

Supplemental File S1: List of changes to the matrix of *Ferreira et al. (2018)*

Kinkonychelys rogersi: The following changes in the scoring of this taxon were implemented based on the descriptions provided by *Gaffney, Krause & Zalmout (2009)*.

5: preorbital skull width: 1, not 0

14: lower temporal emargination: 1, not ?

23: parietal/jugal contact: 0, not ?

40: postorbital size: 0, not ?

55: posterior lingual ridge: 0, not 1

57: triturating surfaces: 1, not ?

58: medial expansion of triturating surfaces: 0, not ?

63: maxilla/quadratojugal contact: 0, not ?

64: maxilla/quadratojugal contact: 0, not ?

73: apertura narium interna: ?, not 0

76: secondary palate: -, not ?

79: dorsal process of palatine: 0, not ?

90: ventral outline of quadrate: ? not 1

116: basioccipital tubera width: 0, not ?

123: fenestra postotica: 0, not 1

126: processus paroccipitalis: ?, not 1

Kurmademys kallamedensis: The following changes in the scoring of this taxon were implemented based on the descriptions provided by *Gaffney, Chatterjee & Rudra (2001)* and *Gaffney, Tong & Meylan (2006)*.

25 4: midline contact of nasals: -, not ?
26 9: interorbital groove: 0, not ?
27 12: prefrontal/frontal contact: 0, not ?
28 26: parietal/pterygoid contact: 0, not ?
29 55: posterior lingual ridge of maxilla: 0, not 1
30 58: medial expansion of triturating surface: 0, not ?
31 79: dorsal process of palatine: 0, not ?
32 80: dorsal process reaching septum: 1, not 0
33 85: incisura columella auris ridge: -, not 1
34 110: condylus occipitalis: ?, not 0
35 116: basioccipital tubera: 0, not ?
36 129: rostral margin of basisphenoid: 1, not 2
37 133: splenial: 1, not ?
38 135: dentary angle: 0, not ?
39 138: accessory ridge of dentary: 0, not ?
40 145: coronoid in triturating surface: 1, not ?
41 177: neural/nuchal contact: 0, not ?
42 179: keeled neurals: 0, not ?
43 184: suprapygal/peripheral 10 contact: 1, not ?
44 207: vertebral 1 shape: ?, not 1
45 217: anterior lobe length: ?, not 0
46 219: plastral lobe length: 1, not 0
47

48 *Sankuchemys sethnai*: The following changes in the scoring of this taxon were implemented
49 based on the descriptions provided by *Gaffney et al. (2003)*.

50 2: dorsal margin apertura narium externa: 0, not ?
51 4: midline contact of nasals: -, not ?
52 9: interorbital groove: 0, not ?
53 12: prefrontal/frontal contact: 0, not ?
54 15: quadratojugal: 1, not ?
55 23: parietal/jugal contact: 0, not ?
56 32: jugal/quadrato contact: 0, not ?
57 35: caudal projection of squamosal: 0, not ?
58 36: caudoventral vertical flange of squamosal: 0, not ?
59 37: lateral tubercle of squamosal: 0, not ?
60 38: lateral surface of squamosal: 0, not ?
61 54: labial ridge of maxilla: 0, not ?
62 57: triturating surface shape: 1, not ?
63 58: medial expansion of triturating surface: 0, not ?
64 59: triturating surface convexity: 0, not ?
65 66: vomer/premaxilla contact: 1, not ?
66 71: foramen palatinum posterius: 1, not 0
67 73: apertura narium interna: 0, not ?
68 74: dorsally arched palate: 0, not ?
69 75: palatine in triturating surface: 0, not 1
70 101: fpcci: 2, not 0
71 103: supraoccipital exposure: 0, not ?

72 107: supraoccipital on otic chamber: 0, not ?
73 110: condylus occipitalis: 1, not ?
74 115: basioccipital length: 0, not 1
75 117: horizontal occipital shelf: 0, not ?
76 120: foramen stapedio-temporale: 0, not ?
77 121: foramen stapedio-temporale and trigemini: 0, not ?
78 129: rostral margin of basisphenoid: 1, not ?
79
80 *Sokratra antitra*: The following changes in the scoring of this taxon were implemented based on
81 the descriptions provided by *Gaffney & Krause (2011)*.
82 18: depth of upper temporal emargination: 2 instead of ?
83 20: lateral edges of parietals: 1, not ?
84 25: parietal pterygoid contact at base of processus trochlearis pterygoidei: 0, not ?
85 40: size of postorbital: 0, not 1
86 57: shape of triturating surface: 0, not ?
87 58: medial expansion of triturating surface: 0, not ?
88 62: exposure of maxilla in orbit: 1, not 0
89 82: incisura columella auris: 1, not 2
90 83: stapes in canal: 1, not 0
91 85: trough on incisura columellae auris ridge: -, not ?
92 103: exposure of supraoccipital on skull roof: 1, not ?
93 104: length of crista supraoccipitalis: ?, not 0
94 109: ventral process of exoccipital: 0, not ?
95 110: condylus occipitalis: ?, not 0

- 96 122: ventral covering of processus interfenestralis: ?, not 1
- 97 124: shape of fenestra postotica: ?, not 0
- 98 126: processus paroccipitalis: ? not 0
- 99 136: high lingual ridge of dentary: 1, not 0
- 100 142: triturating surfaces: 1, not ?
- 101 145: participation of coronoid in triturating surfaces: 1, not ?