

## SUPPORTING INFORMATION

Revisiting the Cretaceous Lungfish *Atlantoceratodus iheringi* (Ameghino 1898) from the Mata Amarilla Formation (Argentina) with comments on tooth plates histology

by PANZERI, KAREN M.

Supplementary figures (S1-S5)

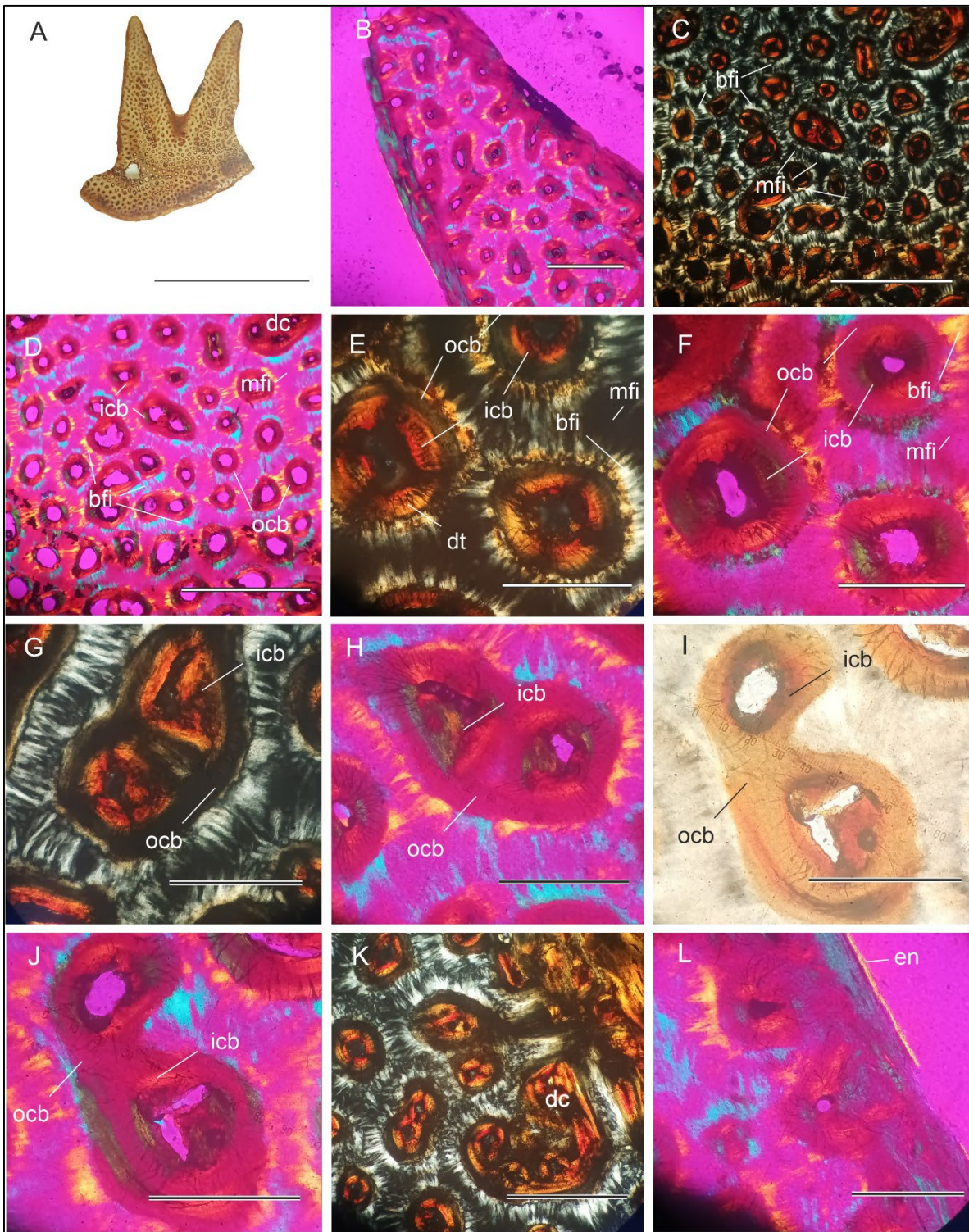


Fig. S1. Horizontal sections of tooth plates of *Atlantoceratodus iheringi*, MPM-PV-1882: A, section under binocular magnifier; B, MPM-PV-1882, first denticulation with transitional dentons towards the margins and secondary dentons towards the middle of the ridge; C, MPM-PV-1882, denteons embedded in birefringent and monorefringent interdenteneal dentine; D, MPM-PV-1882, similar to C but with a higher increment; E–J, clustered denteons surrounded by the outer circumdenteneal band (monorefringent), observe the inner (birefringent) circumdenteneal bands; K, outer mantle dentine with birefringent zones and transitional dentons; L, externally a thin layer of enamel. Sections under petrographic microscope (B–L), polarized light (B–H, J–L), polarized light with lambda filter (B, D, F, H, J, L). Abbreviations: bfi, birefringent interdenteneal dentine; dt, dentinal tubules; en, enamel; icb, inner circumdenteneal band; md, mantle dentine; mfi, monorefringent interdenteneal dentine; ocb, outer circumdenteneal band; ol, osteocyte lacunae. Scale bars represent: 1 cm (A); 1 mm (B–D); 500  $\mu$ m; 250  $\mu$ m (E, J).

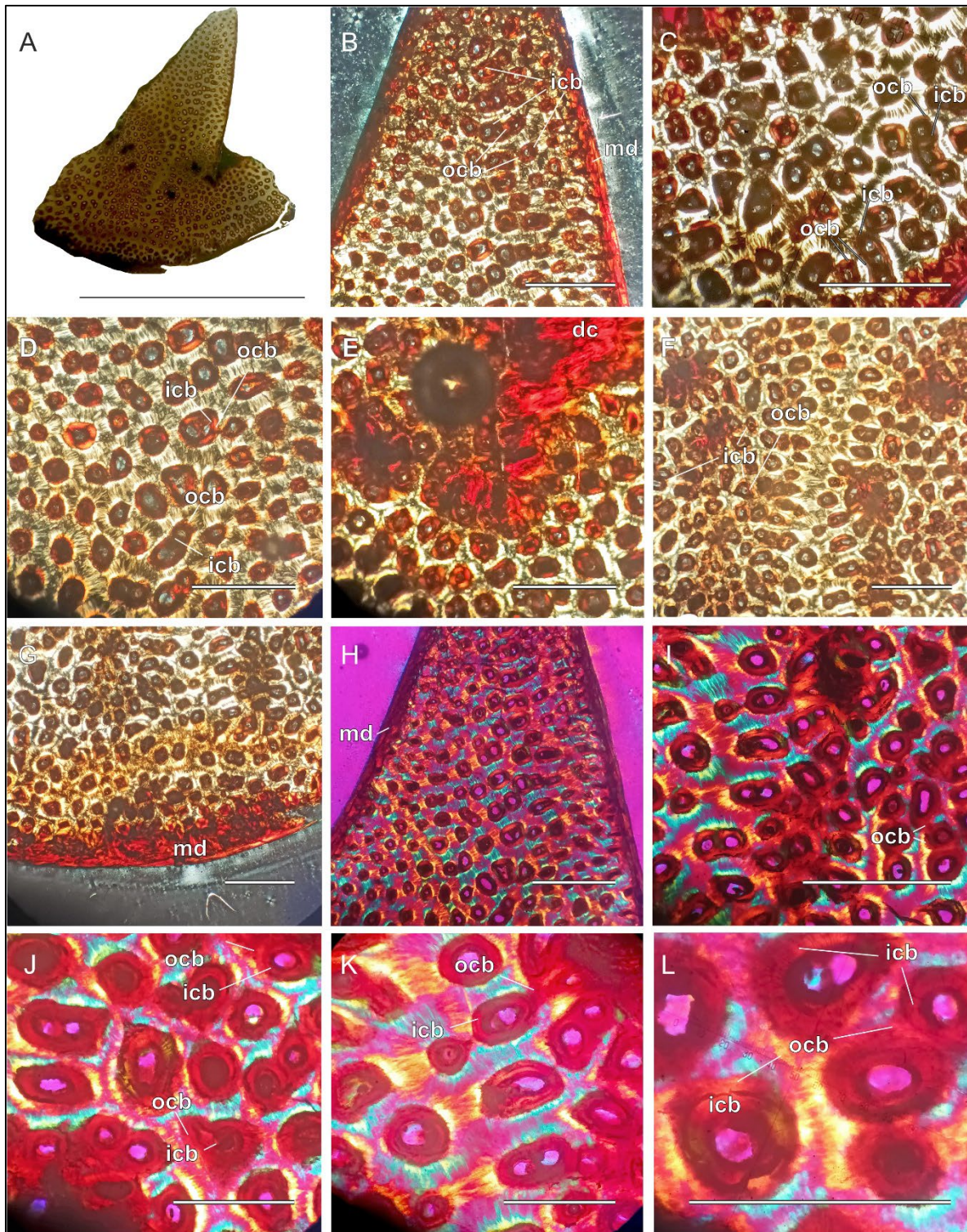


Fig. S2. Horizontal sections of tooth plates of *Atlantoceratodus iheringi*, MPM-PV-1882: A, section under binocular magnifier; B, MPM-PV-1882, first denticulation with transitional dentons towards the margins and bigger secondary dentons towards the middle of the ridge; C, MPM-PV-1882, denteons embedded in birefringent and monorefringent interdenteonal dentine, observe the double band of circumdenteonal dentine; D, MPM-PV-1882, similar to C, E, area of the furrow with a cluster of circumdental dentine and dentons; F, area of the plateau where aggregates of dentones are observed; G, outer mantle dentine and central interdenteonal dentine; H, denticulation with big secondary denteons in the area of the ridge and transitional denteons near the margins; I, cluster of denteons; J–L, denteons surrounded by the outer circumdenteonal band (monorefringent) and the inner (birefringent) circumdenteonal band. Sections under petrographic microscope (B–L), polarized light (B–G), polarized light with lambda filter (H–L). Abbreviations: bfi, birefringent interdenteonal dentine; dc, denteon cluster; dt, dentinal tubules; en, enamel; icb, inner circumdenteonal band; md, mantle dentine; mfi, monorefringent interdenteonal dentine; ocb, outer circumdenteonal band; ol, osteocyte lacunae. Scale bars represent: 1 cm (A); 1 mm (B, G, H); 500  $\mu$ m (C, D, E, F, I); 250  $\mu$ m (J–L).

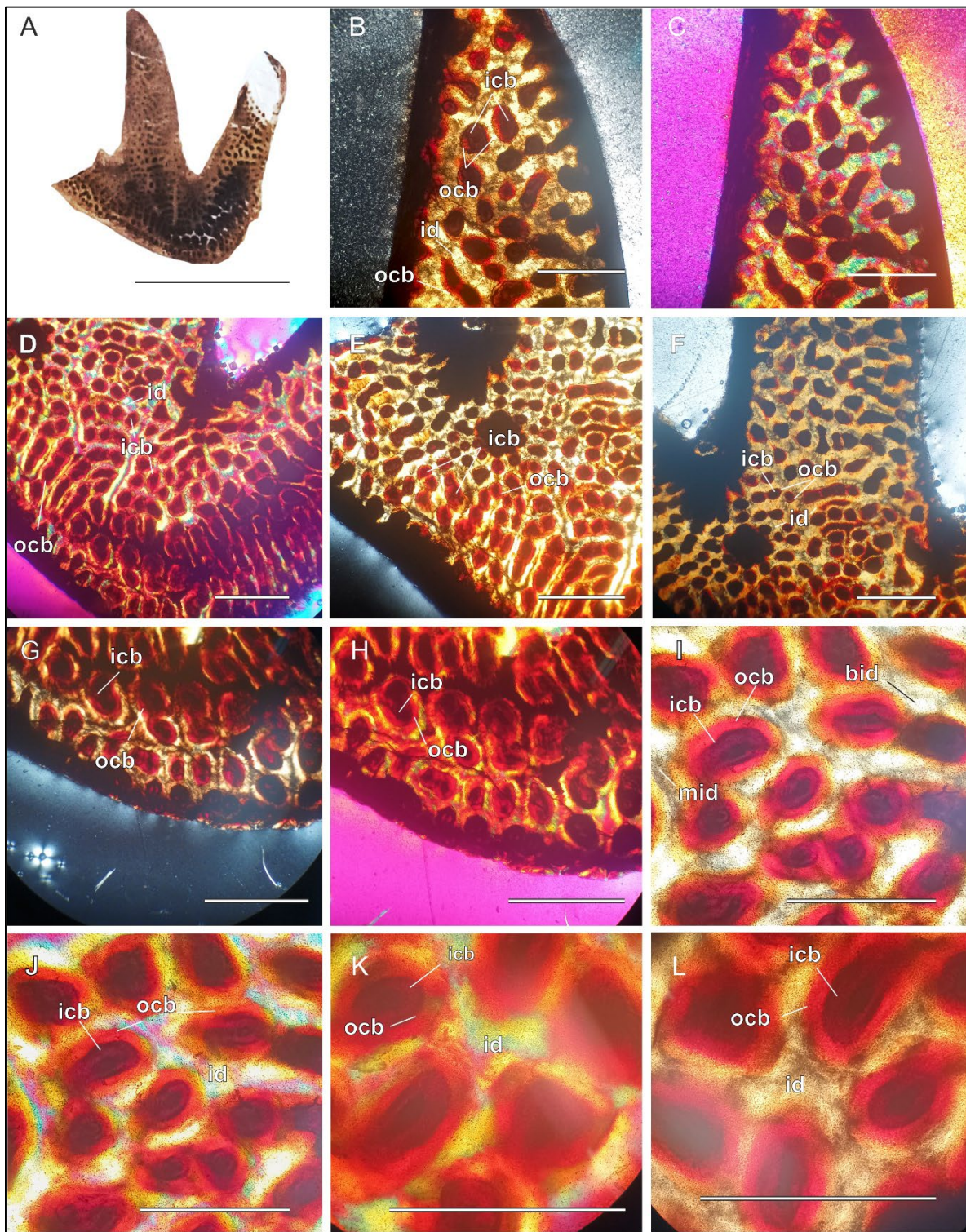


Fig. S3. Horizontal sections of tooth plates of *Atlantoceratodus iheringi*, MPM-PV-23367: A, section under binocular magnifier; B, C, first denticulation with transitional dentons towards the margins and bigger secondary dentons towards the middle of the ridge, observe the double band of circumdenteonal dentine; D–E, area of the plateau with birefringent and monorefringent interdenteonal dentine, observe the clusters of dentons; F, area of the furrow and of the base of the denticulation; G, H, area of the edge with transitional dentons; I–L, dentons surrounded by the outer circumdenteonal band (monorefringent) and the inner (birefringent) circumdenteonal band. Sections under petrographic microscope (B–L), polarized light (B–G), polarized light with lambda filter (C, D, H, J, K). Abbreviations: bfi, birefringent interdenteonal dentine; dt, dentinal tubules; en, enamel; icb, inner circumdenteonal band; md, mantle dentine; mfi, monorefringent interdenteonal dentine; ocb, outer circumdenteonal band; ol, osteocyte lacunae. Scale bars represent: A: 1 cm (A); 1 mm (B, F); 500  $\mu$ m (G, H); 250  $\mu$ m (I–L).

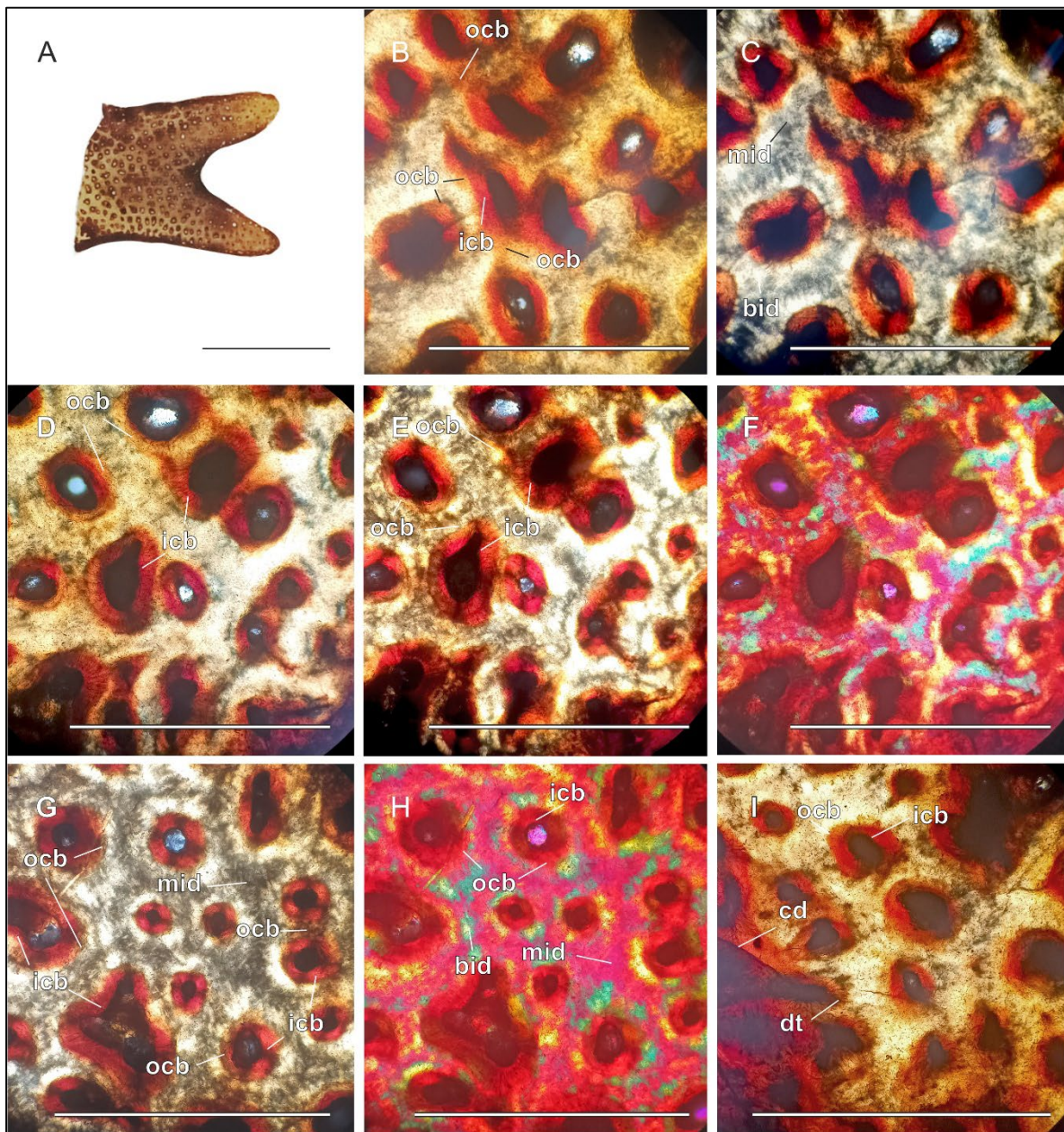


Fig. S4. Horizontal sections of tooth plates of *Atlantoceratodus iheringi*, MPM-PV-23368: A, section under binocular magnifier; B–I, Dentons immersed in birefringent and monorefringent interdental dentin. Note the double band of circum dental dentin (inner with some birefringence and outer monorefringent). Sections under petrographic microscope (B–I), normal light (B, D, I), polarized light (C, E, F, G, H), polarized light with lambda filter (F, H). Abbreviations: bfi, birefringent interdental dentine; icb, inner circumdental band; mfi, monorefringent interdental dentine; ocb, outer circumdental band. Scale bars represent: 1 cm (A); 1 mm (B–I).

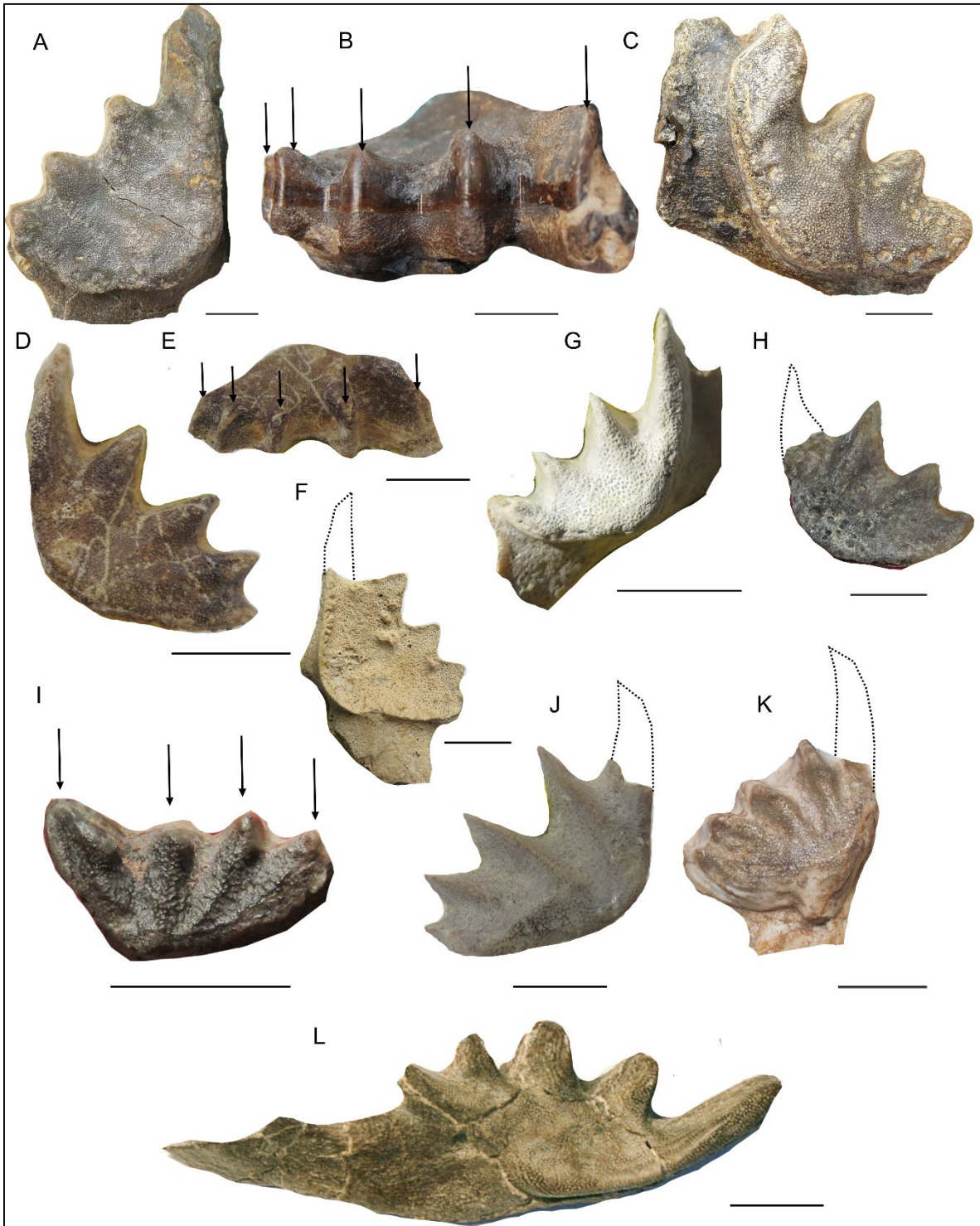


Fig. S5. Some Cretaceous lungfish species from Patagonia. A-C: holotype of *Metaceratodus baibianorum*, MPEF-PV 11422, pterygopalatine tooth plate in occlusal (A) and labial (B) view (five denticulations, see arrows); MPEF-PV 11422, prearticular tooth plate (C) in occlusal view (four denticulations); D-H: tooth plate of *Metaceratodus wichmanni*, MML 198a pterygopalatine tooth plate in occlusal view (D), and in labial view (E); MML 198b, a pterygopalatine bone (F); MML 586 (left, G) and MACN-Pv RN 157B (right, H), two prearticular tooth plates; I: MCF-PVPH-373, holotype of *Chaoceratodus portezuelensis*, prearticular tooth plate (four denticulations); J: MML 196, holotype of *Atlantoceratodus patagonicus*, pterygopalatine tooth plate (five denticulations); K: MAU-PV-LI-612, *Rinconodus salvadori*, pterygopalatine tooth plate (five denticulations); L: IANIGLA-PV 415, holotype of *Ptychoceratodus cuyanus*, pterygopalatine tooth plate (five denticulations). Scale bar represent: 1cm.