Supplementary Table S1. List of characters used in the phylogenetic analysis of the primitive syringophilid genera (genera with a full complement of body and leg setae).

No.	Character
1	Basal part of gnathosoma: not submerged (0); deeply submerged into idiosoma (1)
2	Stylophore apodeme: indistinct (0); distinctly developed (1)
3	Palpal tibia and tarsus: separated (0); fused (1)
4	Claw-like seta of palps: present (0); absent (1)
5	Posterior part of stylophore: constricted (0); rounded (1)
6	Projection on posterior part of stylophore: absent (0); present (1)
7	Hypostomal apex: unornamented (0); ornamented (1)
8	Hypostomal protuberances: one pair small and blunt-ended (0); one pair small and sharp-ended (1); two pairs (2); one pair large (3)
9	Size of hypostomal lips: small (0); large (1)
10	Hypostomal lips: equal (0); unequal (1)
11	Lateral branch of peritreme: normal i.e., 6-10 chambers (0); reduced i.e, 1-5 chambers (1); supernumerary i.e, 11-20 chambers (2)
12	Distal tip of chelicerae: edentate (0); dentate (1)
13	Propodonotal shield: strongly sclerotized (0); weakly sclerotized (1)
14	Hysteronotal shield: present (0); absent (1)
15	Hysteronotal shield: entire (0); divided (1)
16	Hysteronotal shield: reach level of setae $d2$ (0); not reach $d2$ (1)
17	Pygidial shield: present (0); absent (1)
18	Hysteronotal and pygidial shields: fused (0); not fused (1)
19	Position of setae vi and ve: at same level (0); vi anterior to ve (1)
20	Position of setae $c1$ and se: at same level (0); not at same level (1)
21	Position of setae se and $c2$: se posterior to $c2$ (0); se and $c2$ at same level (1)
22	Position of setae $c2$: out of shield (0); on shield (1)
23	Ornamentation of idiosomal setae: present (0); absent (1)
24	Setae $e1$: present (0); absent (1)
25	Position of setae $f1$ and $f2$:$f1$ close to $f2$ (0); $f2$ far from $f1$ (1)
26	Setae $ps3$: present (0); absent (1)
27	Genital setae: short (0); long (1); medium (2)
28	Position of setae $ag1$ and $ag2$: $ag2$ postero lateral to $ag1$ (0); $ag2$ posterior to $ag2$ (1); $ag1$ and $ag2$ at same level (2)
29	Neotrichious aggenital setae: absent (0); present (1)
30	Seta a' on tarsus I: present (0); absent (1)
31	Proral setae p' and p'': rod-like (0); fan-like (1)
32	Number of tines in proral setae: reduced i.e, 4-10 tines (0); normal i.e, 11-20 tines (1); supernumerary 21-35 tines (2)
33	Setae $4a$: present (0); absent (1)
34	Seta vs on tarsus III: present (0); absent (1)
35	Seta vs on tarsus IV: present (0); absent (1)
36	Seta dG on genu IV: present (0); absent (1)
37	Seta vF on femur III: present (0); absent (1)
38	Seta v on trochanter III: present (0); absent (1)
39	Legs I and II: subequal in thickness (0); I thicker than II (1)
40	Legs I and II: I longer than II (0); I and II subequal in length (1)
41	Coxal fields I-II and III-IV: grouped together (0); widely separated (1)
42	Apodemes I and II: similar in shape (0); different in shape (1)
43	Apodemes I: divergent (0); parallel (1)
44	Divergence of apodemes I: strongly divergent (0); slightly divergent (1)
45	Apodemes I and II: fused (0); not fused (1)
46	Apodemes III and IV: present (0); absent (1)
47	Claw basal angle: absent (0); present (1)
48	Position of setae $3a$ and $3b$: at same level (0); $3a$ anterior to $3b$ (1)
49	Body size: large i.e., more than 1000 (0); medium i.e., 700-990 (1); small i.e., less than 690 (2)

Supplementary Table S2. Data matrix

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                                          1         2         3         4
                                 1234567890123456789012345678901234567890123456789
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Cheyletus eruditus	0000--0-0000000001000010000010-00000000000010000
Cheletopsis norneri	0000--0-000001--1-0101100000010-00000000000010000
Aulobia dendroicae	1111100-112000010110000101000010111111101111-11011
Aulobia cardueli	1111100-112000010110000101000010111111101111-11011
Blaszakia rossae	1111100-00000000011200111101000101111111110111012
Bubophilus aegolius	1111000-001100010110000101010011111111101110111011
Charadriphilus ludmilae	1111000-00200000011200111101000101111101110111012
Charadriphilus ralli	1111000-010000000112101111010001011111101110111012
Colinophilus wilsoni	1111000-002100000112000101010011111111111110111010
Corvitorotroglus alpha	11110011000100010111010101010-10111111101110001010
Creagonycha totani	1111000-000111--0-11010101010011111111101100011000
Crotophagisyringophilus io	11110011002101--0-110201010100111111111101110101010
Ixobrychiphilus wallacei	1111000-001100100110001010100101111101111-11012
Kalamotrypetes cracidus	1111110-00000000011200010100001011111111110111012
Megasyringophilus eos	11110012001101--1-1101011100001111111101110010100
Megasyringophilus trichoglossus	1111001?0001000101110201111000111111101110010100
Megasyringophilus aquilus	111100110001000101110201110000121111110111001010
Pteroclidisyringophilus otididus	1111000-001000010113000101000011111111101110111012
Pteroclidisyringophilus re	1111000-00100000011210010100001111111101110111012
Selenonycha charadriiformicus	1111101-000100010111010111010011111111101100010000
Syringophilpsis turdi	11110012002101--0-110101020010111111101110001010
Syringophilopsis muscicapicus	111100120021001100110101010100101111111101110001010
Syringophilus bipectinatus	1111000-00000000011310010100001111111101110101011
Tinamiphilopsis ariconte	1111010-00010000011300010101001111111101110111012
Tinamiphilopsis elegans	1111010-0001000001130001010100111111111101110111012
Tinamiphilopsis temmincki	1111010-00010000011300010101001111111101110111012
Torotrogla meulae	11110013000100110011010101010-10111111101100011011
Torotrogla lusciniae	11110013000101--0-110101010-10111111101100010011
Trypetoptila casmerodia	1111011???0101--0-100001011-10121011111101110001010