophylus” graciliformis* (E.W. Berry) E.W. Berry (part) | USNM PAL 219086 (Berry 1938 pl. 14, fig. 8) | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin toothed. Base angle acute, shape decurrent.Apex angle narrow-acute, shape straight.Primary venation pinnate. Secondaries craspedodromous, straight, spacing regular and close, angles uniform. Tertiaries percurrent, fine. Teeth irregular, large, in two orders, sometimes compound, often occurring in pairs along the margin. Tooth apices glandular. Tooth shape st/st to st/cc. Sinuses angular. | Differs from GZ081 in the straight secondaries, absence of a marginal secondary vein, and in the irregular, two-ordered and sometimes compound st/st to st/cc teeth with angular sinuses.  Differs from GZ082 in having craspedodromous secondaries. |
| GZ081 | 9C | *“Myrica mira”* E.W. Berry (part) | USNM PAL 219087 (Berry 1938 pl. 14, fig. 9) | DL | Laminar shape narrow, elliptic; blade unlobed, margin toothed. Base angle acute.Apex angle acute. Primary venation pinnate. Secondaries craspedodromous, slightly recurved, terminating in tooth sinuses. Marginal secondary present. Tooth spacing regular. Tooth apices round and glandular. Tooth shape st/cc. | Differs from GZ080 in the recurved secondaries, presence of a marginal secondary vein, and in the st/cc teeth with wider, regular spacing. |
| GZ082 | 9D | n/a | BAR 4261 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin toothed. Base angle acute, basal insertion asymmetrical. Apex angle acute. Primary venation pinnate. Midvein thickened proximally. Secondaries semicraspedodromous. Intramarginal secondary present. Tertiaries opposite percurrent. Tooth spacing irregular. Tooth apices glandular. Tooth shape cc/rt, st/cv. Sinus shape rounded. | Differs from GZ080 in having semicraspedodromous secondaries. |
| GZ083 | 9E | n/a | BAR 4467 | DL | Petiole thick. Laminar shape elliptic; blade unlobed, margin irregularly toothed. Base angle acute, shape decurrent. Apex angle acute, shape straight. Primary venation pinnate. Secondaries semicraspedodromous, basal pairs acute. Marginal secondary present. Teeth minute, spacing wide and irregular. Tooth shape cv/st. Principal vein termination in distal flank of tooth. | \_ |
| GZ084 | 9F; 14G | *“Coprosma” incerta* E.W. Berry  *“Myrcia” chubutensis* E.W. Berry  *“Myrcia reticulato-venosa”* Engelhardt (part) | USNM PAL 40497a (Berry 1938 pl. 47, fig. 1) | DL, DR | Leaf attachment opposite. Laminar shape elliptic; blade unlobed, margin entire. Base angle acute, shape decurrent. Apex angle acute. Primary venation pinnate. Midvein prominent. Secondaries weakly brochidodromous, fine. Marginal secondary present. Tertiaries reticulate. Areolation present, good development. | Myrtaceae? BAR 4706 (Fig. 14G) has GZ084 leaves attached to umbel infructescences.  Differs from GZ085 in the decurrent base and brochidodromous secondaries. |
| GZ085 | 9G | *“Cephalanthus” glabratiflolius* E.W. Berry | USNM PAL 40496a (Berry 1938 pl. 54, fig. 6) | DL | Petiole thick. Laminar shape elliptic; blade unlobed, margin entire. Base angle acute, shape slightly convex. Apex angle acute, shape straight. Primary venation pinnate. Midvein prominent. Acute basal secondaries present. Secondaries eucamptodromous, becoming brochidodromous distally, spacing irregular. | Differs from GZ084 in the convex base and eucamptodromous secondaries.  Differs from GZ086 in being symmetrical, the secondaries irregularly spaced and becoming brochidodromous distally, and in the absence of a marginal secondary. |
| GZ086 | 9H | n/a | BAR 4491 | DL | Petiole thick, long. Laminar shape elongate, elliptic, slightly asymmetrical; blade unlobed, margin entire. Base angle acute, shape convex, basal insertion asymmetrical. Apex angle acute. Primary venation pinnate. Secondaries eucamptodromous, weak, spacing wide and regular in 8 opposite to subopposite pairs. Marginal secondary present. Tertiaries opposite percurrent, weak. | Differs from GZ085 in the asymmetry, the regularly spaced secondaries that do not become brochidodromous, and in having a marginal secondary. |
| GZ087 | 9I | n/a | (BAR) RP3\_2005\_656 | DL | Laminar shape narrow, elliptic, medially symmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Apex angle acute. Laminar glands (pellucid dots) present. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous, looping close and straight along margin, thin, straight, spacing and angles inconsistent. Intramarginal secondary present. | Myrtaceae.  Differs from GZ088 in being narrow and elliptic, symmetrical, having irregular angled secondaries, and lacking intersecondaries. |
| GZ088 | 9J | n/a | BAR 4266 | DL | Petiole base sheathing (widens/flared). Laminar shape narrow, ovate, medially asymmetrical; blade unlobed, margin entire, slightly sinuous. Base angle acute, shape convex to cuneate, basal width asymmetrical. Apex angle acute, shape straight. Primary venation pinnate. Secondaries brochidodromous, with flattened loops close to margin, thin, straight, spacing close and irregular, angles wide and uniform. Intersecondary veins present, course parallel to major secondaries, at times admedially ramified. Intramarginal secondary (formed by the flattened exterior secondary loops) present. | Differs from GZ087 in being ovate, asymmetrical, with uniform angles of the secondaries, and the presence of intersecondaries. |
| GZ089 | 9K | n/a | BAR 4673 | DL | Petiole broad. Lamina unlobed; margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Primary venation pinnate. Midvein strong. Secondaries terminate in the intramarginal vein, spacing close, angles uniform, ca. 40°. Intramarginal vein derived from a pair of acute basal secondaries. Tertiaries random or irregular reticulate. | Possible eucalypt |
| GZ090 | 9L | n/a | (BAR) RP3\_2005\_763 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Apex angle acute. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous becoming brochidodromous, numerous, fine, spacing close, angles uniform. Intersecondaries present, usually one per intercostal area, length >50% of subjacent secondary, parallel to major secondaries, ramifying. Tertiaries mixed opposite percurrent and random or reticulate. | \_ |
| GZ091 | 9M | *“Plumeria” articulatifolia* E.W. Berry | USNM PAL 40503 (Berry 1938 pl. 50, fig. 4) | DL | Laminar shape oblong; blade unlobed, margin entire. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous near margin, straight, weak, angle consistent, ca. 80°, spacing close and regular. | Berry (1938) misspelled the genus as “*Plumiera*” and here we use the correct spelling “Plumeria” throughout. |
| GZ092 | 9N | *“Myrcia” deltoidea* Engelhardt | BAR 4365 | DL | Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Apex angle acute, shape acuminate. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous, looping close to margin; straight, weak, spacing close, angles subparallel, wide. Intersecondaries present, usually one per intercostal area, length >50% of subjacent secondary, parallel to major secondaries. Marginal secondary present. | Differs from GZ093 in having more closely spaced secondaries that loop close to the margin and are not ramified, and in the intersecondaries being parallel to the major secondaries. |
| GZ093 | 9O | n/a | (BAR) RP3\_2005\_593 | DL | Laminar shape elliptic; blade unlobed, margin entire. Apex angle acute, shape acuminate. Midvein prominent. Primary venation pinnate. Secondaries strongly brochidodromous, numerous, attachment decurrent, spacing wide and irregular. Intersecondaries present, ramified, subparallel, irregular. Tertiaries opposite percurrent or irregular, admedially ramifying. | Differs from GZ092 in having more widely spaced secondaries that loop farther from the margin and ramified, subparallel intersecondaries. |
| GZ094 | 9P | n/a | BAR 4728 | DL | Petiole long, thick, flaring at base. Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent. Apex angle acute, shape concave on left side and convex on right side. Primary venation pinnate. Midvein prominent. Secondaries weakly brochidodromous; angle inconsistent, spacing irregular. Intersecondaries present. Tertiaries opposite percurrent, weak. Exterior tertiaries terminate at margin. | Differs from GZ095 in its higher medial symmetry, irregularly angled secondaries, and opposite percurrent tertiaries. |
| GZ095 | 9Q | *“Tetrapteris” precrebrifolia* E.W. Berry (part) | USNM PAL 40429b (Berry 1938 pl. 22 fig. 5) | DL | Petiole long, thick, flaring at base. Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Apex angle acute, shape convex. Rank low (1r). Primary venation pinnate. Midvein prominent. Secondaries weakly brochidodromous, very fine; spacing irregular, angle uniform. Marginal secondary present. Tertiaries irregular reticulate. | Differs from GZ094 in having markedly much more medial and basal asymmetry, uniform secondary angle, and an irregular reticulate tertiary fabric. |
| GZ096 | 10A | *“Nectandra” prolifica* E.W. Berry (part)  *“Oreodaphne” preacutifolia* E.W. Berry | USNM PAL 40471a (Berry 1938 pl. 42, fig. 1) | DL | Petiole stout. Laminar shape elliptic; blade unlobed, margin entire. Base angle acute, shape decurrent. Apex angle acute, shape acuminate. Primary venation pinnate. Midvein stout. Secondaries eucamptodromous, becoming brochidodromous distally, attachment decurrent, numerous (8 or more subopposite pairs); spacing close, slightly irregular, angles regular but with one acute basal pair. Fimbrial vein present. Intersecondaries sometimes present in distal part of leaf. Tertiaries mixed percurrent, straight to convex. Quaternaries opposite percurrent. | Differs from GZ097 in having eucamptodromous secondaries, rare intersecondaries only present distally, and mixed percurrent tertiaries. |
| GZ097 | 10B | **“***Nectandra” prolifica* E.W. Berry (part) | USNM PAL 40471e (Berry 1938 pl. 42, fig. 4) | DL | Petiole thick. Laminar shape elliptic; blade unlobed, margin entire. Base angle narrow-acute, shape decurrent. Apex angle acute. Primary venation pinnate. Midvein strong. Secondaries brochidodromous, disorganized, spacing and angles irregular, attachment decurrent. Intersecondaries present, usually 2-3 per secondary. Tertiaries opposite percurrent, straight. | Differs from GZ096 in the brochidodromous secondary fabric, prevalence of intersecondaries, and the opposite percurrent tertiary fabric.  Differs from GZ098 in the brochidodromous secondaries and tertiaries that do not ramify.  Differs from GZ099 in its decurrently attached, disorganized secondaries, many intersecondaries per intercostal area that do not ramify, and straight opposite percurrent fabric. |
| GZ098 | 10C | **“***Nectandra” prolifica* E.W. Berry (part) | USNM PAL 40471d (Berry 1938 pl. 42, fig. 5) | DL | Petiole thick. Laminar shape narrow, elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle narrow-acute, shape decurrent. Apex angle acute, shape straight. Primary venation pinnate. Midvein strong. Secondaries eucamptodromous, becoming brochidodromous distally, spacing and angle irregular, angle sharply decreasing basally. Marginal secondary present. Intersecondaries present, irregular. Tertiaries mixed percurrent, opposite and alternate, admedially ramifying, fine. | Anacardiaceae? Differs from GZ097 in its eucamptodromous secondary fabric and admedially ramifying tertiary fabric. |
| GZ099 | 10D | *“Nectandra” prolifica* E.W. Berry (part) | USNM PAL 40471f (Berry 1938 pl. 42, fig. 6) | DL | Laminar shape elliptic; blade unlobed, margin entire. Base shape cuneate. Apex angle acute, shape straight. Primary venation pinnate. Secondaries strongly brochidodromous, attachment excurrent, angle regular with basal secondaries acute, spacing irregular. Minor secondaries looping. Marginal secondary present. Intersecondaries present, ~1 per intercostal area, some distally ramified. Tertiaries mixed percurrent, weak, spacing wide. Epimedial tertiaries reticulate. | Differs from GZ097 in its more organized secondaries that are excurrently attached, fewer intersecondaries that ramify, and mixed tertiary fabric. |
| GZ100 | 10E | n/a | BAR 4685 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base angle acute, shape cuneate, basal width asymmetrical. Apex angle acute. Primary venation pinnate. Simple agrophic veins present. Secondaries eucamptodromous, few (ca. 10), spacing irregular, wide, angle uniform but sharply decreasing basally. Marginal secondary present. Intersecondaries present, some dichotomize distally; usually more than one per intercostal area. Tertiaries opposite percurrent, straight to sinuous, numerous, spacing close, subparallel, angle nearly perpendicular to midvein. Epimedial tertiaries opposite percurrent, numerous, parallel to the intersecondaries. Quaternary and quinternary veins square, regular reticulate. Areolation well developed. FEVs present at sixth order. | \_ |
| GZ101 | 10F | n/a | (BAR) RP3\_2005\_501 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Rank low (2r). Primary venation pinnate. Midvein prominent, thins and deflected distally. Secondaries festooned brochidodromous, few (ca. five pairs), spacing regular, wide, angles uniform, attachment decurrent. Minor secondaries brochidodromous. Intramarginal secondary present. Tertiaries opposite percurrent to reticulate, straight to sinuous, spacing wide, angle obtuse and exmedially decreasing. Epimedial tertiaries alternate percurrent. Exterior tertiaries terminate in the intramarginal vein. Quaternary veins reticulate. | \_ |
| GZ102 | 10G | n/a | (BAR) RP3\_2005\_869 | DL | Petiole thick. Laminar shape elliptic; blade unlobed, margin entire. Base angle acute, shape decurrent. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, spacing regular, angle irregular, decreasing basally. Fimbrial vein present. Intersecondaries present, parallel to or more obtuse than secondaries, one per intercostal area. Tertiaries opposite percurrent, straight, irregular, weak. | Differs from GZ103 in having greater symmetry and regular secondary spacing.  Differs from GZ104 in secondaries being eucamptodromous and irregularly angled, decreasing basally. |
| GZ103 | 10H | n/a | BAR 4500 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, spacing irregular, angle decreasing basally. Fimbrial vein present. Intersecondaries present. Tertiaries opposite percurrent, straight, angle perpendicular to midvein. Epimedial tertiaries opposite percurrent, divergence perpendicular to midvein. Quaternaries and quinternaries irregular reticulate. Areolation moderate. FEVs branched. | Differs from GZ102 in being medially asymmetrical and irregular spacing of secondaries.  Differs from GZ104 in being eucamptodromous, with angle decreasing basally. |
| GZ104 | 10I | *“Dalbergia” patagonica* E.W. Berry 1938 | USNM PAL 40416a (Berry 1938 pl. 21, fig. 4) | DL | Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle acute, shape convex. Apex angle obtuse, shape retuse. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous, weak, spacing irregular, angles uniform. Tertiaries opposite percurrent, straight, weak. | Differs from GZ102 or GZ103 in its brochidodromous secondaries at regular angles. |
| GZ105 | 10J | n/a | BAR 4308 | DL | Laminar shape elliptic; blade unlobed, margin entire. Base angle acute, shape convex. Apex angle obtuse, shape rounded. Low rank (2r). Primary venation pinnate. Secondaries eucamptodromous, weak, spacing and angles irregular. Intersecondaries present, ca. 2 per intercostal area, dichotomizing. Tertiaries opposite percurrent, sinuous to straight, weak, some dichotomizing. Quaternaries and quinternaries irregular reticulate. Areolation present, development poor to moderate. | \_ |
| GZ106 | 10K | n/a | (BAR) RP3\_2005\_905 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base angle narrow-acute, shape decurrent, basal width asymmetrical. Primary venation pinnate. Secondaries weakly brochidodromous, thin, spacing irregular, with one pair of acute basal secondaries. Marginal secondary present. Tertiaries numerous, opposite percurrent, straight to sinuous, angle obtuse.­ Epimedial tertiaries opposite percurrent, divergence perpendicular to midvein. Quaternaries opposite percurrent | \_ |
| GZ107 | 10L | n/a | (BAR) RP3\_2005\_1019 | DL | Lamina symmetrical, obovate; blade unlobed, margin entire. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous, numerous, >12 subopposite pairs, spacing and angles slightly irregular, angle increasing basally. Marginal secondary present. Intersecondaries absent. Tertiaries opposite percurrent, straight to convex. | \_ |
| GZ108 | 10M | n/a | BAR 4677 | DL | Laminar shape oblong, asymmetrical; blade unlobed, margin entire. Base angle acute, shape convex to cuneate, basal insertion markedly asymmetrical. Primary venation pinnate. Secondaries brochidodromous, fine, angles inconsistent, wide (65-75º), spacing irregular. Marginal secondary present. Tertiaries opposite percurrent, weak. Exterior tertiaries terminate at margin. | \_ |
| GZ109 | 10N | *“Inga” patagonica* E.W. Berry | USNM PAL 40402 (Berry 1938 pl. 20, fig. 4) | DL | Laminar shape elliptical, medially asymmetrical; blade unlobed, margin entire. Base angle acute, basal insertion asymmetrical. Apex angle acute, shape acuminate. Primary venation pinnate. Secondaries robust, brochidodromous, spacing irregular but decreasing distally and basally, angle uniform. Fimbrial vein present. Tertiaries opposite percurrent, acute to midvein. | Differs from GZ110 in the acute base, brochidodromous secondaries, and the acute opposite-percurrent tertiary fabric. |
| GZ110 | 10O | n/a | (BAR) RP3\_2005\_506 | DL | Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base shape convex, basal insertion asymmetrical. Primary venation pinnate. Secondaries eucamptodromous, spacing and angles irregular, one weak pair emerging from the base. Tertiaries and epimedial tertiaries opposite percurrent, spacing close, angle perpendicular to midvein, strong and numerous. Quaternaries and quinternaries reticulate. Areolation moderate. | Differs from GZ109 in the convex base, eucamptodromous secondaries, and perpendicularly angled opposite-percurrent tertiary fabric.  Differs from GZ111 in the convex base, the eucamptodromous secondaries, and absence of intersecondaries. |
| GZ111 | 10P | n/a | (BAR) RP3\_2005\_731 | DL | Lamina medially asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal insertion and width asymmetrical. Primary venation pinnate. Midvein prominent. Secondaries craspedodromous, terminating in the fimbrial vein, strong, recurved, spacing irregular but close, angles abruptly increasing proximally. Fimbrial vein present. Intersecondaries present, short. Tertiaries opposite percurrent. Quaternaries reticulate. | Differs from GZ110 in the acute base angle, craspedodromous secondary fabric, and presence of intersecondaries.  Differs from GZ112 in the irregularly spaced and angled craspedodromous secondaries. |
| GZ112 | 10Q | n/a | BAR 4310 | DL | Leaf organization compound, trifoliolate or imparipinnate. Laminar shape elliptic; blade unlobed, margin entire. Base angle acute, shape cuneate, basal insertion asymmetrical. Primary venation pinnate. Secondaries brochidodromous, spacing regular and angles uniform. Marginal secondary present. Intersecondaries present, usually one per intercostal area; proximal course parallel to subjacent secondary, <50% of length of subjacent secondary, and distal course perpendicular to subjacent secondary. Tertiaries opposite percurrent, straight. | Differs from GZ111 in the regularly spaced and uniformly angled brochidodromous secondaries. |
| GZ113 | 11A | *“Remijia” tenuiflorifolia* E.W. Berry | USNM PAL 40505a (Berry 1938 pl. 54, fig. 1) | DL | Laminar shape oblong, symmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width asymmetrical. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous, thin, spacing irregular and angles uniform. Intersecondaries present, usually one per intercostal area; proximal course parallel to subjacent secondary, <50% of length of subjacent secondary, and distal course basiflexed to subjacent secondary and ramifying. Tertiaries and quaternaries reticulate. Areolation poorly developed. | \_ |
| GZ114 | 11B | n/a | (BAR) RP3\_2005\_899 | DL | Laminar shape oblong, asymmetrical; blade unlobed, margin entire. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, strong, few (~4 pairs observed), spacing and angle irregular, attachment decurrent. Marginal secondary present. Intersecondaries absent. Tertiaries opposite percurrent, straight to sinuous, numerous, spacing close, angle consistently obtuse, almost perpendicular to the midvein. Epimedial tertiaries opposite percurrent, divergence perpendicular to midvein. Quaternaries and quinternaries regular reticulate. Areolation well developed. | Although this fossil is missing a base, it has detailed venation up to the quinternary level. |
| GZ115 | 11C | n/a | BAR 4430 | DL | Petiole thick. Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent, basal width markedly asymmetrical. Apex angle acute, shape convex. Rank low (1r). Primary venation pinnate. Midvein strong proximally, thins abruptly distally. Secondaries weak, disorganized, spacing and angles irregular, attachment deflected, basal secondaries acute. Intramarginal secondary present, arising from base. Tertiaries opposite percurrent, straight, weak. Quaternaries and quinternaries irregular reticulate. FEVs branched, dendritic. Areolation moderately developed. | Differs from GZ116 in having weak, disorganized, irregular secondaries and an intramarginal secondary. |
| GZ116 | 11D | *“Tetrapteris” precrebrifolia* E.W. Berry (part) | USNM PAL 40429a (Berry 1938 pl. 22, fig. 4) | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire, slightly undulate Base angle acute. Apex angle acute, shape convex. Primary venation pinnate. Secondaries weakly brochidodromous, irregular. Marginal secondary present. Tertiaries opposite percurrent, straight, weak. | Differs from GZ115 in the regular, brochidodromous secondary fabric and in having a marginal rather than intramarginal secondary vein. |
| GZ117 | 11E | *“Styloceras” tertiarium* E.W. Berry (part) | USNM PAL 40428b (Berry 1938 pl. 24, fig. 5) | DL | Petiole stout. Laminar shape obovate-oblong, asymmetrical; blade unlobed, margin entire. Base angle acute, shape cuneate, basal insertion asymmetrical. Apex angle obtuse, shape rounded. Low rank (1r). Primary venation pinnate. Midvein strong. Acute basal secondaries reach the apex. Secondaries thick, reaching the distal 1/4 of the lamina, disorganized, spacing irregular, angles inconsistent and acute basally, attachment deflecting. Marginal secondary present, arising from base. Tertiaries mixed percurrent. | Lauraceae? |
| GZ118 | 11F | n/a | (BAR) RP3\_2005\_743 | DL | Petiole thick. Laminar shape obovate, asymmetrical; blade unlobed, margin entire. Base angle acute, shape convex, basal insertion slightly asymmetrical. Apex angle obtuse. Primary venation pinnate. Midvein prominent, thick. Secondaries brochidodromous, thick, numerous, spacing smoothly decreasing basally, in nine opposite or subopposite pairs, angle smoothly increases to 90 degrees basally. Fimbrial vein present. Tertiaries mixed percurrent, widely spaced. | Differs from GZ119 in having thick brochidodromous secondaries with spacing that decreases and angle that increases smoothly, with mixed percurrent tertiaries. |
| GZ119 | 11G | *“Myrcia” obovata* E.W. Berry | USNM PAL 40483a (Berry 1938 pl. 44, fig. 3) | DL | Laminar shape obovate, slightly asymmetrical; blade unlobed, margin entire. Base angle acute, shape convex, basal width asymmetrical. Apex angle obtuse, shape rounded. Primary venation pinnate, midvein prominent. Secondaries terminate in intramarginal vein, strong, fine, spacing close and irregular, angle consistently ca. 80 degrees from midvein. Intramarginal secondary present. Tertiaries irregular reticulate. | Differs from GZ118 in having finer, less organized secondaries that terminate in an intramarginal vein and in the reticulate tertiary fabric. |
| GZ120 | 11H | n/a | (BAR) RP3\_2005\_688 | DL | Petiole stout. Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex, basal width asymmetrical. Apex angle obtuse, shape rounded. Primary venation pinnate. Secondaries eucamptodromous to weakly brochidodromous, spacing wide and regular, angles uniform but more acute basally. Intersecondaries present, reticulating distally. Tertiaries irregular reticulate, weak. Exterior tertiaries terminate at margin. | Differs from GZ121 in having a more stout petiole, secondaries that are less straight and more acute basally, and distally reticulating intersecondaries. |
| GZ121 | 11I | *“Schinopsis” morongifolia* E.W. Berry, | USNM PAL 40426 (Berry 1938 pl. 52, fig. 6) | DL | Petiole long. Laminar shape elliptic, medially asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex to cuneate, basal width asymmetrical. Apex angle obtuse, shape nearly rounded. Primary venation pinnate. Midvein prominent, thins upward. Secondaries eucamptodromous, straight, thin, spacing wide and regular, angles uniform. Intersecondaries present, proximal course parallel to secondaries. | Differs from GZ120 in a thinner petiole width, straight secondaries that are regularly spaced and have uniform angles, and intersecondaries that do not reticulate. |
| GZ122 | 11J | *“Erythroxylon” cuneifolioides* E.W. Berry | USNM PAL 219093b (*sensu* Berry 1938) | DL | Laminar shape oblong, medially asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex, basal insertion and width asymmetrical. Primary venation pinnate. Secondaries brochidodromous, thin, spacing decreasing basally, angles more acute on one side of lamina. Tertiaries opposite percurrent, sinuous. | Differs from GZ123 in its oblong lamina, secondaries that decrease in spacing basally and diverge at different angles on each side of the lamina, and absence of intersecondaries. |
| GZ123 | 11K | *“Banisteria” patagonica* E. W. Berry (part) | USNM PAL 40413e (*sensu* Berry 1938) | DL | Petiole short. Laminar shape elliptic; blade unlobed, margin entire. Base angle obtuse, shape convex, basal insertion and width asymmetrical. Primary venation pinnate. Midvein prominent. Secondaries brochidodromous, spacing irregular, angles uniform. Intersecondaries present, one per intercostal area, parallel and >50% length of subjacent secondary. Tertiaries opposite percurrent. | Differs from GZ122 in its elliptic lamina, the irregular spacing and uniform angles of secondaries, and presence of intersecondaries. |
| GZ124 | 11L | “*Bumelia” australis* E.W. Berry | USNM PAL 40478 (Berry 1938 pl. 44, fig. 11) | DL | Laminar shape obovate; blade unlobed, margin entire. Base angle narrow-acute. Apex angle obtuse, shape rounded. Primary venation pinnate, midvein strong. Secondaries eucamptodromous, thin, attachment decurrent, spacing irregular and decreasing distally, angle gradually decreases proximally. Marginal secondary present. Intersecondaries ca. one per intercostal secondary, parallel to secondaries. Tertiaries opposite percurrent, straight to convex, obtuse, weak. | \_ |
| GZ125 | 11M | *“Drimys” patagonica* E.W. Berry | USNM PAL 40397a (Berry 1938 pl. 17, fig. 5) | DL | Petiole stout. Laminar shape slightly obovate, asymmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent. Apex angle obtuse, shape convex, mucronate. Primary venation pinnate. Midvein thick proximally, thin and deflected distally. Secondaries eucamptodromous, fine, spacing irregular, angles decreasing basally. Marginal secondary present. Tertiaries weakly opposite percurrent or reticulate, straight, fine, spacing wide. | \_ |
| GZ126 | 11N | *“Cedrela” pichileufuana* E.W. Berry | USNM PAL 40415a (Berry 1938 pl. 55, fig. 3) | DL | Petiole curved. Laminar shape ovate-lanceolate, asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex, basal insertion asymmetrical. Apex angle acute. Primary venation pinnate, deflected. Secondaries eucamptodromous, spacing and angles irregular, attachment decurrent and deflecting midvein. Fimbrial vein present. Intersecondaries present, >1 per intercostal area, proximal course perpendicular to midvein, distal course perpendicular to subjacent secondary. Tertiaries opposite percurrent, straight, weak. Epimedial tertiaries’ divergence opposite percurrent, perpendicular to midvein, weak. | \_ |
| GZ127 | 11O | “*Cassia” argentinensis* E.W. Berry  *“Cassia” longifolia* Engelhardt  *“Cassia” oxleyi* E.W. Berry  *“Cassia” patagonica* E.W. Berry  *“Azara” tertiaria* E.W. Berry (part)  *“Myrcia” deltoidea, forma ovata* E.W. Berry  *“Schinopsis” balansiformis* E.W. Berry | (BAR) RP3\_2005\_998 | DL | Leaf organization compound. Petiolule pulvinate. Laminar size variable. Leaflet laminar shape variable, ovate to elliptic, medically asymmetrical; blade unlobed, margin entire. Base angle varies between acute to obtuse, shape convex. Apex angle acute, shape straight, mucronate. Primary venation pinnate. Secondaries brochidodromous, spacing and angles regular. Marginal secondary present. Tertiaries opposite percurrent, straight to convex, fine. | Fabaceae |
| GZ128 | 11P | n/a | (BAR) RP3\_2005\_876 | DL | Leaf organization imparipinnately compound. Laminar shape elliptic; blade unlobed, margin entire. Primary venation pinnate. Apex angle acute, shape convex. Secondaries weakly brochidodromous, spacing irregular, angles uniform, attachment decurrent. Intersecondaries present. Fimbrial vein present. Tertiaries opposite percurrent, straight. | Meliaceae? |
| GZ129 | 12A | *“Styrax” acuminatiformis* E.W. Berry (part) | USNM PAL 222672 (Berry 1938 pl. 47, fig. 2) | DL | Petiole stout, curving. Laminar shape broad-ovate; blade unlobed, margin entire. Base angle obtuse, shape rounded. Apex angle acute. Primary venation pinnate. Secondaries eucamptodromous, numerous (seven or more pairs), straight, spacing close and regular with one pair of obtuse basal secondaries. Minor secondaries looping. Tertiaries mixed percurrent, angle obtuse, decreasing exmedially. | Differs from GZ130 in the regular eucamptodromous secondaries, absence of a marginal vein or intersecondaries, presence of minor secondaries, and mixed percurrent tertiaries, |
| GZ130 | 12B | *“Styrax” acuminatiformis* E.W. Berry (part) | USNM PAL 222674 (Berry 1938 pl. 48, fig. 2) | DL | Laminar shape broad-ovate, asymmetrical; blade unlobed, margin entire. Base angle obtuse. Apex angle acute. Primary venation pinnate. Secondaries brochidodromous, spacing irregular and angles inconsistent. Marginal secondary present. Intersecondaries present, proximal course perpendicular to the midvein, distal course basiflexed and usually joining the subjacent secondary at right angles, usually two per intercostal area if present. Tertiaries opposite percurrent, straight to convex, some deflected, thick, angle obtuse and exmedially decreasing. Epimedial tertiaries’ divergence perpendicular to the midvein. Exterior tertiaries terminate at margin. | Differs from GZ129 in the irregular brochidodromous secondary fabric, presence of marginal secondary and intersecondaries, lack of minor secondaries, and the deflected tertiary fabric. |
| GZ131 | 12C | n/a | (BAR) RP3\_2005\_954 | DL | Laminar shape elliptic; blade unlobed, margin entire. Base angle obtuse, shape convex. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, dichotomizing, angles inconsistent (ca. 30 to 60 degrees), spacing irregular. Tertiaries mixed percurrent, spacing wide, straight to convex. Epimedial tertiaries alternate percurrent, angle acute. Exterior tertiaries looped. Quaternaries mixed percurrent. Quinternaries irregular reticulate. Areolation poorly developed. | Differs from GZ132 in having dichotomizing secondaries that range from 30 to 60 degrees in divergence angle. |
| GZ132 | 12D | n/a | BAR 4514 | DL | Laminar shape elliptic; blade unlobed, margin entire. Base angle obtuse, shape convex. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, strong, spacing irregular, angles high (30-40 degrees) and inconsistent. Fimbrial vein present. Tertiaries mixed percurrent, angle variable, strong, spacing wide. Quaternaries irregular reticulate, spacing wide. Areolation lacking. | Differs from GZ131 in that the secondaries do not dichotomize and range from 30-40 degrees in divergence angle.  Differs from GZ133 in the convex base, lack of acute basal secondaries, secondaries that do not deflect the midvein, and the mixed percurrent tertiaries. |
| GZ133 | 12E | *“Buettneria” asterotrichiformis* E.W. Berry | USNM PAL 40452 (Berry 1938 pl. 34, fig. 3) | DL | Laminar shape ovate, symmetrical; blade unlobed, margin entire. Base angle obtuse, shape decurrent. Apex angle acute, shape acuminate. Primary venation pinnate. Secondaries eucamptodromous, spacing irregular, angle inconsistent with one acute basal pair, attachment decurrent and deflecting midvein. Fimbrial vein present. Tertiaries reticulate. Quaternaries and quinternaries irregular reticulate. | Differs from GZ132 in having a decurrent base, acute basal secondaries, decurrent attachment of secondaries that deflect the midvein, and the reticulate tertiary fabric. |
| GZ134 | 12F | *“Echites” tertiaria* E.W. Berry, 1938 | USNM PAL 40500b (Berry 1938 pl. 50, fig. 6) | DL | Petiole stout. Laminar shape broad-ovate, medially asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape slightly concave to cuneate, basal width asymmetrical. Apex angle acute, shape convex on one side. Primary venation pinnate. Secondaries eucamptodromous, few (~4 subopposite pairs), spacing irregular, angles inconsistent. Intersecondaries present, <50% of length of subjacent secondary, proximal course parallel to secondaries, distally ramifying, less than one per intercostal area. Tertiaries mostly opposite percurrent, straight to convex. Epimedial tertiaries opposite percurrent, divergence perpendicular to midvein. Exterior tertiaries terminate at margin. | \_ |
| GZ135 | 12G | n/a | (BAR) RP3\_2005\_821 | DL | Lamina medially asymmetrical; blade unlobed, margin entire. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, few (one subopposite pair observed), attachment decurrent, spacing irregular and wide, recurved. Tertiaries opposite percurrent straight, angle obtuse and exmedially decreasing, spacing wide. Epimedial tertiaries alternate percurrent, proximal course near-perpendicular to midvein, spacing close, numerous. Quaternaries and quinternaries irregular reticulate. | Although missing the apex or base, the unique venation of this specimen warranted a distinct morphotype. |
| GZ136 | 12H | *“Omphalea” patagonica* E.W. Berry  *“Coccoloba” ruizianiforma* E.W. Berry | USNM PAL 40424 (Berry 1938 pl. 25, fig. 1) | DL | Laminar shape ovate to elliptic, symmetrical; blade unlobed, margin entire. Base angle obtuse, shape round, basal width symmetrical. Primary venation pinnate. Midvein strong. Secondaries brochidodromous, recurved, spacing close and decreasing proximally, angles uniform but with obtuse pair at base. Intersecondaries present. Tertiaries opposite percurrent, straight, weak, spacing wide, angle decreasing exmedially to become perpendicular to midvein. | Differs from GZ137 in the brochidodromous, recurved secondaries, and presence of intersecondaries. |
| GZ137 | 12I | n/a | BAR 4596 | DL | Laminar shape ovate; blade unlobed, margin entire. Base angle obtuse, shape rounded, symmetrical. Primary venation pinnate. Midvein prominent. Secondaries festooned brochidodromous, spacing irregular, angle inconsistent, fine obtuse pair at base. Intersecondaries absent. Tertiaries opposite percurrent, course variable, angle consistently near- perpendicular to midvein. Epimedial tertiaries mixed percurrent. Quaternaries and quinternaries irregular reticulate. | Differs from GZ136 in having secondaries that are festooned brochidodromous and not recurved and the absence of intersecondaries. |
| GZ138 | 12J | n/a | (BAR) RP3\_2005\_990 | DL | Laminar shape elliptic, slightly asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex, basal width slightly asymmetrical. Apex angle acute, shape convex. Primary venation pinnate. Secondaries eucamptodromous, spacing decreases proximally, angles uniform but with pair of obtuse basal secondaries forming fimbrial vein. Intersecondaries present, proximal course acute to midvein. Tertiaries opposite percurrent, straight, angle nearly perpendicular to midvein. Epimedial tertiaries mixed percurrent, proximal course acute to perpendicular to midvein. Quaternaries and quinternaries irregular reticulate. Areolation moderately developed. | \_ |
| GZ139 | 12K | n/a | (BAR) RP3\_2005\_622 | DL | Laminar shape broad, asymmetrical; blade unlobed, margin entire. Apex angle acute, shape acuminate, forming drip tip. Primary venation pinnate. Midvein strong. Secondaries weakly brochidodromous, spacing close but irregular, angles slightly irregular, attachment decurrent. Intersecondaries present, proximal course higher-angled than secondaries, >50% length of secondaries, distal course ramifying, frequency <1 per intercostal area. Tertiaries mixed percurrent. Quaternaries and quinternaries freely ramifying. | \_ |
| GZ140 | 12L | *“Ficus” patagonica* E.W. Berry | USNM PAL 40400 (Berry 1938 pl. 14, fig. 3) | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex. Apex angle obtuse, shape convex. Primary venation pinnate. Secondaries eucamptodromous, spacing irregular, close, angles inconsistent. Marginal secondary present. Minor secondaries looped. Tertiaries mixed percurrent. | \_ |
| GZ141 | 12M | n/a | BAR 4710 | DL | Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Apex angle acute, shape convex, apex mucronate. Primary venation pinnate. Secondaries cladodromous, spacing irregular, angles irregular. Minor secondaries craspedodromous. Fimbrial vein present. Intersecondaries present, proximal course parallel to secondaries, length <50% of secondaries, distal course ramifying, <1 per intercostal area. Tertiaries ramifying. | Anacardiaceae |
| GZ142 | 12N | *“Salacia” floribundifolia* E.W. Berry (part) | USNM PAL 40443a (Berry 1938 pl. 26, fig. 6) | DL | Laminar shape elliptic; blade unlobed, margin entire. Apex angle obtuse, shape convex. Primary venation pinnate. Midvein deflected. Secondaries festooned brochidodromous, strong, recurved, spacing irregular, angles inconsistent, attachment deflecting midvein. Marginal secondary present. Intersecondaries present, proximal course more obtuse than secondaries, length <50% of secondaries, distal course ramifying, <1 per intercostal area. Tertiaries opposite percurrent, straight. | \_ |
| GZ143 | 12O | *“Leptolobium” prenitens* E.W. Berry | USNM PAL 40420 (Berry 1938 pl. 21, fig. 8) | DL | Laminar shape elliptic or ovate; blade unlobed, margin entire. Primary venation pinnate. Midvein thick, deflected. Secondaries festooned brochidodromous, short, straight, few (~four subopposite pairs observed), spacing wide, irregular, angles regular, attachment deflecting midvein. Intersecondaries present, proximal course parallel to secondaries, length <50% of secondaries, distal course perpendicular to subjacent secondary, frequency usually 1-2 per intercostal area. Tertiaries irregular reticulate. | \_ |
| GZ144 | 13A | n/a | BAR 4492 | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex. Apex angle acute, shape convex. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, few (~5 opposite to subopposite pairs), spacing regular and wide but with one crowded basal pair, angles inconsistent. Minor secondaries simple brochidodromous. Intramarginal secondary present. Tertiaries opposite percurrent, straight to convex, angle obtuse and exmedially decreasing to perpendicular. Epimedial tertiaries opposite percurrent, proximally almost perpendicular to midvein, numerous. Quaternaries irregular reticulate. Areolation well developed. FEVs branched. | Differs from GZ145 in the convex base, ~5 pairs of secondaries with regular spacing except for one basal pair, diverging at inconsistent angles, and in having an intramarginal secondary. |
| GZ145 | 13B | n/a | BAR 4524 | DL | Laminar shape ovate; blade unlobed, margin entire. Base angle obtuse, shape concave. Primary venation pinnate, midvein thick, deflected distally. Secondaries eucamptodromous, few (~six opposite to subopposite pairs), spacing wide and decreasing basally and distally, angles consistent, attachment deflecting midvein. Minor secondaries brochidodromous. Marginal secondary present. Tertiaries opposite percurrent, straight, obtuse, weak and fine. | Differs from GZ144 in having a concave base, ~6 pairs of secondaries with spacing decreasing both basally and distally at consistent angles and that deflect the midvein, and in having a marginal secondary. |
| GZ146 | 13C | n/a | (BAR) RP3\_2005\_508 | DL | Laminar shape ovate; blade unlobed, margin entire. Base angle obtuse, shape convex. Primary venation pinnate. Secondaries eucamptodromous becoming brochidodromous distally, spacing irregular, angle slightly increasing proximally. Intercostal and epimedial tertiaries opposite percurrent, straight, diverge perpendicular to midvein, sometimes dichotomizing admedially or exmedially. Quaternaries and quinternaries irregular reticulate. Areolation well developed. FEVs present, dendritic. | \_ |
| GZ147 | 13D | *“Cedrela” mexicaniformis* E.W. Berry | USNM PAL 40414a (Berry 1938 pl. 22, fig. 2) | DL | Laminar shape ovate; blade unlobed, margin entire. Base angle, shape rounded. Primary venation pinnate, deflected. Secondaries eucamptodromous becoming brochidodromous distally, recurved, spacing irregular, angles inconsistent. Fimbrial vein present. Intersecondaries present, irregular, angle higher than secondaries. Tertiaries opposite percurrent, straight to convex, fine. | Differs from GZ148 in the deflected midvein, secondaries that are irregularly spaced at inconsistent angles, and in the opposite percurrent tertiaries. |
| GZ148 | 13E | n/a | (BAR) RP3\_2005\_589 | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape rounded. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous becoming brochidodromous distally, thin, in opposite pairs, spacing irregular, angles consistent. Tertiaries and higher order veins reticulate. Areolation well developed. FEVs present, branched. | Differs from GZ147 in that the midvein is not deflected, having secondaries that are organized in opposite pairs with consistent angles, and in the reticulate higher order venation. |
| GZ149 | 13F | *“Goeppertia” ovatifolia* Engelhardt | USNM PAL 40469a (Berry 1938 pl. 43, fig. 7) | DL | Petiole long, thick. Laminar shape ovate, symmetrical; blade unlobed, margin entire. Base angle acute, shape decurrent. Apex angle acute, shape convex. Primary venation pinnate. Simple agrophic veins present. Acute basal secondaries strong, reach middle of lamina. Secondaries eucamptodromous, apically recurved, few (four pairs). Tertiaries opposite percurrent, straight. | Possible Lauraceous affinity.  Differs from GZ150 in the decurrent base, acute basal secondaries that are not naked, and absence of agrophic veins. |
| GZ150 | 13G | *“Phoebe” elliptica* Engelhardt  *“Notaphoebe” neogaea* E.W.Berry | USNM PAL 40474 (Berry 1938 pl. 41, fig. 7) | DL | Laminar shape ovate; blade unlobed, margin entire. Base angle obtuse, shape convex. Apex angle acute. Primary venation pinnate. Naked basal secondaries veins present, acute and reaching middle of lamina. Agrophic veins present. Secondaries eucamptodromous. Minor secondaries brochidodromous. | Differs from GZ149 in the convex base, naked basal secondaries, and presence of agrophic veins. |
| GZ151 | 13H | n/a | (BAR) RP3\_2005\_935 | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex, basal width asymmetrical. Apex angle acute. Primary venation pinnate. Secondaries eucamptodromous becoming brochidodromous distally, few (~10 total), spacing irregular, angles inconsistent. Intramarginal secondary vein present, emerging from base. Tertiaries opposite percurrent, straight, angle consistently perpendicular to midvein. Quaternaries reticulate. Areolation moderately developed. FEVs present, one to two branches. | Differs from GZ152 in the irregular eucamptodromous secondaries and the intramarginal secondary vein. |
| GZ152 | 13I | *“Phoebe” lanceolata* Engelhardt | USNM PAL 40475 (Berry 1938 pl. 41, fig. 8) | DL | Laminar shape ovate; blade unlobed, margin entire. Apex angle acute. Primary venation pinnate. Midvein prominent. Secondaries weakly brochidodromous, strong, spacing decreasing proximally. Fimbrial vein present. Tertiaries opposite percurrent, straight to convex. Epimedial tertiaries opposite percurrent, proximal course perpendicular to midvein. Quaternaries and quinternaries reticulate. Areolation well developed. | Differs from GZ151 in having brochidodromous secondaries with spacing decreasing proximally and the presence of a fimbrial vein rather than an intramarginal secondary. |
| GZ153 | 13J | *“Symplocos” commutatifolia* E.W.Berry | USNM PAL 40492 | DL | Laminar shape ovate, asymmetrical; blade unlobed, margin entire. Base angle obtuse, shape convex. Apex angle acute. Primary venation pinnate. Secondaries eucamptodromous, dichotomizing, spacing irregular, angles inconsistent. Fimbrial vein present. Tertiaries opposite percurrent, convex, fine, spacing close, angles consistently obtuse. | \_ |
| GZ154 | 13K | *“Banisteria” patagonica* E.W. Berry (part) | USNM PAL 40413a (Berry 1938 pl. 24, fig. 1) | DL | Laminar shape ovate; blade unlobed, asymmetrical, margin entire. Base angle obtuse, shape convex. Primary venation pinnate. Secondaries brochidodromous, spacing and angles irregular, course weak. Tertiaries mixed percurrent. | Differs from GZ155 in the ovate lamina, brochidodromous secondaries, and the absence of a marginal secondary. |
| GZ155 | 13L | n/a | BAR 4220 | DL | Petiole thick. Laminar shape elliptic, asymmetrical; blade unlobed, margin entire. Base shape convex. Primary venation pinnate. Midvein thins distally. Secondaries eucamptodromous, spacing and angles markedly irregular. Marginal secondary present. Tertiaries mixed percurrent, angle obtuse, exmedially decreasing. | Differs from GZ154 in the elliptic shape, eucamptodromous secondaries, and presence of a marginal secondary. |
| GZ156 | 13M | n/a | (BAR) RP3\_2005\_513 | DL | Laminar shape ovate-lanceolate, asymmetrical; blade unlobed, margin entire. Base shape cordate. Primary venation pinnate. Midvein prominent. Secondaries eucamptodromous, basally crowded, spacing and angles irregular. Tertiaries opposite percurrent, straight, fine, spacing close. | \_ |
| GZ157 | 13N | n/a | (BAR) RP3\_2005\_739 | DL | Lamina unlobed, margin entire. Base shape cordate. Primary venation pinnate. Secondaries brochidodromous, spacing regular, angles smoothly increase proximally. Tertiaries opposite percurrent, straight to convex. | Differs from GZ158 in being symmetrical, having regularly spaced secondaries with a smoothly increasing proximal angle, and in the straight to convex opposite percurrent tertiaries. |
| GZ158 | 13O | *“Polioexolobus” prenuntius* E.W. Berry (part) | USNM PAL 40504b (Berry 1938, pl. 51, fig. 1) | DL | Lamina asymmetrical; blade unlobed, margin entire. Base shape cordate, basal width asymmetrical. Primary venation pinnate. Secondary spacing and angle inconsistent, one pair obtuse. Marginal secondary present. Tertiaries opposite percurrent, straight. | Differs from GZ157 in its asymmetry, the secondaries irregularly spaced and angled with one basal obtuse pair, and straight opposite percurrent tertiary fabric. |