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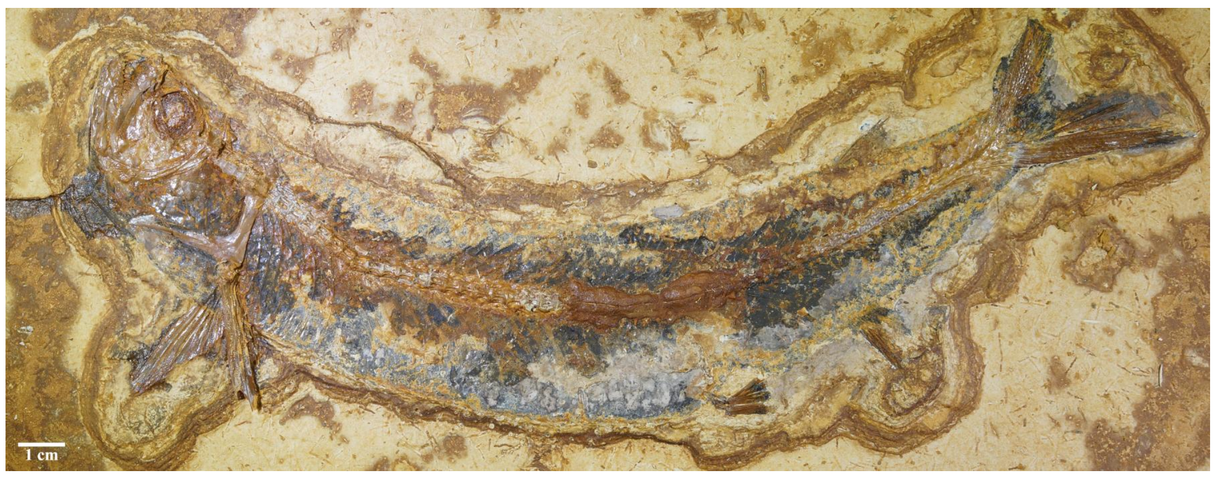
# Taxonomical Review of †Ichthyodectiformes—Actinopterygii, Teleostei—from Cretaceous Period in Brazil

Thales R. J. Barreto[1] (thalesrjb@hotmail.com), Diogo de Mayrinck[1], Paulo M. Brito[2]
[1]LICTAE; IBRAG; UERJ
[2]Zoology Department; IBRAG; UERJ

## INTRODUCTION & AIM

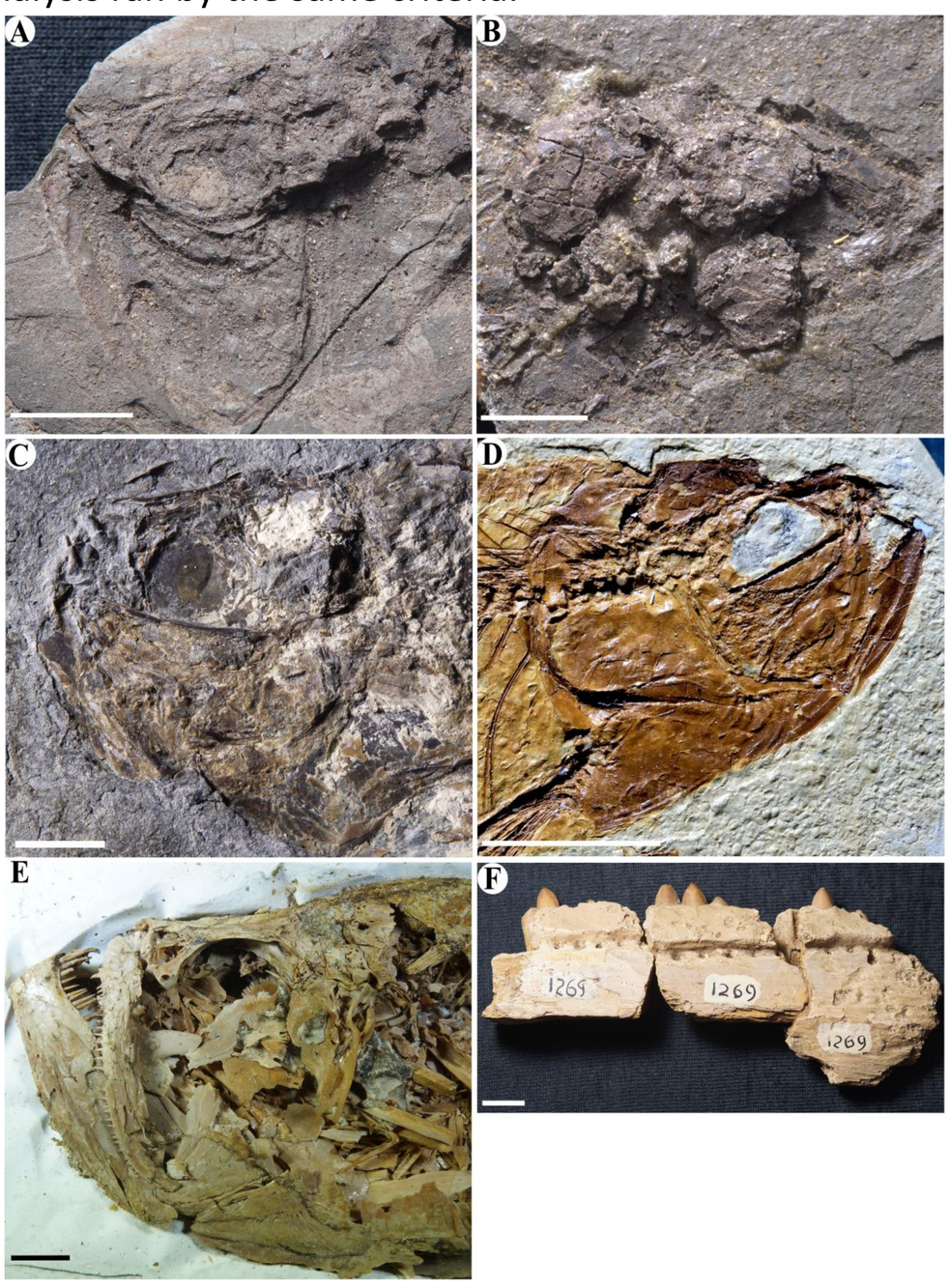
- Ichthyodectiformes is a fossil order of predatory teleostean fishes, with global distribution known from Middle Jurassic to Early Paleogene;
- Incomplete fossils;
- 6 Brazilian genera, all from Northeastern Basins;
- Aim: conduct the comparative anatomical and phylogenetic study of the Cretaceous species from Brazil.




*Cladocyclus gardneri* (AMNH 13964).

## METHOD

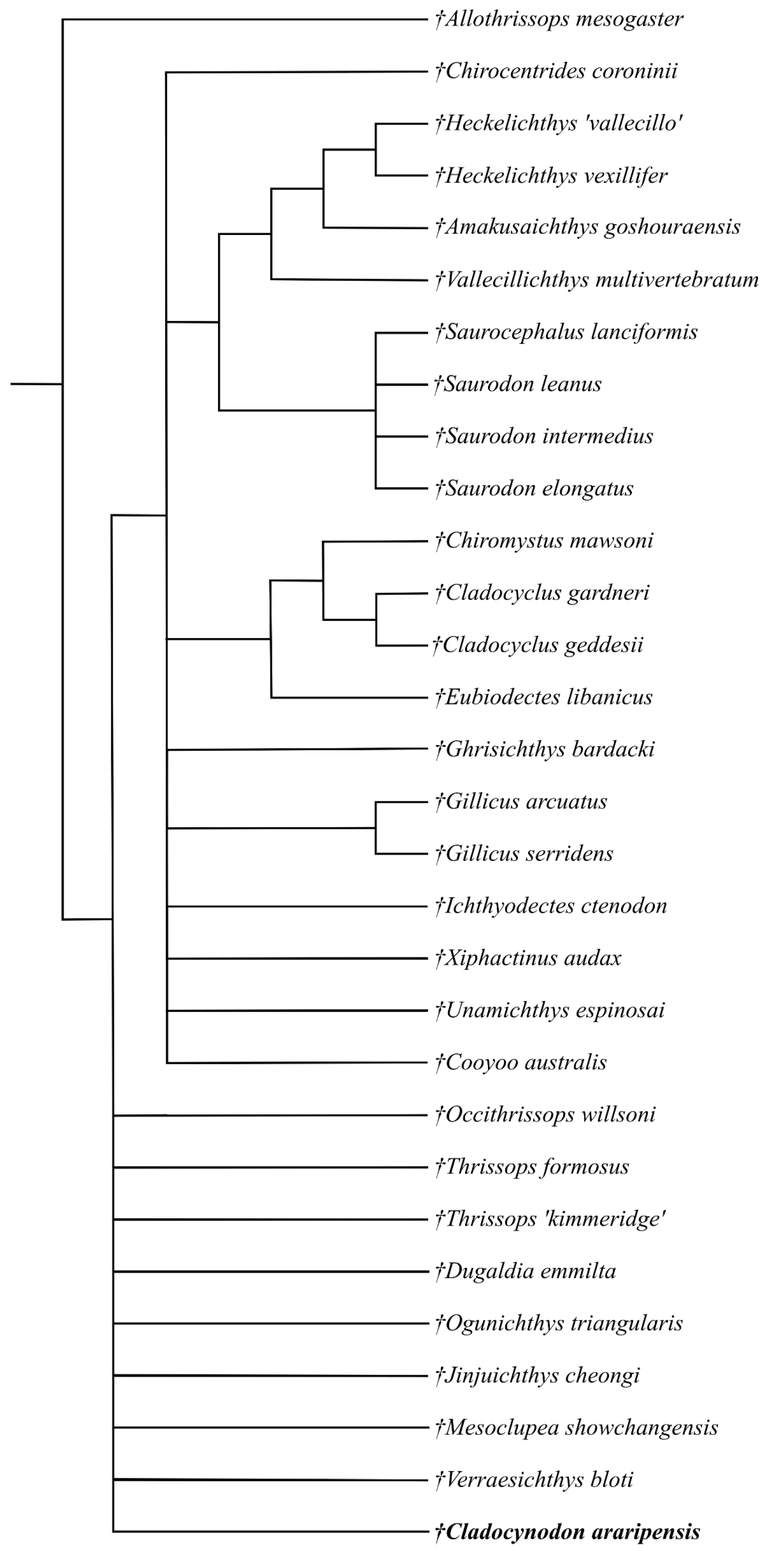
- Comparative anatomy + Phylogenetic analysis;
- Update to the latest character matrix (Cavin & Berrel 2019);
- Analysis ran by the same criteria.




A: *Chiromystus mawsoni* (DGM-DNPM 545-P); B: *Itaparica woodwardi* (DGM-DNPM 565-P); C: *Cladocynodon araripensis* (CFUFMT 432B); D: *Ogunichthys triangularis* (UERJ PMB 100b); E: *Cladocyclus gardneri* (AMNH 19166); F: *Saurocephalus lanciformis* (DNPM 1269, dentary bone). Scale bars = 1cm

## RESULTS & DISCUSSION

- Phylogenetic analysis inconclusive;
- Large scale polytomy at the tree basis;
- Weak intrarelationships for Ichthyodectiformes;
- We suggest a new synapomorphy for the group: vertebral centra with a pair of lateral longitudinal grooves, divided by a crest, trait noted since the establishment of the order (Patterson & Rosen 1977).




## CONCLUSION

- The known material couldn't elucidate the relationships of the Brazilian species.
- Only 2 synapomorphies could be verified in every taxon.
- Larger sampling effort recommended.

## FUTURE WORK / REFERENCES

- Cavin, L., Berrel, R. W. 2019. Revision of Dugaldia emmilta (Teleostei, Ichthyodectiformes) from the Toolebuc Formation, Albian of Australia, with comments on the jaw mechanics, Journal of Vertebrate Paleontology, 39:1, e1576049. DOI:10.1080/02724634.2019.1576049
- Patterson, C.; Rosen, D.E. 1977. Review of Ichthyodectiform and Other Mesozoic Teleost Fishes and the Theory and Practice of Classifying Fossils. Bull. Am. Mus. Nat. Hist. 1977, 158, 81–172. DOI:10.1086/410351