

Supplemental material

Character list

Characters of the skull roof

1. Skull roof elongate (midline length > maximum width; 1) or not (0).
2. Position of the centre of the orbit along the dorsal midline of the skull: orbit posteriorly (0) or anteriorly (1) situated.
3. Short (0), constricted (1), or elongated (2) snout (preorbital part of the skull twice longer than the postorbital one; 2).
4. Large (0) or small orbit (maximum size < 14 per cent of the dorsal midline length; 1).
5. Orbit facing laterally (1) or dorsally (0).
6. Rounded (0) or oval (1) orbit.
7. Slightly concave (0) or semicircular (1) posterior margin of the skull roof.
8. Nostril rounded (0), ovoid (1), or elongate (2).
9. Nostril in lateral position (1) or not (0).
10. Skull roof bulged (1) or not (0) at the level of the orbits.
11. Pineal foramen small (0) or large (1) relative to the size of the skull roof.
12. Pineal foramen rounded (0) or not (1).
13. Presence (1) or absence (0) of sensory-line grooves in front of the orbits.
14. Presence (0) or absence (1) of sensory-line grooves behind orbits.
15. Frontal extended behind orbit (1) or not (0).
16. Frontal in contact with orbit (1) or not (0).
17. Presence (1) or absence (0) of the interfrontal.
18. Presence (1) or absence (0) of the centroparietal.
19. Septomaxilla visible (0) or not (1) on the dorsal side of the skull.
20. Otic notch deep and narrow (0), or deep and open (1), or shallow and open (2).
21. Tabular rounded (0), pointed (1), or hook-shaped (2).
22. Quadrate condyle posterior (0) or anterior (1) to the occipital condyle.
23. Presence (1) or absence (0) of an anterodorsal dentary foramen.
24. Premaxilla/nasal suture posteriorly directed (the premaxilla is partly extended posterior to the nostril; 0), straight (1), or anterior directed (2).
25. Presence (1) or absence (0) of a prenasal growth zone.
26. Presence (1) or absence (0) of a 'temporal fossa' (sensu Damiani 1998; a slight depressed region of the skull roof anteriorly to the otic notches).
27. Ventral opening of the orbit at the level of the posterior half (0), in the mid part (1), or in the anterior half (2) of the interpterygoid vacuity.

Characters of the palate

28. Vomer in contact (1) or not (0) with the maxilla.
29. Choana rounded (0) or elongate (1).
30. Choana overlapping the nostril (1) or not (0).
31. Absence (0) or presence of a single (1) or of a paired (2) anteropalatral vacuity.
32. Anteropalatral vacuity(ies) posterior (0), between (1), or anterior (2) to the premaxilla/vomerine suture.
33. Interpterygoid vacuity posteriorly (0) or anteriorly (1) widened, or not widened at all (2).
34. Presence (1) or absence (0) of a crista obliqua on the ventral surface of the pterygoid.
35. Anterior branch of the pterygoid laterally extended (0), entirely wide (1), or narrow (2).

36. Posterior branch ('quadrate ramus') of the pterygoid narrow and elongate (0), or short and wide (1).
37. Presence (0) or absence (1) of an area asparta of the pterygoid.
38. Wide (0), narrow (1) or knife-edged (2) cultriform process of the parasphenoid.
39. Elongate (0) or very short (or absent) (1) suture between the palatine and the pterygoid.
40. Very short (0) or elongate (1) suture between the pterygoid and parasphenoid.
41. Wide (width>length; 0) or narrow (length > width; 1) parasphenoid plate.
42. Presence (1) or absence (0) of the crista muscularis of the parasphenoid.
43. Carotid canal visible (1) or not (0) on the ventral surface of the parasphenoid.
44. Presence (0) or absence (1) of ectopterygoidal tusks.
45. Suture between the exoccipital and the pterygoid visible (1) or not (0) in ventral view.

Characters of the occiput

46. Presence (1) or absence (0) of the paraquadrate foramen (foramen for the chorda tympani).
47. Flattened (0) or deep (1) occiput, in occipital view.
48. Dorsally (0) or ventrally (1) directed tabular, in occipital view.
49. Small (0) or large (1) occipital condyle.
50. Occipital condyles widely separated (0) or not (1) from each other.
51. Foramen magnum ventrally constricted (1) or not (0).
52. Curved (0) or straight (1) dorsal margin of the foramen magnum.
53. Presence (1) or absence (0) of the crista falciformis of the squamosal, in occipital view.
54. Shallow (0) or deep (1) posttemporal fenestra.
55. Elongate (0), triangular (1) or rounded (2) posttemporal fenestra.
56. Wide (0) or narrow (1) proximal part of the stapes.

Characters of the mandible

57. Posterior end of the mandible situated at the same level (0) or behind (1) the quadrate condyle.
58. Mandible deep (0) or shallow (1) in lateral view.
59. Presence (1) or absence (0) of an anterior constriction of the ventral outline of the mandible, in lateral view.
60. Reduced (0) or extended (1) dentary symphysis.
61. Presence (1) or absence (0) of a parasymphysial tusk.
62. Presence (0) or absence (1) of a parasymphysial tooth row.
63. Presence (1) or absence (0) of denticles on coronoids 2 and 3.
64. Presence (1) or absence (0) of sensory-line grooves on the mandible.
65. Meckelian foramen short (0) or elongate (1).
66. Poorly developed or absent (0), or well-developed (1) crista medialis (sensu Damiani 1998); a vertical blade on the midline of the postglenoid area (PGA sensu Jupp and Warren 1986).
67. Presence (1) or absence (0) of the crista articularis (sensu Damiani 1998); a vertical blade on the postero-lingual border of the PGA.

Characters of the postcranial skeleton

68. Interclavicle narrow (1) or not (0).

69. Interclavicle with (0) or without (1) dorsal crest(s) (trabeculae sensu Bystrow and Efremov 1940; i.e. relatively wide and flat walls posteriorly and antero-laterally directed on the dorsal surface of the interclavicle).