

Phylogeny and Evolution of the Neotropical Radiation of *Lachemilla* (Rosaceae):
Uncovering a History of Reticulate Evolution and Implications for Infrageneric
Classification.

SUPPLEMENTAL TABLE S1. Perry's infrageneric classification of *Lachemilla*. Species circumscription and synonymy as in Perry (1929). Country abbreviation: Argentina (ARG), Bolivia (BOL), Chile (CHI), Colombia (COL), Costa Rica (CR), Ecuador (ECU), Peru (PER), Mexico (MEX).

Series	Main characteristics	Distribution	Species
<i>Polylepides</i>	Low shrubs profusely branching, leaves sessile, stipule lobes connate in front of the leaf-blade	CR, VEN–COL	<i>L. polylepis</i>
<i>Orbiculatae</i>	Herbs with repent or decumbent stems, leaves 5–11-lobed or –cleft; flowers disposed in racemose cymes.	MEX–BOL	<i>L. orbiculata</i> , <i>L. pectinata</i> , <i>L. lechleriana</i> , <i>L. sarmentosa</i> , <i>L. pascuorum</i> , <i>L. venusta</i>
<i>Aphanoides</i>	Herbs with prostrate, decumbent or erects stems; leaves tripartite often appearing 5-parted on account of cleft lateral lobes: inflorescence loosely cymose or glomerulate	MEX -BOL	
Subseries 1	Flowers with hypanthium pubescent or villous within; inflorescence an open lax disposed cyme with flowers on pedicels 2–10 mm long	MEX–BOL	<i>L. procumbens</i> , <i>L. vulcanica</i> , <i>L. jamesonii</i>
Subseries 2	Stems prostrate, leaves tripartite with lateral segments various lobed	PER–ARG	<i>L. williamsii</i> , <i>L. frigida</i> , <i>L. ranunculoides</i> , <i>L. grisebachiana</i> , <i>L. rupestris</i>
Subseries 3	Stems decumbent or ascending; leaves palmately tripartite, lateral segments of the leaves entire or bifid; inflorescence glomerulate axillary or terminal.	MEX–BOL	<i>L. standleyi</i> , <i>L. dominguensis</i> , <i>L. velutina</i> , <i>L. pringlei</i> , <i>L. sibbaldiifolia</i> , <i>L. moritziana</i> , <i>L. aphanoides</i> .
Subseries 4	Leaf blades of middle stem not conspicuously longer than the stipules, uppermost leaves with stipules forming sheaths with lobes ascending and equal as in the Nivales	COL–PER	<i>L. sprucei</i> , <i>L. purdiei</i> , <i>L. holosericea</i>
Subseries 5	Herbs with basal leaves subpinnately tripartite	PER, ARG, CHI	<i>L. sandiensis</i> , <i>L. repens</i>
Subseries 6	Herbs with hypanthium lobes uniseriate	BOL	<i>L. rusbyi</i>
<i>Nivales</i>	Herbs with erect or decumbent stems; basal leaves 3–5-lobed or -cleft; stem leaves reduced, with the adnate stipule forming verticillate sheaths with 4–15 lobes.	CR, VEN–BOL	<i>L. galioides</i> , <i>L. hispidula</i> , <i>L. verticillata</i> , <i>L. ocreata</i> , <i>L. nivalis</i> , <i>L. ericoides</i> , <i>L. equisetiformis</i>
<i>Pinnatae</i>	Herbs with repent or decumbent stems; basal leaves pinnate or bipinnatifid; inflorescence glomerulate and terminal or flowers solitary and axillary.	MEX–ARG/CHI	<i>L. bipinnatifida</i> , <i>L. pinnata</i> , <i>L. erodiifolia</i> , <i>L. mandoniana</i> , <i>L. barbata</i> .
<i>Diplophyllae</i>	Low herbs with creeping rhizomes; upper surface of the leaves appendaged on both sides of the midrib; flowers solitary and axillary.	ECU–BOL/CHI	<i>L. diplophylla</i>

SUPPLEMENTAL TABLE S2. Rothmaler's infrageneric classification of *Lachemilla*. Species circumscription and synonymy as in Rothmaler (1937), sectional definitions as in Rothmaler (1935a; 1935b). Country abbreviations are: Argentina (ARG), Bolivia (BOL), Chile (CHI), Colombia (COL), Costa Rica (CR), Ecuador (ECU), Peru (PER), Mexico (MEX). The parenthesis next to a species name contains its position in Perry's system.

Sections	Main characteristics	Distribution	Species
<i>Polylepides</i>	Same as ser. <i>Polylepides</i>	CR, VEN–COL	<i>L. polylepis</i>
<i>Rupestres</i>	Low herbs, membranous stipule with free apex, leaves pinnate to tripartite.	VEN–BOL	<i>L. rupestris</i> (subser. 2), <i>L. barbata</i> (subseries V), <i>L. tanacetifolia</i> .
<i>Diplophyllae</i>	Same as ser. <i>Diplophyllae</i>	ECU–BOL/CHL	<i>L. diplophylla</i>
<i>Procumbentes</i>	Same as subser. 1	MEX–BOL	<i>L. procumbens</i> , <i>L. vulcanica</i> , <i>L. jamesonii</i> , <i>L. hirta</i>
<i>Aphanoides</i>	Small shrubs or herbs; leaves entire, lobed or pinnate, apex of basal stipules free and leafy, lobed or partite; inflorescence in dense cymes, pseudo racemes.		
Subsection <i>Nivales</i>	Same as ser. <i>Nivales</i>	CR, VEN–PER	<i>L. arborescens</i> , <i>L. ocreata</i> , <i>L. ericoides</i> , <i>L. equisetiformis</i> , <i>L. ramossisima</i> , <i>L. imbricata</i> , <i>L. nivalis</i> , <i>L. galioides</i> , <i>L. hispidula</i> , <i>L. verticillata</i> , <i>L. radicans</i> .
Subsection <i>Subnivales</i>	Same as subser. 4	COL–PER	<i>L. holosericea</i> , <i>L. purdiei</i> , <i>L. killipii</i> , <i>L. rivulorum</i> , <i>L. sprucei</i> , <i>L. holmgrenii</i> , <i>L. adscendens</i> , <i>L. trevirani</i> , <i>L. sibbaldiifolia</i> , <i>L. tonduzii</i> , <i>L. bourgeauii</i> , <i>L. aphanoides</i> , <i>L. pringlei</i> , <i>L. orizabensis</i> , <i>L. velutina</i> , <i>L. glandulosa</i> , <i>L. moritziana</i> , <i>L. domingensis</i> , <i>L. standleyi</i> , <i>L. rusbyi</i> (subser. 6), <i>L. bipinnatifida</i> (ser. <i>Pinnatae</i>).
Subsection <i>Glomerulatae</i>	Same as subser. 3	MEX–BOL	<i>L. orbiculata</i> , <i>L. mutisii</i> , <i>L. pectinata</i> , <i>L. venusta</i> , <i>L. hultenii</i> , <i>L. pascuorum</i> , <i>L. guatemalensis</i> , <i>L. aequatoriensis</i> , <i>L. fulvescens</i> , <i>L. perryana</i> , <i>L. lechleriana</i> , <i>L. pseudovenusta</i> , <i>L. sarmentosa</i> , <i>L. steinbachii</i> .
Subsection <i>Radicantes</i>	Same as ser. <i>Orbiculatae</i>	MEX–BOL	<i>L. mandoniana</i> , <i>L. paludicola</i> , <i>L. sandiensis</i> , <i>L. repens</i> , <i>L. pinnata</i> , <i>L. asplenifolia</i> , <i>L. erodiifolia</i> , <i>L. grisebachiana</i> , <i>L. williamsii</i> , <i>L. ranunculoides</i> , <i>L. frigida</i> , <i>L. mutellina</i> , <i>L. pedicellata</i> .
Subsection <i>Pachyrrhizae</i>	Same as ser. <i>Pinnatae</i> + subser. 2 + subser. 5	MEX– ARG/CHI	
<i>Fruticulosae</i>	Erect herbs, lowermost leaves petiolated and 3-lobed, upper leaves sessile. Flowers lacking episepals.	MEX	<i>L. fruticulosa</i>

SUPPLEMENTAL TABLE S3. Age estimates of *Lachemilla*. Values are the median ages with the 95% Highest Posterior Density (HPD) in million years ago (Ma). MLE (SS): marginal likelihood estimates using stepping-stone sampling. BF: Bayes factors.

Dataset	Prior	<i>Lachemilla</i> (stem)	<i>Lachemilla</i> (crown)	MLE (SS)	BF
cpDNA	Birth-death	14.45 (9.02 - 20.44)	12.33 (7.90 - 17.73)	-6610.68	18.56
trnL-F	Yule	21.34 (15.69 - 27.64)	19.44 (14.12 - 25.22)	-6629.23	
nrITS	Birth-death	14.67 (9.07 - 20.74)	11.03 (6.85 - 16.02)	-9202.30	22.47
	Yule	20.94 (15.35 - 26.93)	17.76 (12.77 - 23.46)	-9224.77	