

TABLE S5 | The list of synapomorphies of each taxon and respective character state changes are presented below.

Tree 0:

Ictaluridae (*Ictalurus punctatus*):

No autapomorphies

Pimelodoidea:

Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

Heptapteridae (*Rhamdia quelen*):

Char. 4: 0.247-0.357 --> 0.833-1.000

Char. 21: 0 --> 1

Char. 34: 0 --> 1

Char. 52: 0 --> 1

Char. 54: 0 --> 1

Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13

(Pimelodidae, Pseudopimelodidae):

Char. 3: 0.818 --> 0.585

Char. 28: 0 --> 1

Char. 32: 0 --> 1

Char. 65: 0 --> 1

Char. 66: 0 --> 1

Char. 67: 0 --> 1

Char. 75: point(s) 1, 2, 3, 4, 9, 10, 11, 12

Pimelodidae (*Steindachneridion scriptum*):

Char. 2: 0.405-0.491 --> 0.196

Char. 19: 0 --> 1

Char. 24: 0 --> 1

Char. 51: 0 --> 1

Char. 59: 0 --> 1

Char. 63: 0 --> 1

Char. 75: point(s) 0, 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13

Pseudopimelodidae:

Char. 1: 0.440-0.520 --> 0.360

Char. 5: 0 --> 1

Char. 13: 0 --> 1

Char. 16: 0 --> 1

Char. 25: 0 --> 1

Char. 31: 0 --> 1

Char. 33: 0 --> 1

Char. 36: 0 --> 1

Char. 38: 0 --> 1

Char. 40: 0 --> 1

Char. 46: 0 --> 2

Char. 52: 0 --> 2

Char. 57: 0 --> 2

Char. 64: 0 --> 1

Char. 68: 0 --> 1

Char. 75: point(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

(*Cruciglanis*, *Pseudopimelodus*, *Rhyacoglans*):

Char. 1: 0.360 --> 0.160

Char. 7: 0 --> 1



TABLE S5 I (Continued)

Char. 58: 0 --> 1
 Char. 61: 0 --> 1
 Char. 75: point(s) 1, 2, 5, 6, 10
 (*Cruciglanis pacifici*, (*Pseudopimelodus mangurus*, *P. bufonius*)):
 Char. 11: 0 --> 1
 Char. 46: 2 --> 1
 Char. 52: 2 --> 1
 Char. 75: point(s) 1, 2, 3, 4, 7, 8
Cruciglanis pacifici:
 Char. 2: 0.399–0.497 --> 0.350
 Char. 3: 0.556–0.637 --> 0.706
 Char. 12: 0 --> 1
 Char. 17: 0 --> 2
 Char. 18: 0 --> 1
 Char. 31: 1 --> 0
 Char. 35: 1 --> 2
 Char. 37: 0 --> 1
 Char. 39: 0 --> 1
 Char. 54: 0 --> 2
 Char. 62: 0 --> 1
 Char. 75: point(s) 5, 9, 10, 12
 (*Pseudopimelodus mangurus*, *P. bufonius*):
 Char. 44: 0 --> 1
 Char. 45: 0 --> 1
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Pseudopimelodus mangurus:
 Char. 61: 1 --> 0
 Char. 75: point(s) 0, 1, 3, 6, 7, 8, 9, 10, 11, 12, 13
Pseudopimelodus bufonius:
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13
Rhyacoglanis:
 Char. 2: 0.405–0.497 --> 0.534–0.632
 Char. 9: 0 --> 1
 Char. 17: 0 --> 1
 Char. 74: 0 --> 1
 Char. 75: point(s) 0, 2, 5, 6, 7, 8, 9, 10, 11
 (*Rhyacoglanis paranensis*, (*Rhyacoglanis epiblepsis*, *R. annulatus*)):
 Char. 75: point(s) 1, 2, 3, 4, 7, 10, 11, 12, 13
Rhyacoglanis paranensis:
 Char. 75: point(s) 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
 (*Rhyacoglanis epiblepsis*, *R. annulatus*):
 Char. 47: 0 --> 1
 Char. 75: point(s) 1, 2, 8
Rhyacoglanis epiblepsis:
 Char. 15: 0 --> 1
 Char. 54: 0 --> 1
 Char. 62: 0 --> 1
 Char. 75: point(s) 0, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Rhyacoglanis annulatus:
 Char. 2: 0.534–0.632 --> 0.712–0.718



TABLE S5 I (Continued)

Char. 6: 0 --> 1
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
 (*Rhyacoglanis seminiger*, *R. pulcher*):
 Char. 4: 0.247–0.280 --> 0.183–0.188
 Char. 48: 0 --> 1
 Char. 75: point(s) 0, 6, 7, 10
Rhyacoglanis seminiger:
 Char. 6: 0 --> 1
 Char. 14: 0 --> 1
 Char. 75: point(s) 0, 1, 3, 5, 9, 10, 11, 12, 13
Rhyacoglanis pulcher:
 Char. 3: 0.520–0.540 --> 0.333–0.420
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13
 (*Batrochoglanis*, *Microglanis*, *Lophiosilurus*):
 Char. 22: 0 --> 1
 Char. 23: 0 --> 1
 Char. 29: 1 --> 0
 Char. 47: 0 --> 1
 Char. 54: 0 --> 2
 Char. 69: 0 --> 1
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 13
 (*Microglanis parahybae*, *Batrochoglanis raninus*):
 Char. 8: 0 --> 1
 Char. 10: 0 --> 1
 Char. 11: 0 --> 1
 Char. 12: 0 --> 2
 Char. 72: 0 --> 1
 Char. 73: 0 --> 1
 Char. 75: point(s) 3, 4, 5, 6, 7, 8, 9, 11, 12
Microglanis parahybae:
 Char. 2: 0.491–0.816 --> 0.840–1.000
 Char. 20: 1 --> 0
 Char. 29: 0 --> 2
 Char. 46: 2 --> 3
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Batrochoglanis raninus:
 Char. 14: 0 --> 1
 Char. 75: point(s) 0, 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13
Lophiosilurus:
 Char. 3: 0.384–0.524 --> 0.357–0.381
 Char. 21: 0 --> 2
 Char. 32: 1 --> 0
 Char. 37: 0 --> 1
 Char. 43: 0 --> 1
 Char. 65: 1 --> 2
 Char. 71: 0 --> 1
 Char. 75: point(s) 0, 1, 2, 5, 6, 8, 9, 11, 13
Lophiosilurus albomarginatus:
 Char. 7: 0 --> 1
 Char. 14: 0 --> 1



TABLE S5 I (Continued)

Char. 15: 0 --> 1
 Char. 47: 1 --> 2
 Char. 53: 0 --> 1
 Char. 75: point(s) 4, 7, 8, 9, 10, 11, 12, 13
 ((*Lophiosilurus nigricaudus*, (*Lophiosilurus apurensis*, (*Lophiosilurus alexandri*, *L. fowleri*))))):
 Char. 45: 0 --> 1
 Char. 54: 2 --> 3
 Char. 75: point(s) 1, 2, 3, 4, 5, 6, 10, 11, 12
Lophiosilurus nigricaudus:
 Char. 3: 0.357–0.381 --> 0.186
 Char. 11: 0 --> 1
 Char. 75: point(s) 0, 1, 2, 3, 4, 7, 8, 9, 11, 13
 (*Lophiosilurus apurensis*, (*Lophiosilurus alexandri*, *L. fowleri*))):
 Char. 16: 1 --> 0
 Char. 75: point(s) 0, 1, 2, 5, 6, 7, 8, 9, 10
Lophiosilurus apurensis:
 Char. 1: 0.440–0.480 --> 1.000
 Char. 2: 0.491–0.497 --> 0.515
 Char. 3: 0.357–0.381 --> 0.390–0.414
 Char. 7: 0 --> 1
 Char. 15: 0 --> 1
 Char. 47: 1 --> 0
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13
 (*Lophiosilurus alexandri*, *L. fowleri*):
 Char. 2: 0.491–0.497 --> 0.117–0.448
 Char. 37: 1 --> 2
 Char. 42: 0 --> 1
 Char. 49: 1 --> 0
 Char. 55: 2 --> 0
 Char. 75: point(s) 1, 3, 4, 8, 11, 12, 13
Lophiosilurus alexandri:
 Char. 2: 0.117–0.448 --> 0.000–0.053
 Char. 3: 0.357 --> 0.000–0.175
 Char. 4: 0.188–0.229 --> 0.000–0.073
 Char. 33: 1 --> 0
 Char. 46: 2 --> 1
 Char. 56: 1 --> 2
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Lophiosilurus fowleri:
 Char. 75: point(s) 0, 1, 2, 3, 4, 5, 7, 9, 10, 12, 13

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