Table 2. Character state matrix of 139 characters for Unionicola mollusk mites. The outgroup Neumania is listed first. The character sequence corresponds to characters and character states listed for Unionicola mollusk mites in Appendix 6 of Mites if Freshwater Mollusks by Edwards and Vidrine (2014).

Neumania	000210301 0??????1000130101100010000001100000000000111000000000032100010001000000000000100001?1?1?1?0100000000000000000100070000
U.anodontae	121001020220001201100102000000010010000001010001000020111110011000100010001001101000000000000000000000202020201000000000000000100321000
U.niloticus	121001010220001201100100000000101100000010100010000201111100110010001000100110100000000000000000000202020201000011000022000001003210000
U.palpatus	121001020220001201100102100002010010000001101000100002011111001100010001000100110100000000000000000000202020201000110000220000101321000
U.ampullariae	011001211100000000120120110100017000100000101000000000211111000000001333000000010000000000000000000200010202020201000000000000000200211000
U.thompsoni	011001310100000000120130010100017000100000101000000000211111000000001333000000010000000000000000000200010202020201000000000000000200211000
U.intermedia	011001010200120220100101000100010010100001111000000000211111000000001003100000001000100000000000000211010101010101100110110120000100312000
U.clarki	011001010200120220100101000100010010100001111003110121110100000000011131000000010001000000000000000211010101010101000110011120000100312000
U.mitchelli	011001010200120220100101000100010010100001111000000000211111000000001003100000001000100000000000000211010101010101100110011120000100312000
U.smithae	011001010200120220100101000100010010100001111001010002111110000000001003100000001000100000000000000211010101010101100110011120000100312000
U.wolcotti	011001010200120220100101000100010010100001111000000000211111000000001003100000001000100000000000000211010101010101100110011120000100312000
U.clathrata	021001020220127231100102021100010120010100100100020101100110000022701100011101000000000000000311010217171701011110011111000100322000
U.crassiparma	031001020220127231100101021100017020001000100100200020101100110000022701000111010100000000000000311010217171701011110011111001003220000
U.entrerrianensis	031001020120127231100102021100010201000100100100100020011100110000227000000211010100000000000000311010200000000100111001111100100322000
U.fissipes	031001020120007201100102021100010120010010010000000201110110011000022700000021101010000000000000311010200000000100010000220000100322000
U.nelsoni	011001010220121131101101021100017020001000100100100020011100110000227001000011010100000000000000311010200000000101111001111100100322000
U.neoperforata	031001020120127231101102021100010120010010010020000201100110011000022701100001101010000000000000311010217171701000110011110000100322000
U.perforata	031001020120127231101102021100010120010010010020000201100110011000022701100001101010000000000000311010217171701000110011110000100322000
U.redfordi	011001010220111121100101021100017020001000100100200020101100110011000022700100001101000000000000100311010217171701011110011111001003220000
U.rosewateri	011001010220111121100101021100017020001000100100200020011100110011000022700000211010100000000000000311010200000000101100000000000100322000
U.schubarti	031001020120007201100102021100010120010010010000000201110110011000022700100021101010000000000000311010200000000101111100221100100322000
U.sinuata	011001020200001130110102000100010120000000000002000020111100011000022000000011010000000000000000100001?1?1?1?0100000000000000000100321000
U.curtipalpis	011001020212121220100101000100010000110101111000100002111111000000010001000100010101000000000000000000010101010100011110022000010121210 00
U.macani	011001020212121220100101000100010000110101111000100002111111000000010001000100010101000000000000000000010101010100011110022000010121210 00
U.berezai	031001021000121230100102000100010120101001100000100000201010110011000022700100701101000000000000000311000200000000011110011111100100322000
U.acylindrotarsa	031001021000121230100102000100010120101001100000100000201010110011000022700100701101000000000000000311000200000000011110011111100100322000
U.latipalpa	031001021000121230100102000100010120101001100000100000201010110011000022700100721101000000000000000311000200000000011110011111100200322000
U.megachela	011001020202121220100102000100010110100101101020000211111000000000110100000110101000000000100010001 1?1?1?1?0100011110022000010031200
U.hensleyi	011001010102121230100102000100010110100001101000200012111110000000011010000010201000000000000000000100011001122000010031100
U.banguiensis	011001110200001101100111000100010020100001101100200002011100100000113071010121101001000000000000000000000000000000000000000200322001 0
U.serrata	011001310212121220100130000100017010100101101010200002111110000000033011000011020000000000000000202020201100110011220000200311000
U.gledhilli	011001010220001101110001001100310010000000010002000020011010000000012270101011102000000000000000000000000000171001100000000000010032200 10
U.edwardsi	011001010220001101110001001100310010000000010002000020011110000000012270101021101010000000000000101110017171?1?000110000000000000010132200 10
U.bishopi	021001311211001200100103110100010020100000101000200012111110000000011227010000110200000000000000000200000202020201000000000000000310322000
U.ernstingi	021001311211001200100103110100010020100000122000200012111110000000011227010000110200000000000000000200000202020201000000000000000310322000
U.neocooki	021001311211001200100103110100010020100000101000200012111110000000011227010000110200000000000000000200000202020201000000000000000310322000
U.tumida	021001311211001200100103110100010020100000010002000121111100000000112270100001102000000000000000000200000202020201000000000000000310322000
U.tumidoides	021001311211001200100103110100010020100000122000200012011110000000011227010000110200000000000000000200000202020201000000000000000310322000
U.davisi	011001211210001101100121100100010010100001122000200002011110000000011227010100110100000000000000000100101?1?1?1?0100000000000000200327000
U.robacki	011001211210001101100021100100010010100001122000100002011110000000011227010102110100010000000000000100101?1?1?1?0100000000000000200327000
U.procursa	011001010220001100110102001100011110000000101100100002111110000000022701000011000000000000000000100020202020101100000000000000100320000
U.assimilis	011001010220001100110000001100011110000000101100100002111110000000022701000011000000000000000000100020202020101111000000000000100320000
U.conjunctella	011001010220001100110000001100011110000000101100100002011110000000012270100001100000000000000000100020202020101111000022110010032000 00
U.ligulifera	011001010220001100110000001100011110000000101101100002111110000000012270100001100000000000000000100020202020101111000022110010032000 00
U.clipeata	011001010220001100110000001100011110000000101100100002011110000000012270100001100000000000000000100020202020101111001111100100320000
U.scutata	011001010220001100110000001100011110000000101101100002011110000000012270100001100000000000000000100020202020101111001111100100320000
U.cirrosa	011001010200111020110000000100011110000001101100100002011110000000022701000011000000000000000000100020202020101100000000000000100320000
U.walkeri	011001010200111020110000000100011110000001101100100002011110000000022701000011000000000000000000100020202020101100000000000000100320000
U.crassiseta	011001010200111020110000000100011110000001101100100002011110000000022701000011000000000000000000100020202020101?????????????????1003200 00
U.heardi	011001311212111221100131101100010010000011010003111121110100000000100010001001100000000000000000311010217170201000110011110000200311000
U.scutigera	011001211212111221100121101100010010000011010003111121110100000000100010001001100000000000000000200010202020201000110011110000200311000
U.botswaniana	031001010220001201100102021100010110000000101000100102011110000000010001000100110000000000000000000200020202020100000000000000200322000
U.diversipes	021001310210001201100130001100010010100000101000000102111110000000011117010101021102000000000000000200000202020201000000000000000200321000
U.brandti	021001211210001201100120101100010010100000101000000112111110000000011117010101021102000000000000000200000202020201000000000000000200321000
U.blayi	011001211200001101100111101100110010100010000010000201111100000000100010101001111000000000000000100000000202011111000101010002003210 10
U.planicurvata	011001111200001101100111101100110010100000100000200012011110000000010001010100111101000000000000010010000000020201011110011111000101321000
U.arcuata	021001311210001201100131111100010010100000101000200012111110000000013301010100110100000000000000000210000202020201000000000000000200322000
U.arcuatoides	021001311210001201100131111100010010100000101000200012111110000000013301010100001100000000000000000210000202020201000000000000000200322000
U.weni	021001311210001201100131111100010010100000101000200011711111000000001330101010011101000000000000000300000202020201000000000000000200322000
U.fengchengensis	021001311210001201100131111100010010100000101000200012111110000000013301010100110100000000000000000300000202020201000000000000000200322000
U.abnormipes	011001010212121221100101000100010010100100101000100002111110000000010310010011001100000000100000000000202020201000110011110000100311000
U.australindistincta	011001010212121221100101000100010010100100101000100002111110000000010310010011001100000000100000000000202020201000110011110000100311000
U.indistincta	011001110212121221100111000100010010100000101000200002111110000000010310010011001100000000100000000000202020201000110011110000100312000
U.causeyae	011001010212121221100101000100010010100100101020000211111000000001231100100110011000000000100000000000202020201000111100220000100312000
Ujaponensis	011001111212121221100111111100010010100000101000200002111110000000011???110070011000000000000000000311070202020201?????????????00001002120000
U.chelata	011001111212121221100111111100010010100000101000200002111110000000010031100700110000000000000000000???010202020201000111100220000200212000
U.campelomaicola	011001110212121221100111011100010010100000101000200002111110000000010031100000110000000000000000200000202020201000110011110000100212000
U.dobsoni	011001010212121221100111011100010010100000101000200002111110000000010031100000110000000000000000200000202020201000110011110000200212000
U.viviparaicola	011001211212121221100121111100010010100000101000200002111110000000013331100000110010000000020000000202020201100110011120000200212000
U. bonzi	011001010210121220100102000100010100000001101000000021111100000011000010010100000000000000000000010202020201000000000000000100310000
U.thaiensis	011001010210121220100102000100010100000001101000000021111100000011033010001000100000000000000000010202020201000000000000000100310000
U.imamurai	011001010210121220100102000100010100000001101000000021111100000011010001000100100000000000000000010202020201000000000000000100310000
U.inusitata	011001010210121220100102000100010100000001101000000021111100000011000210000010000000000000000000020202020100000000000000100320000
U.tricuspis	011001010210121220100102000100010100000001001000000021111100000011000210000010000000000000000000020202020100000000000000100310000
U.aculeata	011001010210121220100102000100010100000001101000000021111100000011010021000000100000000000000000200000202020201000000000000000100310000
U.hankoi	011001010210121220100101000100010000000101101000000021111100000011001201002000010000000000000000200000202020201000111002200001003100010
U.formosa	021001211210001201100121111000100101100010000100001211111000000001000100000011170000000000000000200010101010101100110011200002003200000
U.dimocki	021001211210001201100121111000100101100010000120001211111000000001000100000011170000000000000000200010101010101100110011200002003200000
U.thienemanni	021001211210001201100121111000100101100010000120001211111000000001000100000011170000000000000000200010101010101000110011110000200312000
U.uchidai	021001311210001201100131111000100101700010000120001211111000000007?????100000011170000000000000000200010101010101100110011120000200312000
U.tetrafurcatus	021001311210001201100131111000100101000010000720007211111007000007?????100000011170000000000000000200010101010101100110011220000200327000
U.difurcatus	021001211210001201100121111000100101700010100720007211111007000007?????100000011170000000000000000200010101010101100000000000000200327000
U.sica	031001020100121230100102000100010110100001000002000021111100700000022701000011020000000000000000311000217171701000110011110000200321000
U.hoesei	031000000000000000000100200010001011010000100000200002111110010000013331010000110200001000000000000311000200000001011000000000000200321000
U.tupara	031100000000000000000110200010001011010000100000100002011101000000002010100001102000000000000000311000200000001011000000000000100321000
U.stricta	031100000000000000000110200010001011010000100000100002011101001100002270010000110200000000000000100001?1?1?1?0101100000000000000100321000
U.pachyscelus	031100000000000000000110200010001011010000100000200002111110071100002270110000110200000000000000100011?1?1?1?0100?????????????????1003210 00
U.lumbaria	011001010210121220100102000100010110100000100000000021111100000000133000010001000100000000200000202020201100110100220000200310000
U.agilex	011001010210121220100102000100010110100000101000000021111100000000133000010001000100000000200000202020201100110100220000200310000
U.parasitica	011001010210121220100103130110010010100000101000000021111100000000002100000000201000010000000000200010101010101100110100220000200310000
U.brevipedalis	011001010210121220100103131110010010100000101000000021111100000000100210000000201000010000000000200010101010101100110100220000100310000
U.opimipalpis	012110010 0?????????111?????????????????101?000111110?100102011110 0?????????????0????01100??1?????????????????110001?1?1?1?01??1?????????0?0?01003200 00