9. Appendix

9.1 Appendix A

Appendix A 3.1. List of the species studied for the cladistic analysis of phytophagous Scarabaeidae. The higher classification used here is based on Browne and Scholtz (1998, 1999), that of melolonthine lineages is partially based on Lacroix (2000) as well as Houston and Weir (1992). Species used as representatives for the genera in the analysis are marked with an asterisk (*).

Trogidae
Trox sabulosus (Linnaeus, 1758)*
T. scaber (Linnaeus, 1767)
T. unistriatus Palisot de Beauvois, 1818

Geotrupidae
Anaplotrupes stercorosus (Scriba, 1791)

Scarabaeidae

Aphodiinae
Aphodius hamatus Say, 1824
A. pardalis LeConte, 1857
A. scutator (Herbst, 1789)*
A. rufipes (Linnaeus, 1758)

Scarabaeinae
Copris lunaris (Linnaeus, 1758)*
Onthophagus fracticornis (Preyssler, 1790)
Catharsius molossus (Linnaeus, 1758)

Orphninae
Orphnus sp.*
Hybalus graecus Sturm, 1843

Euchirinae
Propomacrus mucronatus (Pallas, 1781)*

Trichinae
Trichius fasciatus (Linnaeus, 1758)*

Osmoderminae
Osmoderma eremita (Scopoli, 1763)*

Cetoniinae
Potosia cuprea (Fabricius, 1775)*
Tropinota hirta (Poda, 1761)
Cetonia aurata (Linnaeus, 1761)

Valginae
Valgus hemipterus (Linnaeus, 1758)*

Dynastinae
Oryctes nasicornis (Linnaeus, 1758)*
O. boas (Fabricius, 1775)
Pentodon idiota (Herbst, 1789)
Cyclocephala sp.

Rutelinae
Adoretus sinicus Burmeister, 1855
Adoretus sp.*
Anisoplia (Chaetopteroplia) segetum Herbst, 1783*
Anomala dubia (Scopoli, 1763)*
Anomala spp.
Anomala orientalis (Waterhouse, 1875)

Pachypodinae
Pachypus candidae (Petagna, 1786)*

Melolonthinae
Melolonthini
Amphimallon majale (Razoumowsky, 1789)
A. solstistiale (Linnaeus, 1758)*
Macrophylla longicornis (Fabricius, 1787)*
Melolontha melolontha (Linnaeus, 1758)*
Pseudopanotrogus clypealis (Moser, 1915)
Sparrmannia sp.

Pachydemini
Elaphocera tangerina Kraatz, 1888*
Elaphocera capdeboni Schauffuss, 1882
Europteron gracile Marseul, 1867*
Tanyproctus persicus (Ménétries, 1832)*

Hopliini
Hoplia graminicola (Fabricius, 1792)*
Hoplia equina LeConte, 1880

Chasmatopterini
Chasmatopterus hirtus (Illiger, 1803)*

incertae sedis
Acoma sp.*

Xylonichini
Xylonichus eucalipti Boiduival, 1835*
X. piliger Blanchard, 1851

Phyllotocini
Phyllotocus macleayi Fischer von Waldheim, 1823*
Anthotocus antennalis (Lea, 1919)

Diphucephalini
Diphucephala spp.*

Scitalini
Telura alta Britton, 1987*

Sericoidini
Sericoides sp.*

Heteronycini
Heteronyx sp.*

Ablaberini
Camenta westermanni Harold, 1878*
C. elongata Frey, 1960
Cyrtocamenta pygidialis Frey, 1968*
C. pygmaea Brenske, 1897
Ablabera hirsuta Blanchard, 1850*
Empecamenta buettikeri Ahrens, 2000*

Sericini
Ablaberoides abyssinicus (Brenske, 1902)

Amiserica chiangdaoensis Ahrens, 2003
Astaena tridentata Erichson, 1847
Astaena spp.*
Athlia rustica Erichson, 1835*
Calloserica langtangica Ahrens, 1999
Comaserica bergrothi Brenske, 1900
Gastroserica marginalis (Brenske, 1894)
Hymenochelus distinctus (Uhagon, 1876)*
Hymenoplia castilliana Reitter, 1890*
Hyposerica spp.*
Maladera castanea (Arrow, 1913)
M. holosericea (Scopoli, 1772)*
M. insanabilis (Brenske, 1894)
M. simlana (Brenske, 1898)
M. renardi (Ballion, 1870)
Nepaloserica procera rufescens Frey, 1965
N. schmidti Ahrens & Sabatinelli, 1996
Omaloplia ruricola (Fabricius, 1775)*
O. spireae (Pallas, 1773)
Pachyserica olafi Ahrens, 2004
Paratriodonta romana (Brenske, 1890)
Pleophylla fasciatipennis Blanchard, 1850
Pleophylla sp.*
Raysymmela pallipes (Blanchard, 1850)*
R. bruchi (Moser, 1924)
Serica brunna (Linnaeus, 1758)*
S. pommeranzi Ahrens, 1999
Sericania fuscolineata Motschulsky, 1860
Symmela instabilis Erichson, 1835*
Triodontella raymondi Perris, 1869*
T. dalmatica (Baraud, 1962)
Trochalus sp.*

Appendix A 3.2.1 List of the species studied for the cladistic analysis of *Maladera* (*Cycloserica*) († not included into analysis).

Species	Distribution	Depository
Comaserica bergrothi Brenske, 1899	Madagascar	CA
Euserica villarreali Baraud, 1975	Spain	CA
Leucoserica arenicola Solsky, 1876	Middle Asia	CA
Maladera (Amaladera) euphorbiae (Burmeister, 1855)	Middle Asia	CA
M. (Cephaloserica) insanabilis (Brenske, 1894)	Arabia to northern India	CA
M. (Cycloserica) excisipes (Reitter, 1896)	Middle Asia	CA
M. (Eusericula) farsensis Petrovitz, 1980	Iran	CA
M. (Macroserica) taurica Petrovitz, 1969	Turkey	CA
M. (Maladera) holosericea (Scopoli, 1772)	Europe, Siberia	CA
M. (Omaladera) cariniceps (Moser, 1915)	Korea	ZMHB
M. (Omaladera) himalayica himalayica (Brenske, 1898) †	Himalaya	CA
M. (Omaladera) orientalis (Motschulsky, 1857)	Eastern Siberia, Japan	CA, DEI
M. (Omaladera) simlana (Brenske, 1898) †	Himalaya	CA
M. (Omaladera) spectabilis (Brenske, 1898)	Yunnan, northern Indochina	CA
M. caspia Faldermann, 1836	Middle Asia	SMNS
M. kerleyi Ahrens, 2004	Himalaya	BMNH
M. mechiana Ahrens, 2004	Himalaya	NHMB, CA
M. paraquinquidens Ahrens, 2004	Himalaya	NHMB
M. quinquidens Brenske, 1896	Himalaya	CA
Nipponoserica koltzei Reitter, 1897	Manchuria, Korea	CA
Pleophylla spec.	Southern Africa	CA
Stilbolemma sericea (Illiger, 1802)	USA	CA

Appendix A 3.2.2 List of the species studied for the cladistic analysis of *Maladera* (*Omaladera*) († not included into analysis).

Species	Distribution	Depository
Maladera cardoni (Brenske, 1896) †	Northern India, Afghanistan	CA
M. cariniceps (Moser, 1915)	Korea, SE China	ZMHB, CA
M. dierli (Frey, 1969)	Himalaya	ZSM, CA
M. emmrichi Ahrens, 2004	Himalaya	SMTD, CA
M. gardneri Ahrens, 2004	Himalaya	BMNH, CA
M. himalayica himalayica (Brenske, 1896)	Himalaya	CA
M. himalayica immunda Ahrens, 2004	Himalaya	SMTD, CA
M. himalayica incola Ahrens, 2004	Himalaya	SMTD, CA
M. himalayica thakkholae Ahrens, 2004	Himalaya	CA

M. himalayica thimphuensis Ahrens, 2004	Himalaya	NHMB, CA
M. holosericea (Scopoli, 1772)	Europa, Siberia	CA
M. insanabilis (Brenske, 1894)	Arabia to northern Indian subct.	CA
M. joachimi Ahrens, 2004	Himalaya	SMTD, CA
M. lignicolor (Fairmaire, 1887)	China	MNHN, CA, MHNG
M. orientalis (Motschulsky, 1857)	Eastern Siberia, Japan	CA
M. prabangana (Brenske, 1899)	Laos	TICB
M. renardi (Ballion, 1870) †	Eastern Siberia, Japan	CA
M. simlana (Brenske, 1898)	Himalaya	CA
M. spectabilis (Brenske, 1898)	Yunnan, northern Indochina	CA
M. sprecherae Ahrens, 2004	Bhutan	NHMB, CA
M. stevensi Ahrens, 2004	Sikkim	BMNH, CA
M. taurica Petrovitz, 1969	Turkey	CA
M. yasutoshii Nomura, 1974	Taiwan	CA
Nipponoserica koltzei Reitter, 1897 †	Manchuria, Korea	CA
Pleophylla sp. †	Southern Africa	CA
Stilbolemma sericea (Illiger, 1802)	USA	CA

Appendix A 3.2.3 List of the species studied for the cladistic analysis of *Callosericа* († not included into analysis).

Species	**Distribution**	**Depository**
Pleophylla sp.	South Africa	CA
Lasioserica brevipilosa Moser, 1919	Yunnan (China)	CA
L. modikholae Ahrens, 1996	Nepal	CA
L. maculata jiriana Ahrens, 1996 †	Nepal	CA
Neoserica ursina Brenske, 1894	China	CA
Gastroserica marginalis (Brenske, 1894)	China	CA
G. asulcata Ahrens, 2000 †	Vietnam	CA
Nepaloserica procera rufescens (Frey, 1965) †	eastern Nepal	CA
Pachyserica olafi Ahrens, 2004	Nepal	SMTD, CA
P. rubrobasalis Brenske, 1897	China	SMTD
Pseudosericania quadrifoliata (Nomura & Kobayashi, 1979) †	Taiwan	CA
Serica thibetana Brenske, 1897 †	Himalaya	CA
Callosericа autumnalis Ahrens, 1999	Nepal	NHMB
C. barabiseana Ahrens, 1999	Nepal	SMNS, TICB
C. begnasia Ahrens, 1999	Nepal	HNHM, CA
C. bertiae Ahrens, 2000	Sikkim	MNHN, CA
C. brendelli Ahrens, 1999	Nepal	BMNH, CA, TICB
C. cambeforti Ahrens, 2000	India	MNHN
C. capillata sp. n.	Nepal	CA, NHMB
C. chiplingensis Ahrens, 1999	Nepal	CA
C. delectabilis Ahrens, 2000	Nepal	BMNH, CA
C. gosainkundensis Ahrens, 1999	Nepal	NHMB
C. hingstoni Ahrens, 1999	Tibet	BMNH
C. indrai Ahrens, 2004	Nepal	CA
C. lachungensis Ahrens, 2000	Sikkim	MNHN
C. langtangica Ahrens, 1999	Nepal	CA
C. manangensis sp. n.	Nepal	HAHC, CA
C. poggii Ahrens, 1995	Nepal	MSNG
C. raksensis Ahrens, 2004	Nepal	CA
C. rupthangensis Ahrens, 2004	Nepal	CA
C. tigrina Brenske, 1894	Indian	ISNB, CA
C. trisuliensis Ahrens, 1999	Nepal	HNHM, CA

Appendix A 3.2.4. List of the species studied for the cladistic analysis of *Lasisoerica* and *Amiserica* († not included into analysis).
*)The taxa marked by an asterisk * have been so far classified as subspecies (Ahrens 1999) based on their parapatric distibution and intermediate populations in the areas where two forms meet each other. In the cladistic analysis as well as in the cladograms they have been ranked equal to the other taxa included in the analysis.

Species	Distribution	Depository
Pleophylla Erichson, 1847 spec.	Southern Africa	CA
Maladera holosericea (Scopoli, 1772)	Europa, Siberia	CA
Amiserica rufidula Nomura, 1974	Taiwan	CA
A. chiagdaoensis Ahrens, 2003	Northern Thailand	CA
A. flavolucida Ahrens, 2003	Garo Hills (Meghalaya, India)	CA
A. manipurensis Ahrens, 1999	India: Manipur	CA
A. krausei Ahrens, 2004	Central Nepal	SMTD, CA
A. patibilis Ahrens, 2004	Eastern Nepal	CA
Calloserica langtangica Ahrens, 1999†	Central Nepal	CA
Lasioserica antennalis Nomura, 1974	Taiwan	CA
L. assamicola Ahrens, 2004	India: Assam	BMNH, USNM
L. bipilosa Ahrens, 1999	Northern Vietnam	CA
L. bomansi Ahrens, 2000	Northern Thailand	MZUF
L. braeti Brenske, 1896	Darjeeling/ Sikkim	ISNB
L. breviclypeata Ahrens, 1999	Bhutan	NHMB
L. brevipilosa Moser, 1919	China: Yunnan	CA
L. bumthangana Ahrens, 1999	Bhutan	NHMB
L. chitreana Ahrens, 1999	Eastern Nepal	CA
L. dekensis Ahrens, 1999	Darjeeling/ Sikkim	NHMB, CA
L. dolakhana Ahrens, 2004	Central Nepal	SMNS
L. dolangsae Ahrens, 2004	Central Nepal	SMNS
L. dragon Miyake & Yamaya, 2001	China: Yunnan	CA
L. eusegregata Ahrens, 1996	Northern Myanmar	NRS
L. godavariensis Ahrens, 1999	Central Nepal	NHMB, CA
L. ilamensis Ahrens, 1999	Eastern Nepal	SMNS
L. immatura sp. n.	Northern Myanmar	CTIO, CA
L. itohi Ahrens, 2003	Northern Thailand	CTIO, CA
L. kuatunica Ahrens, 1996	China, Fujian	CF
L. kubani Ahrens, 2000	Laos	CA
L. kulbei Ahrens, 1999	Central Nepal	CA
L. latens sp. n.	Northern Myanmar	CTIO, CA
L. maculata bhutanica Ahrens, 1996*)	Bhutan	NHMB
L. maculata galadrielae Ahrens, 1996*)	Darjeeling/ Sikkim	NHMB
L. maculata jiriana Ahrens, 1996*)	Central Nepal	ZSM
L. maculata maculata (Brenske, 1894) *)	Central and western Himalaya	ISNB, CA
L. meghalayana Ahrens, 1999	Khasi Hills, Northern Myanmar	CA
L. modikholae Ahrens, 1996	Central Nepal	CA
L. nenya Ahrens, 1996	Khasi Hills and Thailand	CF
L. nepalensis Ahrens, 1996	Central Nepal	CA
L. nobilis (Brenske, 1894)	Darjeeling/ Sikkim	CA
L. nudosa Ahrens, 1996	Central Nepal	NHMB, BMNH
L. oblita Ahrens, 1996	Northern Myanmar	SMTD
L. orlovi Ahrens, 2004	Eastern Nepal	CA
L. pacholatkoi Ahrens, 2000	Bhutan	CA
L. petri Ahrens, 2000	Northern Vietnam	CA
L. pilosella Brenske, 1896	Central Nepal	CA
L. piloselloida Ahrens, 1999	Central Nepal	CA
L. pseudopilosella Ahrens	Central Nepal	CA
L. pudens sp. n.	Northern Thailand	ZSM, USNM
L. sabatinellii Ahrens, 1996	Central Nepal	CA
L. sausai Ahrens, 2000	Laos	CA

L. sikkimensis Ahrens, 1996	Darjeeling/ Sikkim	CA
L. silkae Ahrens, 1996	Central Nepal	CA
L. smithi sp. n.	Sikkim	CA
L. soror Ahrens, 2004	Darjeeling	ZMUC, CA
L. tenera Arrow, 1946	Burma, northern Vietnam	NRS, CA
L. thoracica Brenske, 1898	Darjeeling/ Sikkim	CA
L. tricuspis Ahrens, 2000	Northern Thailand	CA
L. tuberculiventris Moser, 1915	China	ZMHB, CA
L. turaensis Ahrens, 2000	India: Meghalaya	TICB
L. victoriana Ahrens, 1996	Myanmar	BMNH
L. wittmeri Ahrens, 1999	Eastern Nepal	NHMB

Appendix A 3.2.5. List of the species studied for the cladistic analysis of *Sericania* († not included into analysis).

Species	**Distribution**	**Depository**
Pleophylla Erichson, 1847 spec.	Southern Africa	CA
Maladera holosericea (Scopoli, 1772)†	Europa, Siberia	CA
Nepaloserica procera procera Frey, 1965	Nepal	CA
N. goomensis Ahrens, 1999†	Darjeeling	CA
N. procera rufescens Frey, 1965†	Nepal	CA
Nipponoserica koltzei Reitter, 1897	Manchuria, Korea	CA
Stilbolemma sericea (Illiger, 1802)	USA, Canada	CA
Chrysoserica auricoma (Brenske, 1896)	Himalaya to northern Indochina	CA
Sericania babaulti Ahrens, 2004	NW Himalaya	MNHN, CA
S. besucheti Ahrens, 2004	NW Himalaya	MHNG
S. bhojpurensis Ahrens, 2004	Eastern Nepal	SMNS
S. carinata Brenske, 1898	? NW Himalaya	ZMHB
S. costulata (Moser, 1915)	W Himalaya	ZMHB, CA
S. dispar Ahrens, 2004	NW Himalaya	NHMB
S. dubiosa Ahrens, 2004	NW Himalaya	NHMB
S. fuscolineata Motschulsky, 1860	North-Eastern China	CA
S. gilgitensis Ahrens, 2004	NW Himalaya	NHMB, CA
S. hazarensis Ahrens, 2004	NW Himalaya	NHMB, CA
S. heinzi Ahrens, 2004	NW Himalaya	CA
S. kashmirensis (Moser, 1919)	NW Himalaya	ZMHB, CA
S. khagana Ahrens, 2004	NW Himalaya	HNHM
S. kleebergi Ahrens, 2004	Central Nepal	BMNH, CA
S. laeticula (Sharp, 1878)	NW Himalaya	NHMB, CA
S. lewisi Arrow, 1913	Japan	CA
S. loebli Ahrens, 2004	NW Himalaya	MHNG
S. mara Ahrens, 2004	Central Nepal	CA
S. mela Ahrens, 2004	Central Nepal	CA
S. nepalensis (Frey, 1965)	Central Nepal	CA
S. pacis Ahrens, 2004	NW Himalaya	MNHN
S. piattellai Ahrens, 2004	NW Himalaya	MSNG
S. poonchensis Ahrens, 2004	NW Himalaya	SMTD
S. swatensis Ahrens, 2004	NW Himalaya	MHNG
S. torva Ahrens, 2004	NW Himalaya	MHNG, HNHM
S. yamauchii Sawada, 1938	Japan-Ussuri	CA
Sericania sp. 1	Tatsienlu (Sichuan, China)	SMTD
Sericania sp. 2	Ta-pai Shan (Shaanxi, China): 33°59'N, 107°47'E	ZMHB

Appendix A 3.2.6. List of the species studied for the cladistic analysis of *Nipponoserica*/ *Xenoserica* († not included in analysis).

Species	Distribution	Depository
Comaserica bergrothi Brenske, 1899	Madagascar	CA
Gastroserica asulcata Ahrens, 2000 †	Vietnam	CA
Maladera holosericea (Scopoli, 1772) †	Europa, Siberia	CA
M. insanabilis (Brenske, 1894)	Arabia to northern Indian subct.	CA
M. simlana (Brenske, 1898)	Himalaya	CA
Nipponoserica dahongshanica sp. n.	Hubei (China)	CA
N. koltzei Reitter, 1897	Manchuria, Korea	CA
N. peregrina Chapin, 1938	Japan, USA	CA
N. pubiventris Nomura, 1976	Japan	CA
N. shanghaiensis Ahrens, 2004	Shanghai (China)	ZMHB
N. similis (Lewis, 1895) †	Japan	CA
N. sulciventris Ahrens, 2004	China	CA, CP
Nepaloserica procera procera (Frey, 1965)	eastern Nepal	CA
Nepaloserica procera rufescens (Frey, 1965) †	Central Nepal	CA
Pleophylla Erichson, 1847 spec. †	Southern Africa	CA
Pseudosericania nitididorsis (Nomura, 1974)	Taiwan	CA
P. gibbiventris Kobayashi, 1980†	Taiwan	CA
P. makiharai Hirasawa, 1991 †	Taiwan	CA
P. quadrifoliata (Nomura & Kobayashi, 1979)	Taiwan	CA
Serica ponderosa Arrow, 1946	northern Burma	CA
Stilbolemma sericea (Illiger, 1802)	USA	CA
Trochaloschema chikatunovi Nikolaev, 1987	Tadzhikistan	CA
Trochaloschema sp.	Tadzhikistan	CA
Xenoserica brachyptera sp. n.	Central Nepal	DEI, SMTD, NME, CA
X. sindhensis Ahrens, 2000	Kashmir (Himalaya)	CA
X. pindarensis Ahrens, 2000	Pindar Valley (Himalaya)	CA

Appendix A 3.2.7. List of the species studied for the cladistic analysis of *Serica* († not included into analysis). For details of examined material see Ahrens 1999c and Ahrens in press c.

Amiserica krausei Ahrens, 2004†
Calloserica langtangica Ahrens, 1999
C. tigrina Brenske, 1894
Gastroserica marginalis (Brenske, 1894)
Lasioserica brevipilosa Moser, 1919
L. maculata jiriana Ahrens, 1996†
L. modikholae Ahrens, 1996
L. nobilis Brenske, 1894†
Neoserica ursina Brenske, 1894
Pachyserica ambiversa Ahrens, 2004†
P. cipingensis sp. n.
P. nantouensis Kobayashi and Yu, 1993
P. olafi Ahrens, 2004
P. rubrobasalis Brenske, 1897†
Pleophylla sp.
Serica adungana Ahrens, 1999
S. albisetis sp. n.
S. almorae Ahrens, 1999
S. angustatotibialis Ahrens, 1999
S. arborea Ahrens, 1999
S. basumtsoensis sp. n.
S. bailungshanica sp. n.
S. becvari sp. n.
S. behluhdinensis sp. n.
S. benesi sp. n.
S. bhaktai Ahrens, 1999
S. bicornis sp. n.
S. bidentata Ahrens, 1999
S. bidigitata Ahrens, 2000
S. bolm sp. n.
S. boops Waterhouse, 1875
S. brevitarsis brevitarsis Nomura, 1972
S. brevitarsis rectipes Nomura, 1972
S. brunna (Linnaeus, 1758)
S. chasilakhae Ahrens, 1999
S. chautarana sp. n.
S. chuttana Ahrens, 1999
S. daliangshanica sp. n.
S. daliensis sp. n.
S. dathei sp. n.
S. degenensis sp. n.
S. deuvei sp. n.
S. doiinthanonensis sp. n.
S. dolens sp. n.
S. eberti (Frey, 1965)
S. emeishanica sp. n.
S. erectosetosa Ahrens, 1999
S. filitarsata Ahrens, 1999
S. fulvopubens (Reitter, 1896)
S. furcata sp. n.
S. fusifemorata Nomura, 1974
S. gonggashanica sp. n.
S. gracilicornis Arrow, 1946
S. grahami sp. n.

S. guidoi Ahrens, 1999
S. heishuiensis sp. n.
*S. heydeni (*Reitter, 1896)
S. hirsuta Kim and Kim, 2003
S. hirtella sp. n.
S. inaequalis sp. n.†
S. incognita Ahrens, 1999
S. jaegeri Ahrens, 1999
S. kalabi sp. n.
S. kangdingensis sp. n.
S. karafutoensis honshuensis Nomura, 1972
S. karafutoensis karafutoensis Niijima & Kinoshita, 1923
S. karnaliensis Ahrens, 1999
S. khajiaris Mittal, 1988
S. khasiana (Moser, 1918)
S. kingdoni Ahrens, 1999
S. koshiensis Ahrens, 1999
S. kumaonensis Ahrens, 1999
S. lama Ahrens, 1999
S. leigongshanica sp. n.
S. lepidula sp. n.
S. lijiangensis sp. n.
S. litangensis sp. n.
S. maculosa Moser, 1915
S. meiguensis sp. n.
S. mianningensis sp. n.
S. minshanica sp. n.
S. montreuili sp. n.
S. moupinensis (Fairmaire, 1889)
S. muliensis sp. n.
S. mureensis Ahrens, 1999
S. nanjiangana sp. n.
S. narya Ahrens, 1999
S. nebulosa Ahrens, 1999
S. nepalensis (Frey, 1969)
S. nigroguttata Brenske, 1897
S. nigromaculosa Fairmaire, 1891
S. nigrovariata Lewis, 1895
S. nipponica (Nomura, 1959)
S. olivacea Brenske, 1896
S. opaciclypealis Ahrens, 1999
S. palaea Ahrens, 2004
S. panchaseana Ahrens, 2004
S. plutenkoi sp. n.
S. polita (Gebler, 1832)
S. pommeranzi Ahrens, 1999
S. proclivis Ahrens, 1999
S. puetzi sp. n.
S. qinlingshanica sp. n.
S. ramosa Ahrens, 1999
S. ratcliffei sp. n.
S. ribbei Ahrens, 1999
S. rosinae rosinae Pic, 1904
S. sawadai (Nomura, 1959)
S. schoenmanni sp. n.
S. septentrionalis Murayama, 1935
S. shaanxiensis sp. n.
S. sherpa (Sabatinelli & Migliaccio, 1982)
S. shokhini sp. n.
S. somathangana Ahrens, 1999
S. taibashanica sp. n.
S. tayanpingensis sp. n.
S. thibetana Brenske, 1897
S. tongluana Ahrens, 1999
S. trapezicollis sp. n.
S. tropdeana Ahrens, 1999
S. tukucheana Ahrens, 1999
S. velutina Arrow, 1946
S. weiperti Ahrens, 2004
S. xichangensis sp. n.
S. yaogiensis sp. n.
S. yulongshanica sp. n.
S. zerchei sp. n.
Taiwanoserica anmashanica Kobayashi, 1993
T. gracilipes Nomura, 1974

Appendix A 3.2.8. List of the species studied for the cladistic analysis of *Anomalophylla* († not included into analysis).

Anomalophylla bicolor Balthasar, 1932
A. dongchuanensis sp. n.
A. ganhaiziensis sp. n.
A. hispidulosa sp. n.
A. huashanica sp. n.
A. kangdingensis sp. n.
A. kozlovi Medvedev, 1952
A. liciata sp. n.
A. mandhatensis Ahrens, 2004
A. mawi (Arrow, 1946)
A. majori sp. n.
A. morula sp. n.
A. moupinea Fairmaire, 1891
A. moxiensis sp. n.
A. obscuripennis sp. n.
A. plagipennis sp. n.
A. qinlingensis sp. n.
A. stoetzneri sp. n.
A. subcarinata sp. n.
A. subfastuosa sp. n.
A. tristicula tristicula Reitter, 1887
A. tristicula tristicula Reitter, 1887, form B
A. tristicula tsangpoana ssp. n.
A. vidua sp. n.
A. wulingshanica sp. n.
Comaserica bergrothi Brenske, 1900
Gastroserica marginalis (Brenske, 1894)
Microserica arunensis Ahrens, 1998†
M. bhutanensis Frey, 1975†
M. interrogator (Arrow, 1946)
M. pansona sp. n.
M. simplex Arrow, 1946
M. soppongensis sp. n.
M. steelei Ahrens, 2004
Neoserica ursina Brenske, 1894
Oxyserica brancuccii Ahrens, 2001†
O. pygidialis Brenske, 1900
Sericania piattellai Ahrens, 2004†

9.2 Appendix B

Appendix B 3.1. Data matrix for the cladistic analysis of phytophagous Scarabaeidae.

Char. number (100)											1 1111111
Char. number (10)	1 1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888888889	9999999990	0000000
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567
Trox	000003320-	-000100000	000?101000	0011-00000	0????00000	000-1002-1	2000000101	0001000002	000000---1	1000000000	-002000
Ablabera	1100021110	0100011101	1000100000	1101001000	0????00000	0110010010	1100000102	1010001012	00101201-0	-21011-111	011????
Ablaberoides	1100011010	0100110100	1110111110	1110-11100	0101111111	1111111010	1100010011	2000001020	0011121121	0200021111	111????
Acoma	000103321-	--21000110	2000100010	1102000021	1????00000	010-100000	4000000002	0010001010	000000-0-0	0000001???	???????
Adoretus	0000005011	-100111101	1000100000	1100000020	1101100000	0110010010	2301100001	0001011010	0100120111	2200001110	0011120
Amphimallon	0000041311	-001101101	1000100000	1102100021	1101100000	0110010010	4100000002	0001111110	12001200-0	0000001110	0011113
Anisoplia	0000001011	-100111101	1000100000	1100000020	1101100000	0110010010	2301100002	0001111110	020011-111	2200000110	0111120
Anomala	0000001011	-100111101	1000100000	1100000020	1101100000	0110010010	2301100002	0001111110	020011-111	2200000110	0111123
Anthotocus	000013321-	-100000110	0000101000	1102000110	0????00000	0110010010	0000000002	1020001010	00000100-0	000001-???	???????
Aphodius	000003300-	-000100000	0000200000	0000001000	0010000000	000-010000	0000000001	0001012010	00000100-1	0000000110	0112024
Astaena	1100121010	0100100100	1001100000	1101001100	0????10000	0110010110	1100000001	0000001010	0011121111	021011-111	111????
Athlia	0000001011	-100011111	1000100000	1102002100	0????00000	0110110000	0100000002	1020001010	00000200-0	0001-0-111	011????
Camenta	1000021110	0100011101	1000100000	1101001000	0????00000	0110010010	1200000101	1010001012	00101201-0	-20011-111	011????
Chasmatopterus	000013321-	-210011101	1000101000	1101010020	0????00000	0110010010	1100000002	2010011011	02000100-0	0000001110	001????
Comaserica	1100011010	0100110100	0010111010	1110-11110	0101111111	1111110110	1100010011	2000001010	0011121121	1200121111	111????
Copris	000003300-	-000100000	0000200020	0201001000	0010000002	000-010010	3000000001	1001012012	200000---1	1000000211	-112020
Cyrtocamenta	1100021110	0100011101	1000100000	1101001000	0????00000	0110010010	1100000102	1010001012	00101201-0	-21011-111	011????
Diphucephala	0000140011	-110000110	0001100000	1102001100	0????00000	010-010210	3100000002	0000001010	00000200-0	0000000111	0111101
Elaphocera	000103321-	-100000110	2001100000	1102000021	0????00000	010-000000	4100000002	0010011011	02000100-0	0000001110	001????
Empecamenta	1100021110	0100011101	1000100000	1101001000	0????00000	0110010010	1200000101	1010001012	00101201-0	-20011-111	011????
Europteron	000103321-	--20000110	2000000000	2102000021	0????00000	0110000000	4000000002	1010011011	020000-0-0	0000001110	001????
Heteronyx	0000001011	0000100101	1000101000	1101001000	0????00000	0110110010	0100000002	0000001010	00000100-0	000001-111	0111102
Hoplia	0000022010	-100000110	0001100000	1102000120	1????00000	210-011010	-001100002	1002001010	200000-0-0	0000000110	0012100
Hymenochelus	1100011010	1100111111	1000111010	1110-11110	0????10110	1110010110	1110010001	20-------0	0011121101	011001-111	111????
Hymenoplia	1100021010	1100011111	1000111010	1110-11110	0101110111	1110010110	1110010001	2000001010	0011121101	011001-111	111????
Hyposerica	1100011010	0100110100	0011111010	1110-11110	0101111111	1111110010	1100010011	2000001010	0011121121	1200121111	111????
Macrophylla	000003131-	-001001100	1000100000	1102100021	1????00000	010-010010	4100000002	1001111110	00000200-0	0000000???	???????
Maladera	1100011010	0100110100	1111111110	1110-11110	0101111111	1111010010	1100010011	2000001020	0011121??1	1100121111	1110101
Melolontha	0000041311	-001001101	1000100000	1102100021	1101100000	0110010010	4100000002	0001111110	12000200-0	0000000110	0011123
Omaloplia	1100011011	0110100100	0010111010	1110-01110	0101111111	1111010110	1100010011	2000001010	0011121??1	1210021111	1110101
Orphnus	000003400-	-000000000	0000200000	1102001000	0????00000	0110110010	1000000000	0001001010	000000-111	2000000100	0010101
Oryctes	000003321-	-100001111	1000100000	2102000021	1101100000	0110110011	2000000001	0001111110	0100020110	2000000110	0012120
Osmoderma	001003321-	-000111111	0001100001	2102010021	1????00100	010-010011	2000001002	1101111110	010000-100	2000001110	0011220
Pachypus	100113321-	--21000110	2000000000	2112-00001	0????00000	010-100000	1000000002	1010011011	000000-0-0	0000001110	001????
Phyllotocus	010013321-	-100100000	0000101000	1102000100	0????10100	0110010010	0000000002	0010001010	00000200-0	0000001111	0110100
Pleophylla	1100011011	0110111101	1010111010	1110-11110	0????11111	1111010110	1100010011	2000001010	0011121??1	1210021111	111????
Potosia	001003321-	-100111101	0001100001	1001010021	1101100001	010-010011	2000001002	-101111102	0200010100	2001001110	0011220
Propomacrus	000003321-	-100011101	1001100000	2102000021	1????00000	010-010011	2100000002	1001111110	000000-0-0	0000000111	0012110
Raysymmela	1100121010	0100100100	1000100000	1101101100	0????10000	0110010110	1100000001	0000001010	0011121111	0210121111	111????
Serica	1100011010	0100110100	1011111110	1110-11110	0101111111	1111010010	1100010011	2000001020	0011121101	1100121111	1110101
Sericoides	0000000011	-100000101	1010100000	1101001100	0????00000	0110110010	0000000002	0000001010	0000010000	000001-111	011????

Char. number (100)											1 1111111
Char. number (10)	1 1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888888889	9999999990	0000000	
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567	
Symmela	1100021010	0100100100	1001100000	1101001100	0????10000	0110010110	1100000001	0000001010	0211121111	0210121111	111????
Tanyproctus	000003301-	-100111111	1000100000	1102000021	0????00000	0110010010	4100000002	0010011011	02000100-0	0000001110	0010112
Telura	0000140011	-000001101	1000100000	1102001100	0????00100	0110010010	0000000002	0000001010	00000100-0	0000001111	0110101
Trichius	000003321-	-100111101	0000100000	1002010021	1101100100	010-010010	2000000002	0001111100	0200010100	2000001110	0011220
Triodontella	1100021010	0100011111	1010111010	1110-01110	0????10111	1111010110	1100010011	2000001010	0011121101	0110021111	1110100
Trochalus	1100011011	0100110100	0110111110	1110-11100	0????11111	1111011110	1100010011	2000001020	0011121121	0200121111	111????
Valgus	001003321-	-100011111	0001100011	1100000021	1101100001	010-010010	2000001002	1101111102	220010-100	2010000110	0011220
Xylonichus	0000041311	-000000101	0000100000	1102000021	1????00000	0110010010	0000000002	0020001210	02000100-0	0000001111	011????

Appendix B 3.2.1. Morphological character matrix used for the cladistic analysis of *Maladera* (*Cycloserica*).

Char. number (10)	1	1111111112	2222222223	3333333
Char. number	1234567890	1234567890	1234567890	1234567
Pleophylla spec.	0000000000	0100000010	0000000000	0000--0
C. excisiceps	0011021211	0000012110	10011?0111	2111001
Co. bergrothi	0003011100	0100000000	1000000020	0000--0
E. villareali	0001021111	0000101010	1000000010	0000--0
L. arenicola	0011021211	0000010100	1001000111	1111001
M. caspia	0001021011	1000001110	1001100111	1122001
M. euphorbiae	0001011111	1000001010	1000000000	0000--0
M. farsensis	0001010011	1000001010	0101000000	0022110
M. holosericea	0001010011	1000002010	0001000000	0000--0
M. insanabilis	0001110111	1000001010	0101120200	0000--0
M. kerleyi	1101010111	1011101010	0011111111	11110-0
M. mechiana	1001010111	1011101010	0011111111	11110-0
M. orientalis	0002110011	1000001011	0101000200	0000--0
M. paraquinquidens	1101010011	1011101010	0011111111	01210-0
M. quinquidens	1101010011	1011101010	0011111111	11210-0
M. spectabilis	0002110311	1000001011	0101000220	0000--0
M. taurica	0001010011	1000101010	0101100000	0022110
St. sericea	0001011011	1100101010	1000000000	0000--0
Tr. chikatunovi	0001111011	1000000000	0000000000	0000--0
N. koltzei	0001011111	1100101010	1101000000	0000--0

Appendix B 3.2.2. Morphological character matrix used for the cladistic analysis of *Maladera* (*Omaladera*).

Char. number (10)	1	1111111112	2222222223	3333333334	4444444
Char. number	1234567890	1234567890	1234567890	1234567890	1234567
St. sericea	2000000011	1120010000	0101000000	0000000010	-0-000?
Ma. cariniceps	1100001100	0021100011	0101111110	0100000000	-0-0011
Ma. dierli	0010111000	0021111011	0111101120	2130111010	1102110
Ma. emmrichi	1100001000	0001101011	0211111120	2120001000	0101110
Ma. gardneri	0010111002	0021110010	1000101110	0130000010	-1-2110
Ma. himalayica	2100001000	0001101011	0211111120	0120000000	0111110
Ma. holosericea	0000000010	0020100000	0100111000	0101000010	-0-0000
Ma. immunda	2100001000	0001101011	0211111120	0120001000	0101110
Ma. incola	2100001000	0001101011	0211111121	2120001000	0001110
Ma. insanabilis	0000000000	0001100001	1001101110	0100101010	0001000
Ma. joachimi	2100001000	0001101011	0211111122	2120001001	0001110
Ma. lignicolor	1100001100	1011100011	0101111110	0110000000	-0-1011
Ma. orientalis	1100001101	1011100011	0101111110	0112000010	-0-1011
Ma. prabangensis	0001001101	0021000111	1101101110	0100100110	-0-0000
Ma. simlana	1110201000	0001101011	0111101121	0130111010	2102110
Ma. spectabilis	1001001101	0021001111	1111101110	0100100110	-0-1000
Ma. sprecherae	0010111000	0021111010	0111101120	2130111010	1102110
Ma. stevensi	0010011000	0021101010	1001101110	0120100010	-0-0110
Ma. taurica	1100000010	0110100200	0120001100	0101000010	-0-0000
Ma. thakkholae	2100001000	0001101011	0211111120	1120001001	0001110
Ma. thimphuensis	2100001000	0001101011	0211111120	0120001000	0111110
Ma. yasutoshii	1100001100	1021100011	0101111110	0102000000	-0-1011

Appendix B 3.2.3. Morphological character matrix used for the cladistic analysis of *Calloserica*.

Char. number (10)	1	1111111112	2222222223	3333333334	444444444
Char. number	1234567890	1234567890	1234567890	1234567890	123456789
Pleophylla spec.	0000002000	0100000010	0011000000	00000-0000	-0-10-000
N. ursina	0001000011	1101010111	1001100000	00000-0010	-0-10-000
G. marginalis	0011010011	1112010111	0001100000	00000-0000	-0-10-000
L. brevipilosa	0100000010	0100001001	1100000000	00000-0000	-0-10-000
L. modikholae	0000000010	0002001001	0100000000	00000-0010	-0-0---00
C. autumnalis	1011120110	1001001011	?000100000	10000-1100	-0-10-110
C. barabiseana	0011120010	1001001011	1010100000	0?000-0111	0100-0--0
C. begnasia	1111120110	1001001011	1000100000	00000-1110	-0-10-001
C. bertiae	1011120110	1001001011	1000100100	2100101110	-0-0----0
C. brendelli	1011120110	1001001011	1000100000	0100101110	-0-10-000
C. cambeforti	1111120110	1001001011	?000100010	00000-1110	-0-10-001
C. chiplingensis	1011120010	1001001011	1000110000	10000-1110	-110-0--0
C. delectabilis	1011120010	1001001011	1000111000	10010-1100	-110-0--0
C. gosainkundensis	0011120010	1001001011	?000100001	00000-0111	1100-0--0
C. hingstoni	1111120010	1001001011	?000110000	1000001100	-0-10-010
C. indrai	1111120010	1001001011	1000101000	10010-1110	-110-0--0
C. lachungensis	1011120110	1001001011	?000100100	2100101110	-0-0----0
C. langtangica	1111120010	1001001011	1000110000	10000-1100	-11110000
C. capillata	1111120010	1001001011	1000110000	10000-1100	-11110100
C. poggii	1011120010	1001001011	1000100000	0010111100	-110-1--0
C. manangensis	1011120010	1001001011	1000100000	0010111100	-110-1--0
C. raksensis	0011120010	1001001011	1000100001	00000-0111	1100-0--0
C. rupthangensis	0011120010	1001001011	1000100000	00000-0110	-100-0--0
C. tigrina	1011120110	1001001011	0000100010	00000-1110	-0010-001
C. trisuliensis	0011120010	1001001011	1000110000	10000-1100	-11110100
P. olafi	0011001011	1011100011	1001100000	00000-0000	-0-10-000
P. rubrobasalis	0011001111	1011100011	1001100000	00000-0000	-0-10-000
Ma. holosericea	0000001010	-0--010000	0011100000	00000-0000	-0-10-00-

Appendix B 3.2.4. Morphological character matrix used for the cladistic analysis of *Lasioserica*.

Char. number (10)	1	1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234
Pleophylla	0000120111	0012000001	1101010000	0--00--22-	0110000001	0000-00000	0000000-0-	-001000000	0000
A. chiangdaoensis	0000010000	0220001001	0?0?100011	1102100101	0101100000	0010-00300	0000000-0-	-001000100	0010
A. flavolucida	0000011000	0020002001	0200100111	1102100101	0100100000	1010-10000	0001000-0-	-000000000	0010
A. krausei	0111220101	0130001011	0011000000	1001112220	2311011010	1100-00010	0000010-0-	-011000000	0100
A. manipurensis	0000010001	0220001001	0?0?100111	1101100101	0100201000	0010-00300	0001010-0-	-000000000	001?
A. patibilis	0111221101	0130002011	0???100010	1101100221	2213011010	1100-00010	0000010-0-	-011000000	0100
A. rufidula	0000100000	0120002100	0???100000	1101111101	0100100011	1010-00300	000000000-	-001100000	0002
L. antennalis	0000101000	0022002100	0111100000	1101111101	0100100011	1010-00300	000000000-	-001100000	0002
L. assamicola	1000000000	1031001200	1???300010	1000100101	0000001010	1010-00000	000000000-	-011000000	0000
L. bhutanica	0000010010	0002110000	1?1?000010	1012100020	2000001010	0010-00000	0100000-0-	-021002100	0101
L. bipilosa	0000010010	0022000000	1101010110	1001100110	2101001110	001210?000	100201100-	-011000000	0021
L. bomansi	0000010010	0022000000	1101010010	1001100110	2101001110	0011000000	100201010-	-031000000	0021
L. braeti	0000010010	0002000000	1?1?000010	1012100001	200000?011	0010-0?100	0010000-0-	-011001000	0001
L. breviclypeata	0000111000	0022000000	1???000010	1000112111	2010000011	0010-0?000	0010000000-	-011000000	0000
L. brevipilosa	0000010010	0022000000	1101010110	1001100110	2101001110	0012101000	100200110-	-011000000	0021
L. bumthangana	0000010010	0002100000	1?1?000010	1012100011	2200000011	0010-0?000	0000000-11	0031000000	0001
L. chitreana	0000010010	0002000000	1210000010	1012100010	2000001011	0010-00200	0110000-0-	-011001000	0001
L. dekensis	0000000000	0022001000	1???200010	1001100101	0011001111	0010-00000	001000000-	-001000100	0000
L. dolakhana	0000010012	1002002000	1?1?100010	1012100022	2000000011	1010-10010	0000001-0-	-021000020	1?01
L. dolangsae	0000010012	1002002000	1?1?100010	1012100022	2000000011	1010-10010	0000001-0-	-021000020	1001
L. dragon	0000110000	0022002100	1???100210	0--10--200	1200000111	1010-00000	000000000-	-001000000	0000
L. eusegregata	0000010010	0012000000	1???010010	10??100???	2?00001010	0010-0?000	0000000-0-	-021001000	000?
L. galadrielae	0000010010	0002110?0	1?1?000010	1012100020	2000001010	0010-00000	0100000-11	0021002100	0101
L. godavariensis	0000010012	1002002000	1?1?100010	1012100022	2000000011	1010-10010	0000001-0-	-031000020	1001
L. ilamensis	0000010010	0002000000	1?1?000010	1012100010	2000001011	0010-0?100	0010000-0-	-021001000	0001
L. immatura	1000100000	0002001000	0???300010	1001112001	0100000010	0010-00000	0110010-0-	-001000000	0000
L. itohi	0000010010	0022000000	1101010110	1001100100	2101001110	0012101000	100201010-	-011000000	0021
L. jiriana	0000010010	0002110000	1?1?000010	1012100020	2000001010	0010-00000	0100000-11	0021002100	0101
L. kuatunica	0000010010	0022000000	1101010110	1001100130	2101001110	0012100000	100201110-	-021000000	0021
L. kubani	0000010010	0002000000	1???000010	1012100110	2100001211	0000-10000	0000100-11	0021000000	0001
L. kulbei	0000010012	1002002000	1?1?100010	1012100022	2000000011	2010-10010	0000000-0-	-021000020	1001
L. latens	0000110010	0002000000	1???111010	1012100010	2000000111	0010-00410	0000010-0-	-0110002-0	000?
L. maculata	0000010010	0002110000	1210000010	1012100020	2000001?10	0010-00000	0100000-11	0021002100	0101
L. meghalayana	0000010010	0012001000	1220110010	1002100013	2101001011	0010-00000	0000000-10	0021001000	0000
L. modikholae	0000010012	1002002000	1?1?100010	1012100022	2000000011	1010-10010	0000001-0?	-021000020	1001
L. nenya	0000110010	0002001000	1???000010	1002100131	2000001011	1010-0?000	0200100-0-	-031000000	0001
L. nepalensis	0000010012	1002002000	1?1?100?10	1012100022	2000000011	2010-10000	0000002-0-	-031000010	1001
L. nobilis	0000121012	0002002000	1210101010	1002100112	2000001011	1010-00000	0000000-10	1121000001	0010
L. nudosa	0000010012	0012002000	1?1?100010	1010100021	2000000011	1010-0?000	0000000-0-	-031001001	0001
L. oblita	0000010010	0022000000	1101010110	1001100100	2101001110	001210?000	100201010-	-021000000	0021
L. orlovi	0000010010	0002000000	1?1?000010	1012100010	2000001011	0010-0?100	0010000-0-	-021001000	0001
L. pacholatkoi	1000010000	0012002200	1???100110	1000112111	0100000011	1020-00000	001000000-	-001000000	0201
L. petri	0000010010	0022000000	1101010110	100110?110	2101001110	0012-01000	100200110-	-011000000	0021

Char. number (10)	1	1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234
L. pilosella	0000010010	0012000000	1?1?200010	1012100111	2000001011	0010-00000	0001000-0-	-011001000	0001
L. piloselloida	0000010010	0012000000	1?1?200010	1012100111	2000?01011	0010-00000	0001002-0-	-021001000	000?
L. pseudopilosella	0000010010	0012000000	1?1?200010	1012100111	2000001011	0010-00000	0001002-0-	-011001000	0001
L. pudens	0000000010	1000001200	1???301011	1001101010	0000000010	0000-0?000	0000000-0-	-001000200	0101
L. sabatinellii	0000010010	0002002000	1?1?100010	1012100021	2000001011	0010-00000	0000000-0-	-021001001	0001
L. sausai	0000010010	0022000000	1101010110	1001100110	2101001110	0012101000	100201110-	-011000000	0021
L. sikkimensis	0?00121012	0002002000	1?1?101010	1002100112	2000001011	1010-00000	0000000-10	1121000001	0010
L. silkae	0000010010	1002110000	1?1?000010	1012100020	2000001010	0010-00000	0100000-10	0031001000	0001
L. smithi	0000010012	0002000000	1???000010	1012100012	2000001011	0010-0?100	0000000-0-	-011001000	0001
L. sorror	0000010012	0012000000	1???000010	1010100022	2000000011	0010-00101	0000000-0-	-011011000	0001
L. tenera	0000010010	0022000000	1101010110	1001100110	2102001110	0012101000	100201100-	-011000000	0021
L. thoracia	0000010012	0002000000	1?1?0000?0	1012100012	2000001011	0010-00101	0000000-0-	-011011000	0001
L. tricuspis	0000010010	0022000000	1101010010	1001100110	2101001110	0011000000	100201010-	-031000000	0021
L. tuberculiventris	0000010010	0022000000	1101010110	1001100120	210100?110	0012101000	100200100-	-011000000	0021
L. turaensis	0000100110	0032001000	1???200010	1002100011	2100001010	1010-0?000	0000100-0-	-021000000	0001
L. victoriana	0000010010	0012110000	1???010010	1002100011	2000000011	0010-??000	0000000-10	00-1012000	0001
L. wittmeri	0000010012	0012002000	1?1?100010	1012100021	2000000011	1010-0?000	0000000-0-	-021001001	0001
M. holosericea	00001210-0	0010102000	1100100000	0--00--02-	0000000000	1010-00000	0000000-0-	-001000000	0000

Appendix B 3.2.5. Data matrix for the cladistic analysis of *Sericania*.

Char. number (10)		1111111112	2222222223	3333333334	4444444445	555555
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	123456
Pleophylla	1001001100	0301010001	0000200000	00-0-0000-	0100121010	0-0020
Chrysoserica auricoma	0000100000	0101001000	1012211000	1000-0200-	0100101011	000020
Nepalserica procera	0000100020	0411000000	1012211000	0000-0200-	0100120010	000010
Nipponoserica koltzei	0000000000	1000001000	1111211010	0000-0000-	0000101011	100020
Serica brunna	0000000020	1010000100	1012210010	10-0-0000-	211-0-----	--0---
Sericania babaulti	1000011001	0110001000	0020110012	000100200-	0110121010	000000
S. besucheti	0000010001	010?001000	0010111012	000100210-	0110121010	000000
S. bhojpurensis	1011011000	1010000100	1000301010	1000-02010	2100112110	000010
S. carinata	1000011001	0100001000	0010111012	0000-0200-	0111121010	100010
S. costulata	1000011001	0100001000	0010111012	0000-0200-	0111121010	100011
S. dispar	1000001021	011?001000	0010111012	000110200-	0111121011	100002
S. dubiosa	1000021001	010?001000	0010111011	0000-0200-	0112121010	000000
S. fuscolineata	1000021000	1201100110	0020300110	0000-0200-	0100120010	001000
S. gilgitensis	1120011111	010?111001	0000110011	010100200-	0002103010	100010
S. hazarensis	2000011001	0100001000	0010111011	100100210-	0110121010	000000
S. heinzi	1000001001	0100001000	0020110011	100100200-	0110102010	000020
S. kashmiriensis	1000001001	0100101000	0020110011	000100200-	0110121010	000000
S. khagana	1000021001	010?001000	0010111011	0000-0200-	0112121010	000000
S. kleebergi	1011011000	1000010100	1000301010	1010-1200-	1100112010	000000
S. laeticula	1000001021	0110001000	0010111011	000110200-	0111121011	100002
S. lewisi	1000001010	1101100110	0020300110	1000-0200-	0100100110	001000
S. loebli	1000011001	010?001000	0010110011	1000-0200-	0112121010	100011
S. mara	1011011000	1000010100	1000301110	1010-12011	2103112110	011000
S. mela	1011011000	1000010100	1000301110	1010-02010	1103112110	011000
S. nepalensis	1011011000	1000010100	1000301110	1010-12011	1103112110	011000
S. pacis	1000001001	0100001000	0010110011	100100200-	011?121010	000000
S. piattellai	1120011111	010?111001	0000110011	010100200-	0002103010	100010
S. poonchensis	1000001021	011?001000	0010111011	100110200-	0111121011	100002
S. swatensis	0000010001	0100001000	0010111011	000100210-	0111121010	000000
S. torva	1000011001	0100001000	0010111012	0000-0200-	0111121010	100011
S. yamauchii	0000010000	110?100110	0010300110	1000-0200-	2100120011	000002
Sericania sp. 1	2000001001	110?101010	1020300210	0000-0200-	0100120110	001100
Sericania sp. 2	1001011020	001?111100	0010300010	0000-0200-	0100100110	000100

Appendix B 3.2.6. Morphological character matrix used for the cladistic analysis of *Nipponoserica*/ *Xenoserica*.

Char. number (10)	1	1111111112	2222222223	333333
Char. number	1234567890	1234567890	1234567890	123456
Comaser. bergrothi	0101000000	0000011-00	10000000-0	220-00
M. insanabilis	0100001110	0110000-00	0110010011	2-0-00
M. simlana	0100001110	0110000-00	0110010011	0-0-00
N. dahongshanica	1001001010	1111100011	0110100100	011000
N. koltzei	0001000010	1111100011	2110100200	111000
N. peregrina	0001000010	1111100011	2110101100	111000
N. pubiventris	0001000010	1111100011	2110101100	111000
N. shanghaiensis	1021001010	1111100011	2110?00000	111000
N. sulciventris	1001001010	1111100011	2110100001	020-00
Ne. procera procera	0000211010	0112000-00	0010000011	010-00
P. nitididorsis	1021101010	1111100110	0110100101	011100
P. quadrifoliata	1021101010	1111100110	0110100101	011100
S. ponderosa	0000211010	0112000-00	0010000011	312000
St. sericea	1011001010	0110000-00	1100000010	010-00
Trochalosch. chikatunovi	0011001100	0000011-00	0001000010	020-0-
Trochalosch. spec 2	0011001100	0000011-00	0001000010	020-?-
X. brachyptera	1010001011	0000011-00	0001000110	221011
X. pindarensis	0100001011	0100011-00	0010000210	001000
X. sindhensis	0100001011	0100011-00	0010000210	221010

Appendix B 3.2.7. Data matrix for the cladistic analysis of *Serica*.

Char. number (100)												1	1111111111	1111111
Char. number (10)	1	1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888888889	9999999990	0000000001	1111111
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567
Pleophylla	1000200001	0010002000	0011000000	0101000001	0001010000	0001000003	4020000000	0000010000	000100000-	-0-00-0020	100000-0-0	0020100
C. langtangica	0011000000	1100100012	0011100000	1100000001	0111001001	0001012104	0020011010	0020000000	101000000-	---00-0-20	2000010--0	0010100
C. tigrina	0011100000	1100100012	0011100000	1100000001	0111001001	0001012100	0020011010	0000010000	111000000-	-0-00-2020	20010100-0	0010100
G. marginalis	0001200000	1100000012	0021100011	2--1000101	0011010010	0000000101	0001111110	0000000020	010000000-	-0-00-0000	200000-0-0	1010100
L. brevipilosa	0000000002	0000000010	0021000011	0001000000	0011100010	1000110100	1011011110	0021012010	010000100-	-1010-0020	-00-0100-0	1010000
L. modikholae	0000001002	0000000010	0020100011	2--0000000	1011100010	0001110100	0010001011	0000010000	020000110-	-0-00--020	-00-0100-0	0000000
N. ursina	0100000002	0100000011	0011102000	0001000101	0111010000	0000110103	0001111110	0001000030	011000000-	-0-00-0020	000000-0-0	1010100
P. cipingensis	0001200000	1100001012	0021100011	31001??101	0111010000	0010010103	0010010100	0000010010	0000000010	00-00-0020	10000100-1	???????
P. nantouensis	0011200100	1100001112	0021100020	3100102001	1110000000	0000012103	0011010000	0001010010	011000000-	-0-00-0020	200000-0-1	0012100
P. olafi	0001000000	1100001012	0011100011	3100102101	0110010000	0000010103	0010011010	0000010010	010000100-	-0-00-0020	20000110-1	1001110
S. adungana	0100100000	0000001100	0121002001	01120??000	1111000101	01?1012?04	00?000?101	0000010000	010110100-	-0-00-0111	010000-0-0	???????
S. albisetis	0001000000	0000011010	0021100003	12100??000	1111000000	0110012103	2010011101	0000010010	011000000-	-0-00-0010	001000-0-0	???????
S. almorae	0100000000	0000001100	0021002004	11110??000	1111000101	0100012005	0030000001	0000010010	010000000-	-0-1112010	100000-0-0	???????
S.angustatotibialis	0001000000	0000021101	0001000001	11110??000	1111000001	01000120??	103001?001	0000010020	210110210-	-1010-2112	100201-0-0	???????
S. arborea	0000111001	0000001010	00-1000002	2--1002000	1011000001	0111012005	4040011111	0001000010	100110000-	-0-00-0020	000000-0-0	000000?
S. bailungshanica	0011000000	0?00001000	0121010000	0000011011	1111000001	0110012100	0000011100	0101001110	300000000-	-1010-0000	100000-0-1	???????
S. basumtsoensis	0000000000	0000011001	0001000031	11110??000	1111000000	1100012111	1020010001	0000010010	2100102013	01000-0212	100200-0-0	0000001
S. becvari	0000000000	0000001101	0021000003	11110??000	1111000101	0110012103	1120011001	0010010010	3100000011	00-10-3021	100000-0-0	???????
S. behluhdinensis	0000000002	0000011101	0021000003	11100??000	1111000000	0110012100	1022110101	0000000010	220010000-	-0-10-2211	000100-110	???????
S. benesi	0000100012	0000011100	0021000003	11100??000	1111001000	0110012113	1122111101	0000010010	210111000-	-0-00-0211	001000-110	0001001
S. bhaktai	0001100000	0000001100	0021000003	11110??000	1111000001	1100012010	4031110101	0000000000	010010230-	-0-0112011	100100-0-0	0000001
S. bicornis	0000000000	0000001000	0101010000	0000011011	1111001101	0110012103	2010011000	0000001110	110000000-	-0-10-0020	100000-0-0	???????
S. bidentata	0?00100000	0000001101	002100?00?	11110??000	111?000001	01?1012???	10?000?0?1	0000010010	210010230-	-0-0??2011	100100-0-0	???????
S. bidigitata	0100000000	0000001101	0121002001	11110??000	1111000101	0101012004	0030000001	0000010010	3100000013	00-1110010	100000-0-0	0000001
S. bolm	2000000011	0000011100	0021000003	31120??000	1111000001	0100012110	1031010001	0000000010	210110100-	-0-00-0211	000000-110	???????
S. boops	0000000010	0000011101	0021000003	12100??000	1111000000	0100012010	4233010101	0000010010	210110010-	-0-00-2211	100500-100	0001001
S. br. rectipes	0000000012	0000011101	0021000003	11110??000	1111000000	0100012112	1032010101	0000010010	210110100-	-1010-2212	100200-100	???????
S. brunna	0100000000	0000011101	0020001011	2--0011000	1111000000	0100012004	1022011101	0000020020	220110100-	-1000-2212	100200-100	0001001
S. chasilakhae	000?000000	0000001100	002100000?	11110??000	111?000001	01?0012???	10???1?001	0000010000	010010230-	-0-1??2011	100100-0-0	???????
S. chautarana	0100000000	0000001100	0121002003	11110??000	1111000101	0110012004	1130010001	0000010010	0100000010	00-1110010	100000-0-0	???????
S. chuttana	0100000000	0000001101	0021002001	12110??000	1111000101	0101012004	4030000001	0000010010	3100000010	00-1112010	100100-0-0	???????
S. daliangshanica	0000100012	0000011100	0021000003	11110??000	1111001000	0110012103	1122111101	0000010010	210100000-	-0-10-2211	001300-100	???????
S. daliensis	0000000000	0000001100	0021000003	11110??000	1111000101	0110012101	1130010001	0010010010	3000000110	00-1113021	010000-0-0	???????
S. dathei	0001000010	0000011000	0121000003	12100??010	1111010010	01100121??	??02111100	00012-0010	110000000-	-1-00-0000	000000-0-0	???????
S. degenensis	0000000010	0000011101	0021000003	31100??000	1111000001	0100012013	1031010101	0000000010	210110110-	-0-00-0211	000300-100	???????
S. deuvei	0011000000	0000001000	0121010000	0000011011	1111001001	0110012101	0000111000	1101000110	310000000-	-1010-0000	00000100-1	???????
S. doiinthanonensis	0000000010	0000001101	0021000003	12110??000	1111000101	0110012103	1120010001	0010010010	0000000011	00-1110020	000000-0-0	???????
S. dolens	0000000000	0000001100	0021000001	1110011000	1111000001	0100012103	1030010001	0000020010	210110210-	-1010-2111	100200-0-0	0001001
S. eberti	0000000011	0000011000	0021000003	1111011000	1111001011	1110012111	1020010101	0000020020	010002000-	-0-10-3021	000000-0-0	0001001
S. emeishanica	1100000011	0000011101	0021003003	31110??000	1111000001	0100012114	2031010101	0000000010	210110100-	-0-00-0211	000100-110	???????
S. erectosetosa	0000010000	0000001110	1001000003	1110002000	1111001011	1101012004	0030002101	0011010030	410000000-	-0-00-0020	10040100-0	1111000
S. filitarsata	0002000000	0000001101	0021000004	11110??000	1111000001	0100012104	1030110001	0000010010	210110210-	-1010-2112	100200-0-0	0000001

Char. number (100)												
											1	1111111111	1111111
Char. number (10)	1	1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888888889	9999999990	0000000001	1111111
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567
S. fulvopubens	1100101001	0000011101	0001001003	00010??000	1111000000	0100012100	1022111100	0000020020	220110100-	-1000-2211	1002010100	0001001
S. furcata	0000000000	0000021101	0021000003	11110??000	1110000101	0110012103	0020011101	0010010010	3100001011	00-10-3000	000000-0-0	0000001
S. fusifemorata	0000000002	0000011100	0021000003	1111011000	1111000001	0110012103	1122110101	0000010010	210111000-	-0-00-2211	001000-110	0001001
S. gonggashanica	000000001?	0000011101	0021000003	31110??000	1111000001	1100012110	2021010101	0000000010	210110100-	-0-00-0211	000100-110	???????
S. gracilicornis	0000000000	0000011101	002100000?	11110??000	111?000001	0110012???	00?001?101	0000010010	020001000-	-0-10-2011	100100-0-0	???????
S. grahami	0000100012	0000011100	0021000003	11110??000	1111001000	0110012103	1212111001	0000010010	210100000-	-0-10-2211	001000-110	???????
S. guidoi	0000000000	0000001100	0021000003	11110??000	1110000101	0100012101	1032110001	0000010010	210001000-	-0-10-2011	100300-0-0	???????
S. heishuiensis	0000000000	0010011101	0021000003	12110??000	1111000001	1110012003	1030011011	0000010010	0101001010	01000-0120	000000-0-0	???????
S. heydeni	0000101012	0001011100	0021000003	1110011000	1111000000	0100012104	1021010100	0000010011	211100000-	-0-00-0221	1001020110	0001001
S. hirsuta	1100101001	0000011101	0001001003	00010??000	1111000000	0110012101	1022011100	0000020020	2201100011	01200-2212	100200-100	???????
S. hirtella	0011000000	000?001000	0121010000	0000011011	1111001001	0110012101	0010111000	1101000110	000000000-	-1-10-0000	00000100-1	???????
S. honshuensis	0000000012	000?011100	0021000001	11110??000	1111000001	0110012113	1030010001	0000010010	210110000-	-1010-2211	001100-100	???????
S. incognita	0000000000	000?001100	0021000003	11110??000	1110000101	0120012101	0030110011	0000010010	010000020-	-0-1112020	100100-0-0	???????
S. jaegeri	0000000000	000?001100	0121000003	11110??000	1111000101	0111012004	0030010001	0000010010	0100000010	00-1110010	100000-0-0	???????
S. kalabi	000000001?	000?011101	0021000003	31110??000	1111000001	0101012111	1020010101	0000000010	210110100-	-0-00-0211	000100-110	???????
S. kangdingensis	0000000110	000?011101	0021000003	31110??000	1111000001	0101012114	2011010101	0000000010	210110100-	-0-00-0211	000100-110	???????
S. karafutoensis	0000000012	000?011100	0021000001	11110??000	1111000001	0110012113	1030010001	0000010010	210110000-	-1010-2211	001100-100	???????
S. karnaliensis	0000010000	000?001111	0001000003	4100002000	1111001011	1100012004	0030012111	0001010030	210000000-	-0-00-0020	100000-0-0	???????
S. khajiaris	0000000000	000?001100	0021000003	1111011000	1111000101	0120012103	1120010001	0010020010	300000010-	-0-10-3021	010000-0-0	0001001
S. khasiana	0000000003	000?001100	0021000003	1111011000	1111001001	0120012103	1130110001	0000010010	010000000-	-0-10-1011	010000-0-0	0001001
S. kingdoni	0002000000	0031011101	0001000000	0011000000	1110000001	0100012104	1130110101	0000000000	1001001010	00-00-2000	100000-0-0	0000001
S. koshiana	0000010000	0000001111	0000000003	2--0002000	1111001011	1101012004	0030002111	0011010000	410000000-	-0-00-0020	100000-0-0	???????
S. kumaonensis	0000000010	0000001100	002100000?	11110??000	111?000001	01?1012???	???000??00	0000010010	3100011012	10-10-3020	001000-0-0	???????
S. lama	0000000000	0000001100	0021000003	11110??000	1111000101	0100012103	0020111001	0010010010	010001000-	-0-10-0010	100000-0-0	???????
S. leigongshanica	0000100012	0000011100	0021000001	11110??000	1111001000	0110012103	1122111101	0000010010	210101000-	-0-10-2211	001300-110	???????
S. lepidula	0000000000	0000001100	0021000003	11110??000	1111000101	0110012103	11201????1	0010020010	3100000014	00-10-2021	010010-0-0	???????
S. lijiangensis	0000000000	0000001000	0121010000	0000011011	1111001101	0110012103	0010011000	0100001110	100000000-	-0-10-0020	100000-0-0	1121000
S. litangensis	0000000010	0000011100	0021000003	31110??000	1111000001	0100012011	1031010101	0000000010	210110110-	-0-00-0211	000300-100	???????
S. maculosa	0000000100	0000001010	0021100120	31001??001	1111011000	0110010103	1101111100	00001-0000	010110000-	-0-00-2210	100000-121	???????
S. meiguensis	2000000011	0000011100	0021000003	31110??000	1111000001	0100012113	2030010001	0000000010	210110100-	-0-00-0211	000500-100	0001001
S. mianningensis	0000000001	0000011101	0001000001	00000??000	1111000001	1100012103	1130110101	0000020010	0000001011	10-10-0020	00100100-0	???????
S. minshanica	0000000000	0000011101	0021000003	12110??000	1111000101	0110012104	0020111101	0010010010	3100001011	10-1113000	000000-0-0	0001001
S. montreuili	0000000000	0020011000	0021000030	1110012000	1111000001	1101012012	1010010100	0000000010	010110200-	-1000-0120	000000-0-0	1000001
S. montreuili B	0000000000	0020011000	0021000030	1110012000	1111000001	1101012012	1011010000	0000000010	010110200-	-1000-0120	000000-0-0	1000001
S. moupinensis	0000100012	0?00011110	0021000003	11100??000	1111001000	0110012110	1112111101	0000010010	2101110013	10-00-0211	001000-110	0001001
S. muliensis	0100000010	0000001100	0001001003	11100??000	1111001001	1100012005	0040010001	0010010010	010000000-	-0-10-2212	110200-0-0	???????
S. mureensis	0000000000	0000001101	0021000001	11110??000	1110000101	0110012100	0030111001	0000010010	010001000-	-0-1112011	100000-0-0	1000001
S. nanjiangana	0011000000	0000011010	0121000003	11110??000	1110010000	0110012103	2022111100	00012-0010	021000000-	-0-00-0020	200000-0-0	???????
S. narya	0000100000	0000001100	0021000004	11110??000	1111000001	0100002102	40?1010001	0000010000	010010230-	-0-0??2012	100100-0-0	???????
S. nebulosa	0000000000	0000001101	0021000003	11110??000	1111000101	0110012101	1122111001	0010000010	3100000014	00-10-2021	010010-0-0	???????
S. nepalensis	0000000003	0000001101	0021000004	1110011000	1111001101	1120012113	1030110101	0000010010	210110100-	-0-1100111	100300-0-0	0000001
S. nigroguttata	0000000100	0000011010	0021100124	3100100001	1111011000	0110012103	0001111100	0000010010	000100000-	-0-00-0210	100000-111	1002000
S. nigromaculosa	0000100012	0000011101	0021000003	11110??000	1111001001	0110012103	1122110101	0000010010	2101010013	10-00-0211	001000-110	0001001
S. nigrovariata	0000000010	0000011100	0001000003	12110??000	1111000000	0100012112	1221010101	0000010010	210110010-	-0-00-2211	100100-100	???????
S. nipponica	0000000010	0000011101	0021000003	11110??000	1111000000	0100012110	1022010101	0000010010	210110000-	-1010-2212	100200-100	???????
S. olivacea	0000000001	0000001011	0021000011	2--00??000	1010001001	0111012012	3120010101	0000000010	200100130-	-0-10-0112	100000-0-0	???????

Char. number (100)													
												1	1111111111 1111111
Char. number (10)	1	1111111112	2222222223	3333333334	4444444445	5555555556	6666666667	7777777778	8888888889	9999999990	0000000001 1111111
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890 1234567
S. opaciclypealis	0000000100	0000001101	0021000003	11110??000	1111000001	0110012105	1110110001	0010010010	0100000010	00-10-0011	010000-0-0 ???????
S. palaea	0000000000	0000001111	0020000003	11110??000	1110110000	0110012104	0010010101	0000010000	000000020-	-0-00-0000	000000-0-0 ???????
S. panchaseana	0110001100	0000011010	1020002003	2--00??000	1001111010	1101212103	0011001001	0000010000	000000100-	-1000-0000	10000100-0 ???????
S. plutenkoi	0000101012	0000011101	0021000003	12100??000	1111011000	0110012110	1122111001	0000010010	2001100013	10-00-2211	100100-110 0001001
S. polita	1100101001	0000011101	0001001003	00010??000	1111000000	0110012103	1012011100	0000020020	2201101010	01200-2211	1002011100 0001001
S. pommeranzi	0100000011	0000011000	0021002003	11110??000	1110000001	1110012114	1030010001	0000010010	000100100-	-1210-3121	001000-0-0 0001001
S. proclivis	0000000000	0000001100	0021000003	11110??000	111?000001	01?0012?0?	00?011?001	0000010010	010000000-	-0-10-0011	010000-0-0 ???????
S. puetzi	0000000000	0000001101	0021000003	12100??000	1111000?0	0110012103	1022110101	0000010000	0100000010	00-10-0120	100000-0-0 ???????
S. qinlingshanica	1100000011	0000011101	0021001003	11110??000	1111000001	0100012114	2031010101	0000000010	210110100-	-0-00-0211	000100-110 ???????
S. ramosa	0000000000	0000001121	0021000001	1110011000	1111000001	0101012104	1030010001	0000010010	210110100-	-0-1122211	100100-0-0 0001001
S. ratcliffei	000010001?	0000011101	0021000003	12100??000	1111000100	0100012103	12321????1	0000010000	2101001010	01100-2211	000000-110 ???????
S. ribbei	0000000000	0000001101	0121000003	11110??000	1111000101	0110012104	0020011001	0000010010	0000000010	00-1110010	100000-0-0 ???????
S. rosinae	0000101012	0000011101	0021000003	12100??000	1111011000	0110012113	1122111001	0000010010	2101100013	10-00-2211	000100-110 0001001
S. sawadai	0100000010	0000011100	0021001003	12110??000	1111000000	0100012112	1022010101	0000010010	220110000-	-1010-2211	100200-100 ???????
S. schoenmanni	0000000010	0000011101	0021000003	31100??000	1111000001	0100012013	1031010101	0000000010	210110110-	-0-00-0211	000300-100 0000001
S. septentrionalis	0100101002	0000011000	0001002001	00010??000	1111000000	0101012100	1032011000	0000020020	2201100010	01210-2211	100200-110 ???????
S. shaanxiensis	0000101012	0000011101	0021000003	1110011000	1111001000	0120012113	1122111101	0000010010	2101000013	10-00-2211	001000-110 0001001
S. sherpa	0000000000	0000001101	0001000003	11110??000	1111000001	0110012105	1030110001	0000010010	310000000-	-0-10-0011	010000-0-0 ???????
S. shokhini	0000100002	0000011101	0001000001	00000??000	1111000001	1100012104	0030110101	0000020010	0000001011	10-00-0020	00100100-0 ???????
S. somathangana	0000010000	0000001011	1000000003	2--0002000	1111001001	1101012004	0030002111	0001010030	410000000-	-0-00-0020	100400-0-0 ???????
S. taibashanica	0000000000	0000011101	0001000003	1111011000	1111000101	0110012103	1120111101	0010010010	3000000011	10-1110000	000000-0-0 ???????
S. tayanpingensis	0100100002	0010011000	0020002003	11110??000	1111000001	0101012004	1030010011	0000000010	0101001010	01000-0120	100000-0-0 ???????
S. thibetana	0000000000	0000001101	0031000003	1111011000	1111000001	0110012105	1010110001	0000010010	010000000-	-0-10-0011	010000-0-0 0001001
S. tongluana	0000000011	0000011000	0021000003	11110??000	1111000111	1110012111	1130010101	0000020020	010002000-	-0-10-3021	000000-0-0 ???????
S. trapezicollis	0011000000	0000011010	0121000003	11110??011	1111010000	0110012103	2002111100	00012-0010	111000000-	-0-00-0020	100000-0-0 ???????
S. tropdeana	0000000000	0000001101	000100000?	11110??000	1111000101	01?0012107	10?001?101	0000010010	000000000-	-0-10-1011	010000-0-0 ???????
S. tukucheana	0000000000	0000001100	0021000003	1111011000	1111000101	0100012103	1120110001	0000010010	0100000010	10-1110020	100000-0-0 1020001
S. velutina	0011000000	0000001000	0121010000	0000011011	1111000001	0110012100	000001???0	0101001010	010000000-	-0-10-0000	10000110-1 ???????
S. weiperti	0100000000	0000001100	0021002001	11110??000	1111000101	0101012004	0030000001	0000010010	3100000010	00-0112010	100100-0-0 ???????
S. xichangensis	0000000001	0000011101	0001000001	00000??000	1111000001	1100012103	1130110101	0000020010	0000001011	10-10-0020	00100100-0 ???????
S. yaogiensis	0000000100	0000011101	0021000003	11110??000	1111000001	0100012114	1012110101	0000000010	210110100-	-0-00-0211	001300-100 ???????
S. yulongshanica	0000000000	0000001101	0021000003	12100??000	1111001001	0101012003	0030010011	0000010010	010000000-	-0-10-2220	100100-0-0 ???????
S. zerchei	0001000012	0000011111	0001000001	3110011000	1111000100	0110012104	0012110100	0000010010	000000000-	-0-10-0010	100000-0-0 0001001
T. anmashanica	0000000000	0000001010	0121000003	1110011000	1111101001	0110012103	0011011011	0001000001	001000000-	-0-00-0000	10000210-0 1011000
T. gracilipes	0000000000	0000001010	0121000003	1110011000	1111101001	0110012103	0011011011	0001000001	001000000-	-0-00-2000	10000200-0 1011000

Appendix B 3.2.8. Morphological character matrix used for the cladistic analysis of *Anomalophylla*.

Char. number (10)	1	1111111112	2222222223	3333333334	4444444445	5555555556	666666666
Char. number	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	123456789
Comas. bergrothi	0001000141	0201102-01	00-1110100	113-100001	1001021000	1001-1----	--0000---
A. bicolor	1110111112	022110?011	0101101100	1130110102	?110000211	0111110010	000021010
A. dongchuanensis	1110111112	0221101011	0101101100	1131110101	0110000211	0111110111	100020010
A. ganhaiziensis	1110111112	022111?011	0?01111000	1131110101	?110000211	0111110111	100021110
A. hispidulosa	1120012112	0211100012	0111101110	1130110102	0110000111	0100010120	0000000-0
A. huashanica	1110111112	0221111011	01-1111000	1131111101	0110000211	0111100011	011020021
A. kangdingensis	1110012112	021110?011	00-1111100	1131110?01	?110000211	0111110011	0100010-1
A. kozlovi	1110111112	022111?011	01?1111000	1130110101	?110000211	0111100011	001020011
A. liciata	1120112112	0221100011	0101101110	1130110102	0110000211	0101100010	010021120
A. majori	0120012112	021110?012	0111101110	1130110102	?110000111	0100010000	0000310-0
A. mandhatensis	0110012112	0211100012	0111101110	1130110102	0110000111	0100010120	0000000-0
A. mawi	1110011112	0121111011	01-1111000	1131111101	0110000211	0110100010	00002012?
A. morula	0120012112	0211100011	0101101100	1130110102	0110000111	0000010100	0000310-0
A. moupinea	1120012112	0211100012	0111101110	1130110102	0110000211	0101101010	0000220-0
A. moxiensis	1110111112	0221111011	0101111000	1131111101	0110000211	0111100011	011020021
A. obscuripennis	1120111112	0211110011	0101101100	1130110102	1110000211	0101110100	0000310-1
A. plagipennis	1110112112	0221110011	0101101100	1130110102	0110000211	010110?011	100020111
A. quinlingensis	1110111112	022111?011	0?-1101000	1130111102	?110000211	0111101011	000020011
A. stoetzneri	1120112112	021110?011	0?01101100	1130110102	?110000211	0101110010	0000320-0
A. subcarinata	1120112112	0221100011	0101101110	1130110102	0110000211	0101110110	010020000
A. subfastuosa	1120112112	0211100011	0101101110	1130110102	0110000211	0100100010	000020000
A. trist. tristicula	1120112112	0211100012	0111101110	1130100102	0110000211	0101100000	0001310-0
A. trist. tristiculaB	1120112112	0211100012	0111101110	1130100102	0110000211	0101101000	0001310-0
A. trist. tsangpoana	1120012112	0211100012	0?01101100	1120100102	?110000211	0100110000	0001310-0
A. vidua	1120112112	0211100012	0111101110	0130110102	2110000111	0100110110	0000300-0
A. wulingshanica	1110111112	0221110011	01-1111000	1131111101	0110000211	0111100011	011020001
G. marginalis	0010010021	10201-1102	0111110201	0020101001	0000000010	0001-1----	--0000---
M. interrogator	0001000011	10000-1000	21--1000-0	1000000000	0000121000	0000-0----	--0000---
M. pansona	0111000112	00000-0101	00-2101000	1110100110	?000000020	0000-0----	--0030---
M. simplex	0001000002	00000-2002	0010110000	1000000011	0000000000	0001-1----	--0000---
M. soppongensis	0111000112	00000-0111	00-2101000	1110100110	?000000020	0000-0----	--0030---
M. steelei	0010000021	02000-0002	0010000100	0000000000	0000000000	0000-0----	--0030---
N. ursina	0020010021	02101-2112	0011100211	0020101001	1000000011	0101111100	000000--?
O. pygidialis	0010000131	00000-0001	10--1000-0	0000000100	0001111001	1000-1----	--0000-?-

9.3 Appendix C

Appendix C 3.2.1. Tree statistics of *Maladera* (*Cyclosericа*): consistency index (ci) and retention index (ri) calculated by the parsimony ratchet analysis run with WINCLADA/ NONA.

char	ci	ri	char	ci	ri	char	ci	ri	char	ci	ri
1	1,00	1,00	**11**	0,33	0,50	**21**	0,33	0,71	**31**	0,66	0,75
2	0,50	0,50	**12**	0,50	0,66	**22**	0,33	0,60	**32**	1,00	1,00
3	1,00	1,00	**13**	1,00	1,00	**23**	1,00	1,00	**33**	0,66	0,85
4	1,00	1,00	**14**	1,00	1,00	**24**	0,50	0,80	**34**	0,66	0,85
5	0,50	0,66	**15**	0,33	0,71	**25**	0,33	0,71	**35**	1,00	1,00
6	0,66	0,66	**16**	1,00	1,00	**26**	1,00	1,00	**36**	1,00	1,00
7	0,33	0,75	**17**	0,50	0,50	**27**	1,00	1,00	**37**	1,00	1,00
8	0,42	0,42	**18**	1,00	1,00	**28**	1,00	1,00			
9	1,00	1,00	**19**	0,33	0,00	**29**	0,50	0,75			
10	1,00	1,00	**20**	1,00	1,00	**30**	1,00	1,00			

Appendix C 3.2.2. Tree statistics of *Maladera* (*Omaladera*): consistency index (ci) and retention index (ri) calculated by the parsimony ratchet analysis run with WINCLADA/ NONA.

char	ci	ri	char	ci	ri	char	ci	ri	char	ci	ri
1	0.28	0.58	**13**	0.50	0.80	**25**	0.50	0	**37**	0.33	0.77
2	0.33	0.75	**14**	1.0	1.0	**26**	0.33	0.77	**38**	1.0	1.0
3	0.50	0.75	**15**	0.50	0.50	**27**	uninf.		**39**	0.33	0.77
4	1.0	1.0	**16**	0.25	0	**28**	0.50	0	**40**	1.0	1.0
5	0.50	0	**17**	0.33	0.77	**29**	1.0	1.0	**41**	0.66	0
6	0.50	0.66	**18**	1.0	1.0	**30**	0.60	0	**42**	0.33	0.71
7	0.50	0.66	**19**	0.50	0.66	**31**	0.40	0.25	**43**	1.0	1.0
8	0.50	0.80	**20**	0.25	0.40	**32**	uninf.		**44**	0.33	0.50
9	1.0	1.0	**21**	0.33	0.50	**33**	0.75	0.90	**45**	1.0	1.0
10	0.50	0.33	**22**	0.50	0.75	**34**	0.50	0	**46**	0.50	0.80
11	0.50	0.66	**23**	0.66	0.88	**35**	0.25	0.50	**47**	1.0	1.0
12	0.50	0	**24**	0.33	0						

Appendix C 3.2.4. Tree statistics of *Lasioserica*: Consistency index (ci), retention index (ri), rescaled consistency index (rc), and respective weights (W) used for successive approximations character weighting (SACW) (in paranthesis: number of iteration run).

	SACW based on CI									SACW based on RC											
Char	**ci0**	**ri0**	**rc0**	**W1**	**ci1**	**ri1**	**W2**	**ci2**	**ri2**	**W1**	**ci1**	**ri1**	**rc1**	**W2**	**ci2**	**ri2**	**rc2**	**W3**	**ci3**	**ri3**	**rc3**
1	0.33	0	0	33	0.33	0	33	0.33	0	0	0.33	0	0	0	0.33	0	0	0	0.33	0	0
2	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
3	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
4	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
5	0.33	0.66	0.22	33	0.33	0.66	33	0.33	0.66	22	0.33	0.66	0.22	22	0.33	0.66	0.22	22	0.33	0.66	0.22
6	0.33	0.63	0.21	33	0.33	0.63	33	0.33	0.63	21	0.33	0.63	0.21	21	0.33	0.63	0.21	21	0.33	0.63	0.21
7	0.16	0.16	0.03	16	0.16	0.16	16	0.16	0.16	3	0.16	0.16	0.03	3	0.16	0.16	0.03	3	0.16	0.16	0.03
8	0.50	0.66	0.33	50	0.50	0.66	50	0.50	0.66	33	0.50	0.66	0.33	33	0.50	0.66	0.33	33	0.50	0.66	0.33
9	0.50	0.91	0.46	50	0.50	0.91	50	0.50	0.91	46	0.50	0.91	0.46	46	0.50	0.91	0.46	46	0.50	0.91	0.46
10	0.50	0.86	0.43	50	0.50	0.86	50	0.50	0.86	43	0.50	0.86	0.43	43	0.50	0.86	0.43	43	0.50	0.86	0.43
11	0.25	0.62	0.16	25	0.25	0.62	25	0.25	0.62	16	0.25	0.62	0.16	16	0.25	0.62	0.16	16	0.25	0.62	0.16
12	0.50	0.33	0.17	50	0.50	0.33	50	0.50	0.33	17	0.50	0.33	0.17	17	0.50	0.33	0.17	17	0.50	0.33	0.17
13	0.25	0.71	0.18	25	0.25	0.71	25	0.25	0.71	18	0.25	0.71	0.18	18	0.25	0.71	0.18	18	0.25	0.71	0.18
14	0.33	0.42	0.14	33	0.33	0.42	33	0.33	0.42	14	0.33	0.42	0.14	14	0.33	0.42	0.14	14	0.33	0.42	0.14
15	0.25	0.57	0.14	25	0.25	0.57	25	0.25	0.57	14	0.25	0.57	0.14	14	0.25	0.57	0.14	14	0.25	0.57	0.14
16	0.50	0.80	0.40	50	0.50	0.80	50	0.50	0.80	40	0.50	0.80	0.40	40	0.50	0.80	0.40	40	0.50	0.80	0.40
17	0.25	0.76	0.19	25	0.25	0.76	25	0.25	0.76	19	0.25	0.76	0.19	19	0.25	0.76	0.19	19	0.25	0.76	0.19
18	0.40	0.25	0.10	40	0.40	0.25	40	0.40	0.25	10	0.40	0.25	0.10	10	0.40	0.25	0.10	10	0.40	0.25	0.10
19	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
20	0.50	0.80	0.40	50	0.50	0.80	50	0.50	0.80	40	0.50	0.80	0.40	40	0.50	0.80	0.40	40	0.50	0.80	0.40
21	0.33	0.71	0.23	33	0.33	0.71	33	0.33	0.71	23	0.33	0.71	0.23	23	0.33	0.71	0.23	23	0.33	0.71	0.23
22	0.66	0.75	0.50	66	0.66	0.75	66	0.66	0.75	50	0.66	0.75	0.50	50	0.66	0.75	0.50	50	0.66	0.75	0.50
23	0.50	0.86	0.43	50	0.50	0.86	50	0.50	0.86	43	0.50	0.86	0.43	43	0.50	0.86	0.43	43	0.50	0.86	0.43
24	0.33	0.60	0.20	33	0.33	0.60	33	0.33	0.60	20	0.33	0.60	0.20	20	0.33	0.60	0.20	20	0.33	0.60	0.20
25	0.25	0.66	0.17	25	0.25	0.66	25	0.25	0.66	17	0.25	0.66	0.17	17	0.25	0.66	0.17	17	0.25	0.66	0.17
26	0.50	0.93	0.47	50	0.50	0.93	50	0.50	0.93	47	0.50	0.93	0.47	47	0.50	0.93	0.47	47	0.50	0.93	0.47
27	0.33	0.33	0.11	33	0.33	0.33	33	0.33	0.33	11	0.33	0.33	0.11	11	0.33	0.33	0.11	11	0.33	0.33	0.11
28	0.50	0.81	0.41	50	0.50	0.81	50	0.50	0.81	41	0.50	0.81	0.41	41	0.50	0.81	0.41	41	0.50	0.81	0.41
29	0.33	0.50	0.17	33	0.33	0.50	33	0.33	0.50	17	0.33	0.50	0.17	17	0.33	0.50	0.17	17	0.33	0.50	0.17
30	0.50	0.66	0.33	50	0.50	0.66	50	0.50	0.66	33	0.50	0.66	0.33	33	0.50	0.66	0.33	33	0.50	0.66	0.33
31	0.50	0.50	0.25	50	0.50	0.50	50	0.50	0.50	25	0.50	0.50	0.25	25	0.50	0.50	0.25	25	0.50	0.50	0.25
32	0.33	0.60	0.20	33	0.33	0.60	33	0.33	0.60	20	0.33	0.60	0.20	20	0.33	0.60	0.20	20	0.33	0.60	0.20
33	0.33	0.92	0.30	33	0.33	0.92	33	0.33	0.92	30	0.33	0.92	0.30	30	0.33	0.92	0.30	30	0.33	0.92	0.30
34	0.20	0.68	0.14	20	0.20	0.68	20	0.20	0.68	14	0.20	0.68	0.14	14	0.20	0.68	0.14	14	0.20	0.68	0.14
35	0.50	0.50	0.25	50	0.50	0.50	50	0.50	0.50	25	0.50	0.50	0.25	25	0.50	0.50	0.25	25	0.50	0.50	0.25
36	0.50	0.80	0.40	50	0.50	0.80	50	0.50	0.80	40	0.50	0.80	0.40	40	0.50	0.80	0.40	40	0.50	0.80	0.40
37	0.50	0.60	0.30	50	0.50	0.60	50	0.50	0.60	30	0.50	0.60	0.30	30	0.50	0.60	0.30	30	0.50	0.60	0.30
38	0.22	0.75	0.17	22	0.22	0.75	22	0.22	0.75	17	0.22	0.75	0.17	17	0.22	0.75	0.17	17	0.22	0.75	0.17
39	0.23	0.67	0.15	23	0.27	0.74	27	0.27	0.74	15	0.27	0.74	0.20	20	0.27	0.74	0.20	20	0.27	0.74	0.20
40	0.30	0.77	0.23	30	0.30	0.77	30	0.30	0.77	23	0.30	0.77	0.23	23	0.30	0.77	0.23	23	0.30	0.77	0.23
41	0.50	0.81	0.41	50	0.50	0.81	50	0.50	0.81	41	0.50	0.81	0.41	41	0.50	0.81	0.41	41	0.50	0.81	0.41
42	0.27	0.65	0.18	27	0.27	0.65	27	0.27	0.65	18	0.27	0.65	0.18	18	0.27	0.65	0.18	18	0.27	0.65	0.18

	SACW based on CI									SACW based on RC											
Char	**ci0**	**ri0**	**rc0**	**W1**	**ci1**	**ri1**	**W2**	**ci2**	**ri2**	**W1**	**ci1**	**ri1**	**rc1**	**W2**	**ci2**	**ri2**	**rc2**	**W3**	**ci3**	**ri3**	**rc3**
43	0.33	0.50	0.17	33	0.33	0.50	33	0.33	0.50	17	0.33	0.50	0.17	17	0.33	0.50	0.17	17	0.33	0.50	0.17
44	0.42	0.69	0.29	42	0.42	0.69	42	0.42	0.69	29	0.42	0.69	0.29	29	0.42	0.69	0.29	29	0.42	0.69	0.29
45	0.66	0.66	0.44	66	0.66	0.66	66	0.66	0.66	44	0.66	0.66	0.44	44	0.66	0.66	0.44	44	0.66	0.66	0.44
46	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
47	0.10	0.59	0.06	10	0.10	0.59	10	0.10	0.59	6	0.10	0.59	0.06	6	0.10	0.59	0.06	6	0.10	0.59	0.06
48	0.50	0.84	0.42	50	0.50	0.84	50	0.50	0.84	42	0.50	0.84	0.42	42	0.50	0.84	0.42	42	0.50	0.84	0.42
49	0.33	0.50	0.17	33	0.33	0.50	33	0.33	0.50	17	0.33	0.50	0.17	17	0.33	0.50	0.17	17	0.33	0.50	0.17
50	0.12	0.72	0.09	12	0.12	0.72	12	0.12	0.72	9	0.12	0.72	0.09	9	0.12	0.72	0.09	9	0.12	0.72	0.09
51	0.22	0.63	0.14	22	0.22	0.63	22	0.22	0.63	14	0.22	0.63	0.14	14	0.22	0.63	0.14	14	0.22	0.63	0.14
52	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
53	0.50	0.50	0.25	50	0.50	0.50	50	0.50	0.50	25	0.50	0.50	0.25	25	0.50	0.50	0.25	25	0.50	0.50	0.25
54	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
55	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
56	0.33	0.71	0.23	33	0.33	0.71	33	0.33	0.71	23	0.33	0.71	0.23	23	0.33	0.71	0.23	23	0.33	0.71	0.23
57	0.50	0.80	0.40	50	1.0	1.0	100	1.0	1.0	40	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
58	0.66	0.75	0.50	66	0.66	0.75	66	0.66	0.75	50	0.66	0.75	0.50	50	0.66	0.75	0.50	50	0.66	0.75	0.50
59	0.25	0.57	0.14	25	0.33	0.71	33	0.33	0.71	14	0.25	0.57	0.14	14	0.25	0.57	0.14	14	0.25	0.57	0.14
60	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
61	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
62	0.50	0.66	0.33	50	0.50	0.66	50	0.50	0.66	33	0.50	0.66	0.33	33	0.50	0.66	0.33	33	0.50	0.66	0.33
63	0.25	0.57	0.14	25	0.25	0.57	25	0.25	0.57	14	0.25	0.57	0.14	14	0.25	0.57	0.14	14	0.25	0.57	0.14
64	0.66	0.92	0.61	66	0.66	0.92	66	0.66	0.92	61	0.66	0.92	0.61	61	0.66	0.92	0.61	61	0.66	0.92	0.61
65	0.50	0.50	0.25	50	0.50	0.50	50	0.50	0.50	25	0.50	0.50	0.25	25	0.50	0.50	0.25	25	0.50	0.50	0.25
66	0.14	0.50	0.07	14	0.16	0.58	16	0.16	0.58	7	0.16	0.58	0.09	9	0.14	0.5	0.07	7	0.14	0.5	0.07
67	0.28	0.58	0.16	28	0.40	0.75	40	0.40	0.75	16	0.40	0.75	0.30	30	0.40	0.75	0.30	30	0.40	0.75	0.30
68	0.25	0.57	0.14	25	0.50	0.85	50	0.50	0.85	14	0.50	0.85	0.43	43	0.50	0.85	0.43	43	0.50	0.85	0.43
69	0.16	0.44	0.07	16	0.20	0.55	20	0.20	0.55	7	0.20	0.55	0.11	11	0.20	0.55	0.11	11	0.20	0.55	0.11
70	0.33	0.50	0.17	33	0.50	0.75	50	0.50	0.75	17	0.50	0.75	0.38	38	0.50	0.75	0.38	38	0.50	0.75	0.38
71	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
72	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
73	0.17	0.61	0.10	17	0.17	0.61	17	0.17	0.61	10	0.17	0.61	0.10	10	0.17	0.61	0.10	10	0.17	0.61	0.10
74	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
75	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
76	0.50	0.50	0.25	50	0.50	0.50	50	0.50	0.50	25	0.50	0.50	0.25	25	0.50	0.50	0.25	25	0.50	0.50	0.25
77	0.28	0.73	0.20	28	0.40	0.84	40	0.40	0.84	20	0.40	0.84	0.34	34	0.40	0.84	0.34	34	0.40	0.84	0.34
78	0.40	0.50	0.20	40	0.40	0.50	40	0.40	0.50	20	0.40	0.50	0.20	20	0.40	0.50	0.20	20	0.40	0.50	0.20
79	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
80	0.50	0.75	0.38	50	0.50	0.75	50	0.50	0.75	38	0.50	0.75	0.38	38	0.50	0.75	0.38	38	0.50	0.75	0.38
81	1.0	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0	100	1.0	1.0	1.0
82	0.50	0.66	0.33	50	0.50	0.66	50	0.50	0.66	33	0.50	0.66	0.33	33	0.50	0.66	0.33	33	0.50	0.66	0.33
83	0.66	0.92	0.61	66	0.66	0.92	66	0.66	0.92	61	0.66	0.92	0.61	61	0.66	0.92	0.61	61	0.66	0.92	0.61
84	0.40	0.78	0.31	40	0.40	0.78	40	0.40	0.78	31	0.40	0.78	0.31	31	0.40	0.78	0.31	31	0.40	0.78	0.31

Appendix C 3.2.5. Tree statistics of *Sericania*: Consistency index (ci), retention index (ri), and respective weights (W) used for successive approximations character weighting (SACW) based on the consitency index (with number of iteration run).

char	ci0	ri0	W1	ci1	ri1	W2	ci2	ri2
1	0.40	0.57	40	0.40	0.57	40	0.40	0.57
2	1.0	1.0	100	1.0	1.0	100	1.0	1.0
3	1.0	1.0	100	1.0	1.0	100	1.0	1.0
4	0.50	0.83	50	0.50	0.83	50	0.50	0.83
5	0.50	0	50	0.50	0	50	0.50	0
6	0.25	0.57	25	0.33	0.71	33	0.33	0.71
7	0.33	0.66	33	0.33	0.66	33	0.33	0.66
8	0.50	0.50	50	0.50	0.50	50	0.50	0.50
9	0.33	0.42	33	0.33	0.42	33	0.33	0.42
10	0.50	0.92	50	0.50	0.92	50	0.50	0.92
11	0.33	0.80	33	0.33	0.80	33	0.33	0.80
12	0.80	0.85	80	0.80	0.85	80	0.80	0.85
13	0.16	0.28	16	0.16	0.28	16	0.16	0.28
14	0.33	0.50	33	0.33	0.50	33	0.33	0.50
15	0.25	0.57	25	0.25	0.57	25	0.25	0.57
16	0.25	0.57	25	0.25	0.57	25	0.25	0.57
17	0.20	0.60	20	0.20	0.60	20	0.20	0.60
18	0.33	0.77	33	0.33	0.77	33	0.33	0.77
19	1.0	1.0	100	1.0	1.0	100	1.0	1.0
20	0.50	0.50	50	0.50	0.50	50	0.50	0.50
21	0.33	0.77	33	0.33	0.77	33	0.33	0.77
22	-	-	0	-	-	0	-	-
23	0.28	0.58	28	0.33	0.66	33	0.33	0.66
24	1.0	1.0	100	1.0	1.0	100	1.0	1.0
25	1.0	1.0	100	1.0	1.0	100	1.0	1.0
26	0.50	0.90	50	0.50	0.90	50	0.50	0.90
27	0.12	0.46	12	0.16	0.61	16	0.16	0.61
28	0.66	0.80	66	0.66	0.80	66	0.66	0.80

char	ci0	ri0	W1	ci1	ri1	W2	ci2	ri2
29	0.50	0.50	50	0.50	0.50	50	0.50	0.50
30	0.40	0.81	40	0.50	0.87	50	0.50	0.87
31	0.10	0.30	10	0.10	0.30	10	0.10	0.30
32	1.0	1.0	100	1.0	1.0	100	1.0	1.0
33	0.50	0.66	50	0.50	0.66	50	0.50	0.66
34	0.25	0.72	25	0.33	0.81	33	0.33	0.81
35	1.0	1.0	100	1.0	1.0	100	1.0	1.0
36	0.50	0.50	50	0.50	0.50	50	0.50	0.50
37	0.50	0.50	50	0.50	0.50	50	0.50	0.50
38	0.50	0.50	50	1.0	1.0	100	1.0	1.0
39	0.50	0.66	50	0.50	0.66	50	0.50	0.66
40	1.0	1.0	100	1.0	1.0	100	1.0	1.0
41	0.40	0.40	40	0.40	0.40	40	0.40	0.40
42	0.50	0.50	50	0.50	0.50	50	0.50	0.50
43	0.33	0.86	33	0.33	0.86	33	0.33	0.86
44	0.42	0.66	42	0.75	0.91	75	0.75	0.91
45	-	-	0	-	-	0	-	-
46	0.33	0.60	33	0.33	0.60	33	0.33	0.60
47	0.60	0.81	60	0.60	0.81	60	0.60	0.81
48	0.33	0.66	33	0.33	0.66	33	0.33	0.66
49	-	-	0	-	-	0	-	-
50	0.33	0.60	33	0.33	0.60	33	0.33	0.60
51	0.20	0.55	20	0.33	0.77	33	0.33	0.77
52	1.0	1.0	100	1.0	1.0	100	1.0	1.0
53	0.50	0.80	50	0.50	0.80	50	0.50	0.80
54	0.50	0	50	0.50	0	50	0.50	0
55	0.28	0.50	28	0.33	0.60	33	0.33	0.60
56	0.40	0.40	40	0.50	0.60	50	0.50	0.60

Appendix C 3.2.7. Tree statistics of *Serica*: consistency index (ci), retention index (ri), and respective weights (W) used for successive approximations character weighting (SACW) based on the consitency index (with number of iteration run).

Char	ci0	ri0	W1	ci1	ri1	W2	ci2	ri2	W3	ci3	ri3	W4	ci4	ri4
1	0.40	0.50	50	0.40	0.50	50	0.40	0.50	50	0.40	0.50	50	0.40	0.50
2	0.12	0.61	61	0.11	0.55	55	0.09	0.44	44	0.09	0.44	44	0.09	0.44
3	0.20	0.55	55	0.16	0.44	44	0.16	0.44	44	0.16	0.44	44	0.16	0.44
4	0.20	0.52	52	0.22	0.58	58	0.22	0.58	58	0.22	0.58	58	0.22	0.58
5	0.14	0.52	52	0.15	0.56	56	0.15	0.56	56	0.16	0.60	60	0.16	0.60
6	0.50	0.75	75	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
7	0.16	0.50	50	0.14	0.40	40	0.14	0.40	40	0.14	0.40	40	0.14	0.40
8	0.16	0.16	16	0.16	0.16	16	0.16	0.16	16	0.16	0.16	16	0.16	0.16
9	0.10	0.74	74	0.09	0.71	71	0.10	0.74	74	0.10	0.74	74	0.10	0.74
10	0.16	0.58	58	0.16	0.58	58	0.15	0.52	52	0.16	0.58	58	0.16	0.58
11	0.33	0.60	60	0.50	0.80	80	0.50	0.80	80	0.50	0.80	80	0.50	0.80
12	0.50	0.83	83	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
13	0.75	0.66	66	0.75	0.66	66	0.75	0.66	66	0.75	0.66	66	0.75	0.66
14	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
15	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
16	0.16	0.82	82	0.20	0.86	86	0.20	0.86	86	0.20	0.86	86	0.20	0.86
17	1.0	1.0	100	0.33	0.80	80	0.66	0.80	80	0.66	0.80	80	0.66	0.80
18	0.12	0.79	79	0.12	0.79	79	0.12	0.79	79	0.12	0.79	79	0.12	0.79
19	0.28	0.80	80	0.28	0.80	80	0.28	0.80	80	0.28	0.80	80	0.28	0.80
20	0.06	0.55	55	0.06	0.53	53	0.06	0.55	55	0.06	0.55	55	0.06	0.55
21	0.33	0	0	0.33	0	0	0.33	0	0	0.33	0	0	0.33	0
22	0.16	0.66	66	0.16	0.66	66	0.16	0.66	66	0.16	0.66	66	0.16	0.66
23	0.20	0.50	50	0.20	0.50	50	0.18	0.45	45	0.18	0.45	45	0.18	0.45
24	0.16	0.16	16	0.14	0	0	0.14	0	0	0.14	0	0	0.14	0
25	0.25	0.70	70	0.25	0.70	70	0.25	0.70	70	0.25	0.70	70	0.25	0.70
26	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
27	0.30	0.56	56	0.27	0.50	50	0.23	0.37	37	0.23	0.37	37	0.23	0.37
28	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
29	0.33	0.40	40	0.33	0.40	40	0.33	0.40	40	0.33	0.40	40	0.33	0.40
30	0.18	0.56	56	0.18	0.56	56	0.17	0.53	53	0.17	0.53	53	0.17	0.53
31	0.23	0.65	65	0.21	0.60	60	0.21	0.60	60	0.21	0.60	60	0.21	0.60
32	0.11	0.46	46	0.11	0.46	46	0.11	0.46	46	0.11	0.46	46	0.11	0.46
33	0.25	0.86	86	0.25	0.86	86	0.25	0.86	86	0.25	0.86	86	0.25	0.86
34	0.10	0.62	62	0.09	0.60	60	0.09	0.58	58	0.09	0.58	58	0.09	0.58
35	0.50	0.75	75	0.50	0.75	75	0.50	0.75	75	0.50	0.75	75	0.50	0.75
36	0.33	0.86	86	0.33	0.86	86	0.33	0.86	86	0.33	0.86	86	0.33	0.86
37	0.33	0.75	75	0.40	0.81	81	0.40	0.81	81	0.40	0.81	81	0.40	0.81
38	0.50	0.66	66	0.50	0.66	66	0.50	0.66	66	0.50	0.66	66	0.50	0.66
39	0.33	0.71	71	0.50	0.85	85	0.50	0.85	85	0.50	0.85	85	0.50	0.85
40	0.33	0.87	87	0.33	0.87	87	0.33	0.87	87	0.33	0.87	87	0.33	0.87
41	0.50	0.85	85	0.33	0.71	71	0.33	0.71	71	0.33	0.71	71	0.33	0.71
42	0.25	0.50	50	0.16	0.16	16	0.16	0.16	16	0.16	0.16	16	0.16	0.16
43	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
44	0.11	0.20	20	0.10	0.10	10	0.11	0.20	20	0.11	0.20	20	0.11	0.20
45	0.33	0.60	60	0.33	0.60	60	0.33	0.60	60	0.33	0.60	60	0.33	0.60
46	0.12	0.46	46	0.12	0.46	46	0.12	0.46	46	0.12	0.46	46	0.12	0.46
47	0.07	0.58	58	0.08	0.62	62	0.10	0.68	68	0.10	0.68	68	0.10	0.68
48	0.11	0.71	71	0.07	0.53	53	0.08	0.60	60	0.08	0.60	60	0.08	0.60
49	0.14	0.33	33	0.16	0.44	44	0.16	0.44	44	0.16	0.44	44	0.16	0.44
50	0.11	0.79	79	0.12	0.82	82	0.10	0.76	76	0.10	0.76	76	0.10	0.76
51	0.08	0.42	42	0.09	0.47	47	0.09	0.47	47	0.09	0.47	47	0.09	0.47
52	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
53	0.10	0.70	70	0.10	0.68	68	0.10	0.68	68	0.11	0.71	71	0.11	0.71
54	0.06	0.41	41	0.06	0.29	29	0.05	0.29	29	0.05	0.29	29	0.05	0.29
55	0.66	0.50	50	0.66	0.50	50	0.66	0.50	50	0.66	0.50	50	0.66	0.50
56	0.33	0	0	0.33	0	0	0.33	0	0	0.33	0	0	0.33	0
57	0.33	0.71	71	0.25	0.57	57	0.25	0.57	57	0.25	0.57	57	0.25	0.57
58	0.09	0.60	60	0.09	0.60	60	0.09	0.60	60	0.09	0.60	60	0.09	0.60
59	0.10	0.70	70	0.12	0.77	77	0.09	0.67	67	0.11	0.74	74	0.11	0.74
60	0.10	0.34	34	0.10	0.34	34	0.10	0.30	30	0.10	0.34	34	0.10	0.34
61	0.18	0.64	64	0.20	0.68	68	0.19	0.66	66	0.19	0.66	66	0.19	0.66
62	0.13	0.53	53	0.13	0.53	53	0.12	0.50	50	0.13	0.53	53	0.13	0.53
63	0.12	0.56	56	0.11	0.55	55	0.11	0.55	55	0.12	0.56	56	0.12	0.56
64	0.15	0.66	66	0.15	0.64	64	0.14	0.62	62	0.15	0.66	66	0.15	0.66
65	0.04	0.53	53	0.04	0.51	51	0.04	0.48	48	0.04	0.55	55	0.04	0.55
66	0.14	0.50	50	0.11	0.33	33	0.11	0.33	33	0.11	0.33	33	0.11	0.33
67	0.13	0.71	71	0.18	0.80	80	0.18	0.80	80	0.18	0.80	80	0.18	0.80
68	0.04	0.64	64	0.05	0.66	66	0.04	0.64	64	0.04	0.64	64	0.04	0.64
69	0.10	0.43	43	0.10	0.43	43	0.10	0.43	43	0.10	0.43	43	0.10	0.43
70	0.12	0.75	75	0.12	0.75	75	0.12	0.75	75	0.12	0.75	75	0.12	0.75
71	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0

Char	ci0	ri0	W1	ci1	ri1	W2	ci2	ri2	W3	ci3	ri3	W4	ci4	ri4
72	0.50	0.75	75	0.50	0.75	75	0.50	0.75	75	0.50	0.75	75	0.50	0.75
73	0.25	0.57	57	0.25	0.57	57	0.25	0.57	57	0.25	0.57	57	0.25	0.57
74	0.12	0.56	56	0.14	0.62	62	0.14	0.62	62	0.14	0.62	62	0.14	0.62
75	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
76	0.12	0.66	66	0.11	0.61	61	0.11	0.61	61	0.11	0.61	61	0.11	0.61
77	0.66	0.66	66	0.66	0.66	66	0.66	0.66	66	0.66	0.66	66	0.66	0.66
78	0.50	0.75	75	0.50	0.75	75	0.50	0.75	75	0.50	0.75	75	0.50	0.75
79	0.17	0.48	48	0.16	0.44	44	0.15	0.40	40	0.15	0.40	40	0.15	0.40
80	0.50	0.50	50	0.50	0.50	50	0.50	0.50	50	0.50	0.50	50	0.50	0.50
81	0.23	0.80	80	0.25	0.82	82	0.26	0.83	83	0.26	0.83	83	0.26	0.83
82	0.08	0.38	38	0.08	0.32	32	0.07	0.29	29	0.07	0.29	29	0.07	0.29
83	0.14	0.33	33	0.14	0.33	33	0.14	0.33	33	0.14	0.33	33	0.14	0.33
84	0.11	0.84	84	0.11	0.84	84	0.12	0.86	86	0.12	0.86	86	0.12	0.86
85	0.11	0.81	81	0.12	0.83	83	0.10	0.79	79	0.11	0.81	81	0.11	0.81
86	0.28	0.50	50	0.25	0.40	40	0.25	0.40	40	0.25	0.40	40	0.25	0.40
87	0.11	0.61	61	0.11	0.64	64	0.12	0.66	66	0.12	0.66	66	0.12	0.66
88	0.30	0.53	53	0.30	0.53	53	0.30	0.53	53	0.30	0.53	53	0.30	0.53
89	0.05	0.52	52	0.07	0.61	61	0.07	0.61	61	0.07	0.64	64	0.07	0.64
90	0.44	0.66	66	0.44	0.66	66	0.44	0.66	66	0.44	0.66	66	0.44	0.66
91	0.16	0.54	54	0.20	0.63	63	0.20	0.63	63	0.20	0.63	63	0.20	0.63
92	0.10	0.64	64	0.09	0.60	60	0.09	0.60	60	0.09	0.60	60	0.09	0.60
93	0.66	0.66	66	0.66	0.66	66	0.66	0.66	66	0.66	0.66	66	0.66	0.66
94	0.06	0.75	75	0.06	0.76	76	0.06	0.76	76	0.07	0.78	78	0.07	0.78
95	0.10	0.43	43	0.09	0.37	37	0.09	0.37	37	0.09	0.37	37	0.09	0.37
96	-	-	0	-	-	0	-	-	0	-	-	0	-	-
97	0.15	0.69	69	0.16	0.71	71	0.16	0.71	71	0.17	0.73	73	0.17	0.73
98	0.20	0.84	84	0.25	0.88	88	0.25	0.88	88	0.25	0.88	88	0.25	0.88
99	0.12	0.73	73	0.13	0.75	75	0.12	0.73	73	0.12	0.73	73	0.12	0.73
100	0.13	0.79	79	0.16	0.84	84	0.16	0.84	84	0.16	0.84	84	0.16	0.84
101	0.10	0.70	70	0.11	0.73	73	0.11	0.73	73	0.11	0.75	75	0.11	0.75
102	0.25	0.72	72	0.25	0.72	72	0.20	0.63	63	0.20	0.63	63	0.20	0.63
103	0.12	0.56	56	0.12	0.56	56	0.11	0.50	50	0.11	0.50	50	0.11	0.50
104	0.25	0.65	65	0.23	0.62	62	0.21	0.58	58	0.25	0.65	65	0.25	0.65
105	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
106	0.16	0.44	44	0.14	0.33	33	0.14	0.33	33	0.14	0.33	33	0.14	0.33
107	0.25	0	0	0.25	0	0	0.25	0	0	0.25	0	0	0.25	0
108	0.50	0.97	97	0.50	0.97	97	0.50	0.97	97	0.50	0.97	97	0.50	0.97
109	0.25	0.62	62	0.25	0.62	62	0.20	0.50	50	0.25	0.62	62	0.25	0.62
110	0.33	0.75	75	0.33	0.75	75	0.33	0.75	75	0.33	0.75	75	0.33	0.75
111	0.14	0.50	50	0.11	0.33	33	0.11	0.33	33	0.11	0.33	33	0.11	0.33
112	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
113	0.28	0.50	50	0.25	0.40	40	0.25	0.40	40	0.25	0.40	40	0.25	0.40
114	0.20	0.60	60	0.16	0.50	50	0.16	0.50	50	0.16	0.50	50	0.16	0.50
115	0.50	0.83	83	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
116	-	-	0	-	-	0	-	-	0	-	-	0	-	-
117	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0

Appendix C 3.2.8. Tree statistics of *Anopmalophylla*: Consistency index (ci), retention index (ri), and respective weights (W) used for successive approximations character weighting (SACW) based on the retention index (with number of iteration run).

char	ci0	ri0	W1	ci1	ri1	W2	ci2	ri2	W3	ci3	ri3
1	0.25	0.72	72	1.0	1.0	100	1.0	1.0	100	1.0	1.0
2	0.50	0.83	83	0.50	0.83	83	0.50	0.83	83	0.50	0.83
3	0.14	0.20	20	0.33	0.73	73	0.33	0.73	73	0.33	0.73
4	0.25	0.25	25	0.50	0.75	75	0.50	0.75	75	0.50	0.75
5	0.11	0.50	50	0.20	0.75	75	0.20	0.75	75	0.20	0.75
6	0.25	0.64	64	0.50	0.88	88	0.50	0.88	88	0.50	0.88
7	0.25	0.25	25	0.33	0.50	50	0.33	0.50	50	0.33	0.50
8	0.80	0.50	50	0.80	0.50	50	0.80	0.50	50	0.80	0.50
9	0.33	0.60	60	0.50	0.80	80	0.50	0.80	80	0.50	0.80
10	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
11	0.40	0.40	40	0.66	0.80	80	0.66	0.80	80	0.66	0.80
12	0.16	0.44	44	0.40	0.83	83	0.40	0.83	83	0.40	0.83
13	0.50	0.85	85	1.0	1.0	100	1.0	1.0	100	1.0	1.0
14	0.33	0.60	60	1.0	1.0	100	1.0	1.0	100	1.0	1.0
15	0.16	0.37	37	0.33	0.75	75	0.33	0.75	75	0.33	0.75
16	0.25	0.14	14	0.28	0.28	28	0.28	0.28	28	0.28	0.28
17	0.50	0.66	66	0.50	0.66	66	0.50	0.66	66	0.50	0.66
18	0.33	0.66	66	0.33	0.66	66	0.33	0.66	66	0.33	0.66
19	0.18	0.18	18	0.28	0.54	54	0.25	0.45	45	0.25	0.45
20	-	-	0	-	-	0	-	-	0	-	-
21	0.25	0.57	57	0.25	0.57	57	0.25	0.57	57	0.25	0.57
22	0.14	0.40	40	0.25	0.70	70	0.25	0.70	70	0.25	0.70
23	0.66	0.50	50	1.0	1.0	100	1.0	1.0	100	1.0	1.0
24	-	-	0	-	-	0	-	-	0	-	-
25	0.14	0.33	33	0.20	0.55	55	0.20	0.55	55	0.20	0.55
26	0.50	0.83	83	0.50	0.83	83	0.50	0.83	83	0.50	0.83
27	0.25	0.50	50	0.66	0.91	91	0.66	0.91	91	0.66	0.91
28	0.10	0.10	10	0.16	0.50	50	0.16	0.50	50	0.16	0.50
29	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
30	0.25	0.25	25	0.33	0.50	50	0.33	0.50	50	0.33	0.50
31	0.33	0.60	60	0.50	0.80	80	0.50	0.80	80	0.50	0.80
32	0.60	0.66	66	0.75	0.83	83	0.75	0.83	83	0.75	0.83
33	0.25	0.50	50	0.33	0.66	66	0.33	0.66	66	0.33	0.66
34	0.25	0	0	0.50	0.66	66	0.50	0.66	66	0.50	0.66
35	0.33	0.81	81	0.50	0.90	90	0.50	0.90	90	0.50	0.90
36	0.33	0.66	66	0.50	0.83	83	0.50	0.83	83	0.50	0.83
37	0.33	0.60	60	0.33	0.60	60	0.33	0.60	60	0.33	0.60
38	0.50	0.50	50	1.0	1.0	100	1.0	1.0	100	1.0	1.0
39	0.22	0.53	53	0.40	0.80	80	0.40	0.80	80	0.40	0.80
40	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
41	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
42	1.0	1.0	100	1.0	1.0	100	1.0	1.0	100	1.0	1.0
43	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
44	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
45	0.66	0	0	0.66	0	0	0.66	0	0	0.66	0
46	0.33	0	0	0.33	0	0	0.33	0	0	0.33	0
47	0.33	0.66	66	1.0	1.0	100	1.0	1.0	100	1.0	1.0
48	0.50	0.60	60	0.50	0.60	60	0.50	0.60	60	0.50	0.60
49	0.30	0.66	66	0.33	0.66	66	0.33	0.66	66	0.33	0.66
50	0.50	0	0	0.50	0	0	0.50	0	0	0.50	0
51	0.66	0.85	85	0.66	0.85	85	0.66	0.85	85	0.66	0.85
52	0.14	0.33	33	1.0	1.0	100	1.0	1.0	100	1.0	1.0
53	0.08	0.08	8	0.14	0.50	50	0.14	0.50	50	0.14	0.50
54	0.25	0	0	0.50	0.66	66	0.50	0.66	66	0.50	0.66
55	0.09	0.33	33	0.12	0.53	53	0.12	0.53	53	0.12	0.53
56	0.25	0	0	0.25	0	0	0.25	0	0	0.25	0
57	0.11	0	0	0.16	0.37	37	0.16	0.37	37	0.16	0.37
58	0.25	0.14	14	0.40	0.57	57	0.5	0.71	71	0.5	0.71
59	0.14	0.25	25	0.33	0.75	75	0.33	0.75	75	0.33	0.75
60	0.33	0	0	0.33	0	0	0.33	0	0	0.33	0
61	0.25	0.40	40	0.33	0.60	60	0.33	0.60	60	0.33	0.60
62	0.16	0.28	28	0.25	0.57	57	0.25	0.57	57	0.25	0.57
63	0.50	0.66	66	0.50	0.66	66	0.50	0.66	66	0.50	0.66
64	0.50	0.50	50	1.0	1.0	100	1.0	1.0	100	1.0	1.0
65	0.15	0.38	38	0.33	0.77	77	0.33	0.77	77	0.33	0.77
66	0.18	0.10	10	0.25	0.40	40	0.25	0.40	40	0.25	0.40
67	0.25	0	0	0.25	0	0	0.25	0	0	0.25	0
68	0.40	0.40	40	0.50	0.60	60	0.50	0.60	60	0.50	0.60

9.4 Appendix D (3.2.2) Checklist of the subgenus *Maladera* (*Omaldera*) with the respective synonyms.

***Maladera* subgenus *Omaladera* Reitter, 1896**
Omaladera Reitter, 1896: 188.
Type species *Amaladera diffinis* Reitter, 1896 (designated by Ahrens 2004b)

***Maladera* (*O.*) *cariniceps* (Moser, 1915)**
Autoserica cariniceps Moser, 1915: 341.

***Maladera* (*O.*) *clypeata* (Fairmaire, 1887)**
Serica clypeata Fairmaire, 1887: 109.

***M.* (*O.*) *dierli* (Frey, 1969)**
Cephaloserica dierli Frey, 1969: 522.

***M.* (*O.*) *fusiana* (Murayama, 1934)**
Aserica fusiana Murayama, 1934: 35.

***M.* (*O.*) *emmrichi* Ahrens, 2004**
Maladera emmrichi Ahrens, 2004: 227.

***M.* (*O.*) *gardneri* Ahrens, 2004**
Maladera gardneri Ahrens, 2004: 216.

***M.* (*O.*) *himalayica* (Brenske, 1896)**
Autoserica himalayica Brenske, 1896: 152.

***M.* (*O.*) *immunda* Ahrens, 2004**
Maladera himalayica immunda Ahrens, 2004: 222.

***M.* (*O.*) *incola* Ahrens, 2004**
Maladera himalayica incola Ahrens, 2004: 223.

***M.* (*O.*) *joachimi* Ahrens, 2004**
Maladera joachimi Ahrens, 2004: 229.

***M.* (*O.*) *laboriosa* (Brenske, 1897)**
Autoserica laboriosa Brenske, 1897: 399.

***M.* (*O.*) *lignicolor* (Fairmaire, 1887)**
Serica lignicolor Fairmaire, 1887: 110.

***M.* (*O.*) *orientalis* (Motschulsky, 1857))**
Serica orientalis Motschulsky, 1857: 33.
syn *Amaladera cavifrons* Reitter, 1896: 188
syn *Amaladera diffinis* Reitter, 1896: 188.
syn *Serica famelica* Brenske, 1897: 391.
syn *Serica pekingensis* Brenske, 1897: 366.

***M.* (*O.*) *oshimana okinawana* Nomura, 1964**
M. oshimana okinawana Nomura, 1964: 51.

***M.* (*O.*) *oshimana oshimana* Nomura, 1962**
M. oshimana Nomura, 1962: 38.

***M.* (*O.*) *oshimana sakishimana* Nomura, 1964**
M. oshimana sakishimana Nomura, 1964: 51.

***M.* (*O.*) *prabangana* (Brenske, 1899)**
Autoserica prabangana Brenske, 1899: 414.

***M.* (*O.*) *simlana* (Brenske, 1898)**
Autoserica simlana Brenske, 1898: 302.

***M.* (*O.*) *spectabilis* (Brenske, 1898)**
Autoserica spectabilis Brenske, 1898: 331.

***M.* (*O.*) *sprecherae* Ahrens, 2004**
Maladera sprecherae Ahrens, 2004: 214.

***M.* (*O.*) *stevensi* Ahrens, 2004**
Maladera stevensi Ahrens, 2004: 231.

***M.* (*O.*) *thakkholae* Ahrens, 2004**
Maladera himalayica thakkholae Ahrens, 2004: 225.

***M.* (*O.*) *thimphuensis* Ahrens, 2004**
Maladera himalayica thimphuensis Ahrens, 2004: 220.

***M.* (*O.*) *yasutoshii* Nomura, 1974**
M. yasutoshii Nomura, 1974: 104.

9.5 Appendix E. Overview on species occurring in the Himalaya (sorted alphabetically). Head of table: numbers one to ten: horizontal sections of the Himalaya (see Fig. 118):

1 – Indus Himalaya;
2 – Punjab Himalaya;
3 – Garhwal Himalaya (Uttar Pradesh);
4 – West Nepal;
5 – Western Central Nepal;
6 – Eastern Central Nepal;
7 – East Nepal/ West Sikkim;
8 – East Sikkim/ Bhutan;
9 – Assam Himalaya;
10 – Tibetan Himalaya;
i – Indian subkontinent (inclusive Gangetic plane);
k – Khasi Hills;
b – Burma.
n – Notes on wider distribution (1-14):
1) Thailand, Laos, Yunnan;
2) Laos, Yunnan;
3) Thailand, Laos, Vietnam, Sri Lanka, Borneo, Java;
4) Vietnam;
5) Afghanistan, Iran, Israel, Saudi Arabia, United Arabian Emirates, Oman, Pakistan;
6) Afghanistan, Pakistan, Iran;
7) Vietnam, Thailand, Yunnan;
8) Sri Lanka;
9) Thailand, Laos, Vietnam, Yunnan, Cambodia;
10) Thailand, Laos;
11) Sri Lanka;
12) Thailand;
13) Afghanistan, Pakistan;
14) NO Indien, Burma, Madagascar.

Art	1	2	3	4	5	6	7	8	9	10	i	k	b	n
Amiserica argentata (Frey)	-	-	-	-	-	-	-	+	-	-	-	-	-	
A. breviflabellata Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
A. costulata (Frey)	-	-	-	-	+	+	+	-	-	-	-	-	-	
A. krausei Ahrens	-	-	+	+	+	-	-	-	-	-	-	-	-	
A. longiflabellata Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
A. patibilis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
A. sparsesetosa Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
A. surda Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
A. taplejungensis Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
Anomalophylla mandhatensis Ahrens	-	-	-	-	-	-	-	-	-	+	-	-	-	
Calloserica autumnalis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
C. barabiseana Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
C. begnasia Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
C. bertiae Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
C. brendelli Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
C. cambeforti Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
C. chiplingensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
C. delectabilis Ahrens	-	-	-	-	+	-	+	-	-	-	-	-	-	
C. gosainkundensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
C. hingstoni Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
C. indrai Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
C. lachungensis Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
C. langtangica Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
C. poggii Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
C. raksensis Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
C. rupthangensis Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
C. tigrina Brensk	-	-	-	-	-	-	+	-	-	-	-	-	-	

Art	1	2	3	4	5	6	7	8	9	10	i	k	b	n
C. trisuliensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
Chrysoserica angoris Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
Ch. auricoma (Brenske)	-	-	-	-	-	+	+	+	-	-	-	-	-	1)
Ch. stebnickae Ahrens	-	+	-	-	+	+	+	-	-	-	-	-	-	
Gynaecoserica cymosa (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
G. gogonaica Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
G. latesquamosa (Frey)	-	-	-	-	-	-	-	+	-	-	-	-	-	
G. pellecta Brenske	-	-	-	-	-	+	+	+	+	-	-	-	-	
G. perdita Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
G. singhikensis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
G. tumba Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
G. variipennis variipennis (Moser)	-	-	-	-	+	+	+	+	-	-	-	-	-	
G. variipennis wuermlii (Frey)	-	-	-	-	-	-	-	+	-	-	-	-	-	
Hemiserica globosa (Herbst)	-	?	?	-	-	-	-	-	-	-	+	-	-	
H. nasuta Brenske	-	-	+	-	-	-	-	-	-	-	+	-	-	
H. nasutella Ahrens	-	-	+	-	-	-	+	-	-	-	+	-	-	
Lasioserica assamicola Ahrens	-	-	-	-	-	-	-	-	+	-	-	-	-	
L. braeti Brenske	-	-	-	-	-	-	+	-	-	-	-	-	-	
L. breviclypeata Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
L. bumthangana Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
L. chitreana Ahrens	-	-	-	-	+	-	+	-	-	-	-	-	-	
L. dekensis Ahrens	-	-	-	-	-	+	+	+	-	-	-	-	-	
L. dolakhana Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
L. dolangsae Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
L. godavariensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
L. ilamensis Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
L. kulbei Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
L. maculata maculata (Brenske)	-	+	+	+	+	+	-	-	-	-	-	-	-	
L. maculata bhutanica Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
L. maculata galadrielae Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
L. maculata jiriana Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
L. meghalayana Ahrens	-	-	-	-	-	-	-	-	-	-	-	+	+	2)
L. modikholae Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
L. nepalensis Ahrens	-	-	-	+	+	-	-	-	-	-	-	-	-	
L. nobilis (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
L. nudosa Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
L. orlovi Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
L. pacholatkoi Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
L. pilosella Brenske	-	-	-	-	-	+	+	-	-	-	-	-	-	
L. piloselloida Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
L. pseudopilosella Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
L. sabatinellii Ahrens	-	-	-	-	+	+	+	-	-	-	-	-	-	
L. sikkimensis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
L. silkae Ahrens	-	-	-	-	-	+	+	-	-	-	-	-	-	
L. soror Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
L. thoracica Brenske	-	-	-	-	-	-	+	-	-	-	-	-	-	
L. wittmeri Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
Lepidoserica maculifera (Brenske)	-	-	-	-	-	-	-	-	+	-	-	+	-	
L. polyphylla (Moser)	-	-	-	-	-	-	-	-	+	-	-	-	-	
Leuroserica fulgida Arrow	-	-	-	-	-	-	+	+	-	-	-	-	-	
L. lateralis Arrow	-	-	-	-	-	-	-	-	-	-	-	+	-	
L. stemmleri (Frey)	-	-	-	-	-	-	-	+	-	-	-	-	-	
Maladera affinis (Blanchard)	-	+	+	-	+	+	-	-	+	-	+	-	-	14)
M. allopruinosa (Ahrens)	-	-	-	-	+	-	-	-	-	-	+	-	-	
M. assamica (Moser)	-	-	-	-	-	-	-	-	+	-	-	+	-	
M. bagmatiensis Ahrens	-	-	-	-	+	+	+	-	-	-	-	-	-	
M. bengalensis (Brenske)	-	-	+	+	+	-	+	-	-	-	+	-	-	
M. bhutanensis (Frey)	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. brevistylis Ahrens	-	-	+	-	+	-	-	-	-	-	-	-	-	
M. cardoni (Brenske)	+	+	+	-	+	-	+	+	-	-	+	-	-	13)

Art	1	2	3	4	5	6	7	8	9	10	i	k	b	n
M. chiruwae Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. conspicua Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. dierli (Frey)	-	-	+	+	+	+	+	-	-	-	-	-	-	
M. drescheri (Moser)	-	-	-	-	-	-	-	?	-	-	-	+	-	3)
M. duvivieri (Brenske)	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. emmrichi Ahrens	-	-	+	-	+	+	+	-	-	-	-	-	-	
M. fatigata Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
M. ferruginea (Kollar & Redtenbacher)	-	+	+	+	+	-	-	-	-	-	-	-	-	
M. festina (Brenske)	-	-	-	-	+	-	+	+	-	-	-	-	-	
M. fumosa (Brenske)	-	-	+	-	-	-	-	-	-	-	+	-	-	
M. gardneri Ahrens	-	-	+	-	-	-	-	-	-	-	-	-	-	
M. gopaldharae Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. gorkhae Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
M. haldwaniensis Ahrens	-	-	+	-	-	-	+	+	-	-	-	-	-	
M. himalayica himalayica (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. himalayica immunda Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. himalayica incola Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
M. himalayica thakkholae Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
M. himalayica thimphuensis Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. hmong Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	4)
M. holzschuhi Ahrens	-	-	+	-	-	+	-	-	-	-	-	-	-	
M. impubis Ahrens	-	-	-	-	-	-	+	-	+	-	-	-	-	
M. insanabilis (Brenske)	+	+	+	+	+	-	-	-	-	-	+	-	-	5)
M. iridescens (Blanchard)	-	-	+	-	+	+	+	-	-	-	+	-	-	
M. iridiorsis Ahrens	-	-	-	-	-	-	-	-	+	-	-	-	-	
M. joachimi Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
M. kazirangae Ahrens	-	-	-	-	-	-	-	-	+	-	-	-	-	
M. kerleyi Ahrens	-	-	-	-	-	+	+	-	-	-	-	-	-	
M. krali Ahrens	-	-	-	-	-	-	?	?	-	-	-	-	-	
M. lugubris (Brenske)	-	-	+	-	+	-	+	-	-	-	+	-	-	
M. marginella (Hope)	-	+	+	+	+	+	+	+	-	-	+	-	-	
M. mechiana Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. merkli Ahrens	-	+	+	-	-	-	-	-	-	-	-	-	-	
M. modestula (Brenske)	-	-	-	-	+	+	+	+	-	-	-	-	+	
M. murzini Ahrens	-	-	-	-	-	-	-	-	+	-	-	+	-	
M. mussooriensis Ahrens	-	-	+	-	-	-	-	-	-	-	-	-	-	
M. nagporeana (Brenske)	+	+	+	+	-	-	+	-	-	-	+	-	-	6)
M. opaca (Frey)	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. paraquinquidens Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. paris Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. perniciosa (Brenske)	-	-	-	-	-	-	+	-	-	-	-	-	+	7)
M. phuntsholingensis Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. pokharae Ahrens	-	-	+	+	+	-	-	-	-	-	+-	-	-	
M. polunini Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
M. prenai Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. quinquidens (Brenske)	-	-	+	+	+	-	-	-	-	-	+	-	-	
M. raptiensis Ahrens	-	-	+	+	+	-	-	-	-	-	-	-	+	
M. rolciki Ahrens	-	-	-	-	-	-	-	-	-	-	-	+	-	
M. rufocuprea (Blanchard)	-	-	+	-	-	-	-	-	-	-	+	-	-	8)
M. rufoplagiata (Fairmaire)	-	-	-	-	-	-	+	+	+	-	-	+	+	9)
M. rustica (Brenske)	-	-	+	-	-	-	-	-	-	-	+	-	-	
M. schenklingi (Moser)	+	-	-	-	-	-	-	-	-	-	+	-	-	
M. schereri (Frey)	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. sericella (Brenske)	-	-	-	-	+	+	+	+	+	-	-	-	+	10)
M. servitrita (Brenske)	-	-	-	-	-	-	-	-	+	-	-	+	-	
M. setosa (Brenske)	-	-	+	+	-	-	-	-	-	-	+	-	+	11)
M. significabilis (Brenske)	-	-	-	-	-	-	-	-	+	-	-	-	-	
M. sikkimensis (Brenske)	-	-	-	-	+	-	+	+	-	-	-	+	-	
M. simlana (Brenske)	+	+	+	+	+	+	-	-	-	-	-	-	-	
M. sinaevi Ahrens	-	-	-	-	-	-	+	+	+	-	-	-	-	

Art	1	2	3	4	5	6	7	8	9	10	i	k	b	n
M. siwalikiana Ahrens	-	-	+	-	+	-	-	-	-	-	-	-	-	
M. spei Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. sprecherae Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. stevensi Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. subspinosa (Brenske)	-	-	+	-	+	-	-	-	-	-	+	+	-	
M. thomsoni (Brenske)	+	+	+	+	+	+	+	+	+	-	-	-	-	
M. trichotibialis Ahrens	-	-	-	-	-	+	+	+	-	-	-	-	-	
M. tumida Ahrens	-	+	+	-	+	+	+	-	-	-	-	-	-	
M. uhligi Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. umbratica (Brenske)	-	-	-	-	-	-	?	?	-	-	-	-	-	
M. weigeli Ahrens	-	-	-	+	-	-	-	-	-	-	-	-	-	
M. wolfgangdierli Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
Meriserica oberthuri Brenske	-	-	-	-	-	-	+	-	+	-	+	-	-	
Microserica affinis Arrow	-	-	-	-	-	-	-	-	+	-	-	+	+	
M. arunensis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. bhutanensis Frey	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. cechovskyi Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. elegans (Frey)	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. gandakiensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
M. hispidula Frey	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. interrogator (Arrow)	-	-	+	+	+	+	-	-	-	-	-	-	-	
M. marginata (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. marginipes (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. martensi Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. myagdiana Ahrens	-	-	+	-	+	-	-	-	-	-	-	-	-	
M. pedongensis Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
M. pruinosa (Hope)	-	+	+	+	+	+	+	-	-	-	-	-	-	
M. schawalleri Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
M. schulzei Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
M. steelei Ahrens	-	-	-	-	-	-	-	-	+	-	-	-	+	
M. truncata (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
M. viridicollis Arrow	-	-	-	-	-	-	-	+	-	-	-	-	-	
Neoserica (s. l.) *assamensis* (Frey)	-	-	-	-	-	-	-	-	-	-	-	+	-	
N. (s. l.) *changrae* Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
N. (s. l.) *garlangensis* Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. (s. l.) *kaskiensis* Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. (s. l.) *matura* Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
N. (s. l.) *probsti* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
N. (s. l.) *pubiforceps* Ahrens	-	-	-	-	-	-	+	-	+	-	-	-	-	
N. (s. l.) *sladeni* Ahrens	-	-	-	-	-	-	-	-	-	-	-	-	+	
N. (s. l.) *speciosa* Brenske	-	-	-	-	-	-	-	-	+	-	-	-	-	
N. (s. l.) *uniformis* Moser	-	-	-	-	-	-	-	-	+	-	-	-	-	
Nepaloserica archolabrata Ahrens & Sabatinelli	-	-	-	-	+	+	-	-	-	-	-	-	-	
N. baehri Ahrens & Sabatinelli	-	-	-	-	-	+	-	-	-	-	-	-	-	
N. barbara Ahrens & Sabatinelli	-	-	-	-	-	-	+	+	-	-	-	-	-	
N. brevipes Ahrens & Sabatinelli	-	-	-	-	-	-	+	-	-	-	-	-	-	
N. bruschii Ahrens & Sabatinelli	-	-	-	-	+	+	+	-	-	-	-	-	-	
N. fabriziae Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
N. ganeshi Ahrens	-	-	-	-	+	-	+	-	-	-	-	-	-	
N. goomensis Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
N. hartmanni Ahrens	-	-	-	+	-	-	-	-	-	-	-	-	-	
N. helambuensis Ahrens & Sabatinelli	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. induwae Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
N. jumlaica Ahrens	-	-	-	+	-	-	-	-	-	-	-	-	-	
N. lamjungi Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. longispina Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
N. manasluensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. migliaccioi Ahrens & Sabatinelli	-	-	-	-	+	+	-	-	-	-	-	-	-	
N. muelleri muelleri Ahrens & Sabatinelli	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. muelleri tuberculata Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	

Art	1	2	3	4	5	6	7	8	9	10	i	k	b	n
N. mustangia Ahrens & Sabatinelli	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. perrecondita Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
N. phulcokiensis Ahrens & Sabatinelli	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. procera procera Frey	-	-	-	-	+	+	-	-	-	-	-	-	-	
N. procera rufescens Frey	-	-	-	-	+	+	-	-	-	-	-	-	-	
N. rufobrunnea Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
N. sankhuwasabhae Ahrens & Sabatinelli	-	-	-	-	-	-	+	-	-	-	-	-	-	
N. schmidti Ahrens & Sabatinelli	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. similis Frey	-	-	-	-	-	+	-	-	-	-	-	-	-	
N. telbrungensis Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
N. thimphui Ahrens & Sabatinelli	-	-	-	-	-	-	-	+	-	-	-	-	-	
N. vignai Ahrens & Sabatinelli	-	-	-	-	+	+	-	-	-	-	-	-	-	
N. vilya Ahrens & Sabatinelli	-	-	-	-	+	+	-	-	-	-	-	-	-	
N. yeti Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
Nipponoserica pindarensis Ahrens	-	-	+	-	-	-	-	-	-	-	-	-	-	
N. sindhensis Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
Oxyserica bimaculata (Hope)	-	-	-	-	-	+	-	-	-	-	-	-	-	
O. brancuccii (Ahrens)	-	-	-	-	+	+	+	+	-	-	-	-	-	
O. darjeelingia (Brenske)	-	-	-	-	-	-	+	+	-	-	-	-	-	
O. hellmichi (Frey)	-	-	-	-	+	+	+	+	-	-	-	-	-	
O. kanchenjungae (Ahrens)	-	-	-	-	-	-	+	-	-	-	-	-	-	
O. kurseongana (Moser)	-	-	-	-	-	-	+	-	-	-	-	-	-	
O. longefoliata (Frey)	-	-	-	-	-	+	-	-	-	-	-	-	-	
O. pygidialis pygidialis Brenske	+	+	+	+	+	-	-	-	-	-	-	-	-	
O. pygidialis annapurnae (Ahrens)	-	-	-	-	+	+	-	-	-	-	-	-	-	
O. varia (Frey)	-	-	-	-	-	-	-	+	-	-	-	-	-	
Pachyserica albosquamosa Brenske	-	-	+	-	-	-	+	+	-	-	-	-	-	
P. ambiversa Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
P. darjeelingensis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
P. gracilis Ahrens	-	-	-	-	+	+	+	+	-	-	-	-	-	
P. himalayensis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
P. jendeki Ahrens	-	-	-	-	-	-	+	+	+	-	-	+	+	12)
P. marmorata (Blanchard)	-	-	+	+	+	+	+	-	-	-	-	-	-	
P. nepalica Ahrens	-	-	-	-	+	-	+	-	-	-	-	-	-	
P. numensis Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
P. olafi Ahrens	-	-	-	-	+	+	+	-	-	-	-	-	-	
P. pellingensis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
P. stabilis Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
Serica (s. str.) *adungana* Ahrens	-	-	-	-	-	-	-	-	-	-	-	-	+	
S. (s. str.) *almorae* Ahrens	-	-	+	-	-	-	-	-	-	-	-	-	-	
S. (s. str.) *angustatotibialis* Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
S. (s. str.) *bhaktai* Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
S. (s. str.) *bidentata* Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
S. (s. str.) *bidigitata* Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
S. (s. str.) *chasilakhae* Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
S. (s. str.) *chuttana* Ahrens	-	-	-	+	-	-	-	-	-	-	-	-	-	
S. (s. str.) *eberti* (Frey)	-	+	+	+	+	+	-	+	-	-	-	-	-	
S. (s. str.) *filitarsata* Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
S. (s. str.) *guidoi* Ahrens	-	-	+	-	+	+	+	+	-	-	-	-	-	
S. (s. str.) *incognita* Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
S. (s. str.) *jaegeri* Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
S. (s. str.) *khajiaris* Mittal	+	+	+	+	+	+	+	+	-	-	-	-	-	
S. (s. str.) *khasiana* (Moser)	-	+	+	+	+	-	-	-	-	-	-	-	-	
S. (s. str.) *kingdoni* Ahrens	-	-	-	-	-	-	-	-	-	-	-	-	+	
S. (s. str.) *kumaonensis* Ahrens	-	-	+	-	-	-	-	-	-	-	-	-	-	
S. (s. str.) *lama* Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
S. (s. str.) *mureensis* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
S. (s. str.) *narya* Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
S. (s. str.) *nebulosa* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
S. (s. str.) *nepalensis* (Frey)	-	-	-	+	+	+	+	-	-	-	-	-	-	

Art	1	2	3	4	5	6	7	8	9	10	i	k	b	n
S. (s. str.) *olivacea* Brenske	-	-	-	-	-	-	+	+	-	-	-	-	-	
S. (s. str.) *opaciclypealis* Ahrens	-	-	-	-	-	-	+	+	-	-	-	-	-	
S. (s. str.) *pommeranzi* Ahrens	-	-	-	+	+	-	-	-	-	-	-	-	-	
S. (s. str.) *proclivis* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
S. (s. str.) *ramosa* Ahrens	-	-	+	-	+	-	-	-	-	-	-	-	-	
S. (s. str.) *ribbei* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
S. (s. str.) *sherpa* (Sabatinelli & Migliaccio)	-	-	-	-	+	+	+	-	-	-	-	-	-	
S. (s. str.) *thibetana* Brenske	+	+	+	+	+	+	+	+	-	-	-	-	-	
S. (s. str.) *tongluana* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
S. (s. str.) *tropdeana* Ahrens	-	-	-	-	-	+	+	-	-	-	-	-	-	
S. (s. str.) *tukucheana* Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
S. (s. str.) *weiperti* Ahrens	-	-	-	+	-	-	-	-	-	-	-	-	-	
S. (s. l.) *arborea* Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
S. (s. l.) *erectosetosa* Ahrens	-	-	-	-	+	+	-	+	-	-	-	-	-	
S. (s. l.) *karnaliensis* Ahrens	-	-	-	+	-	-	-	-	-	-	-	-	-	
S. (s. l.) *koshiana* Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
S. (s. l.) *palaea* Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
S. (s. l.) *panchaseana* Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
S. (s. l.) *somathangana* Ahrens	-	-	-	-	+	+	-	-	-	-	-	-	-	
S. (s. l.) *velutina* Arrow	-	-	-	-	-	-	-	-	?	-	-	-	+	
Sericania babaulti Ahrens	+	+	-	-	-	-	-	-	-	-	-	-	-	
S. besucheti Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. bhojpurensis Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
S. costulata (Moser)	+	+	+	+	-	-	-	-	-	-	-	-	-	
S. dispar Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. dubiosa Ahrens	-	+	-	-	-	-	-	-	-	-	-	-	-	
S. gilgitensis Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. hazarensis Ahrens	+	+	-	-	-	-	-	-	-	-	-	-	-	
S. heinzi Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. kashmirensis (Moser)	+	+	-	-	-	-	-	-	-	-	-	-	-	
S. khagana Ahrens	+	+	-	-	-	-	-	-	-	-	-	-	-	
S. kleebergi Ahrens	-	-	-	-	-	+	-	-	-	-	-	-	-	
S. laeticula (Sharp)	+	+	-	-	-	-	-	-	-	-	-	-	-	
S. loebli Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. mara Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
S. mela Ahrens	-	-	-	-	+	-	-	-	-	-	-	-	-	
S. nepalensis (Frey)	-	-	-	-	+	+	-	-	-	-	-	-	-	
S. pacis Ahrens	-	+	-	-	-	-	-	-	-	-	-	-	-	
S. piattellai Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. poonchensis Ahrens	-	+	-	-	-	-	-	-	-	-	-	-	-	
S. swatensis Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
S. torva Ahrens	+	-	-	-	-	-	-	-	-	-	-	-	-	
Tetraserica brahmaputrae Ahrens	-	-	-	-	-	-	+	+	+	-	-	-	-	
T. disoccupata Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
T. ferrugata (Blanchard)	-	-	+	-	+	-	-	-	-	-	-	-	-	
T. rungbongensis Ahrens	-	-	-	-	-	-	+	-	-	-	-	-	-	
T. schneideri Ahrens	-	-	-	-	-	-	-	+	-	-	-	-	-	
Trioserica tarsata (Brenske)	-	-	-	-	-	-	-	+	-	-	+	-	-	
Autoserica? *comosa* Brenske	-	-	-	-	-	-	?	?	-	-	-	-	-	
Autoserica? *maxima* Brenske	-	-	-	-	-	-	-	-	-	-	+	-	-	
Autoserica? *umbilicata* Brenske	-	-	-	-	-	-	?	?	-	-	-	-	-	

9.6 Appendix F. Abbreviations used for morphological terms.

A *anal anterior (anal vein)*
abstn *abdominal sternite*
abt *abdominal tergite*
ah *apical hinge of wing*
almf *anterior lamina of mesofurcal arm*
amlc *anterior margin of labroclypeus*
ammtf *anterior margin of metafurca*
anl *anal lobe (elytral base)*
anspl *anal split*
ant *antenna*
aph *anterior phragma*
apmtf *anterior portion of metafurca*
apophb *apodeme of phallobase*
apvfl *apical portion of ventral median flange*
ax2 *axillary2*
ax3 *axillary3*
bg *basigalea*
bl *basal lobe*
bma *anterior part of medial basivenale*
bophb *basal ostium of phallobase*
bsc *subcostal basivenale*
bst *basistipes*
bucop *bursa copulatrix*
c *coxite*
cd *cardo*
clv *clavus*
cly *clypeus*
crspic *cranial part of spiculum gastrale*
CuA *cubital vein*
cxo *coxal ostium*
dg *distogalea*
dlmf *dorsal lamina of mesofurcal arm*
dmmttb *dorsal margin of metatibia*
dmtbs *dorsal apical metatibial spur*
dpmst *dorsal process of mediostipes*
dstgl *distal separate tooth of galea*
el *elytron*
enpl *(pro-)endopleuron*
eph *endophallus*
eppl *epipleuron*
esh *elytral shelf*
expl *(pro)exopleuron*
fm1 *median plate, part1*
fm2 *median plate, part 2*
fr *radial fulcalare*
frcs *frontoclypeal suture*
frs *frons*
gl *galea*
glacc *accessory gland*
glrec *glandula receptaculi*
hp *humeral plate*
hpmr *haptomerum*
hymr *hypomeron*
ifb *interfurcal bridge*
ifl *internal flange of longitudinal suture of metasternum*
iowth *interocular width*
lbr *labrum*
lbrcly *labroclypeus*
lc *lacinia*
li *ligula*
ll *ligular lobe*
mamtco *medial apophysis of metacoxa*
mepstm *metepisternum*
msco *mesocoxa*
mscoc *mesocoxal cavity*
msfa *mesofurcal arm*
msfe *mesofemur*
msstm *mesosternum*
mst *mediostipes*
mstb *mesotibia*
mstrm *mesotarsomere*
mt *mentum*
mtco *metacoxa*
mtepst *metepistenum*
mtf *metafurca*
mtfa *metafurcal arms*
mtfe *metafemur*
mtn *metanotum*
mtstm *metasternum*
mttb *metatibia*
mttrm *metatarsomere*
octs *ocular canthus*
ovd *common oviduct*
p *proctiger*
p1 *dorsal process of mesofurcal arm*
p2 *cranial process of mesofurcal arm*
p3 *medial process of mesofurcal arm*
pal *palidium*
pf *palpifer*
pg *palpiger*
phb *phallobase*
pl *palpus labialis*
pm *paramere(s)*
pmmtf *posterior margin of metafurca*
pmx *maxillary palpus (palpus maxillaris)*
pon *postnotum*
pp *paraproct*
prmt *prementum*
prn *pronotum*
prpyg *propygidium*
prtb *protibia*
pyg *pygidium (urotergite VIII)*
RA *radius anterior*
rms *radio-medial suture*
RP *radius posterior*
rs *receptaculum seminis*
scl *scutellum*
somtco *secondary ostium of metacoxa*
sty *stylus*
te *temones*
tlsgl *tooth-like spines of galea*
tr *trochanter*
trc *transversal carina of procoxa*
vag *vagina*
vfl *ventral median flange*
vf *valvifer*
vmmttb *ventral margin of metatibia*
vmtbs *ventral apical metatibial spur*
vpphb *ventral plate of phallobase*
vs *ventral suture (of metendosternite)*
vsp *"v-shaped" piece*
vst *vestigial sternite*