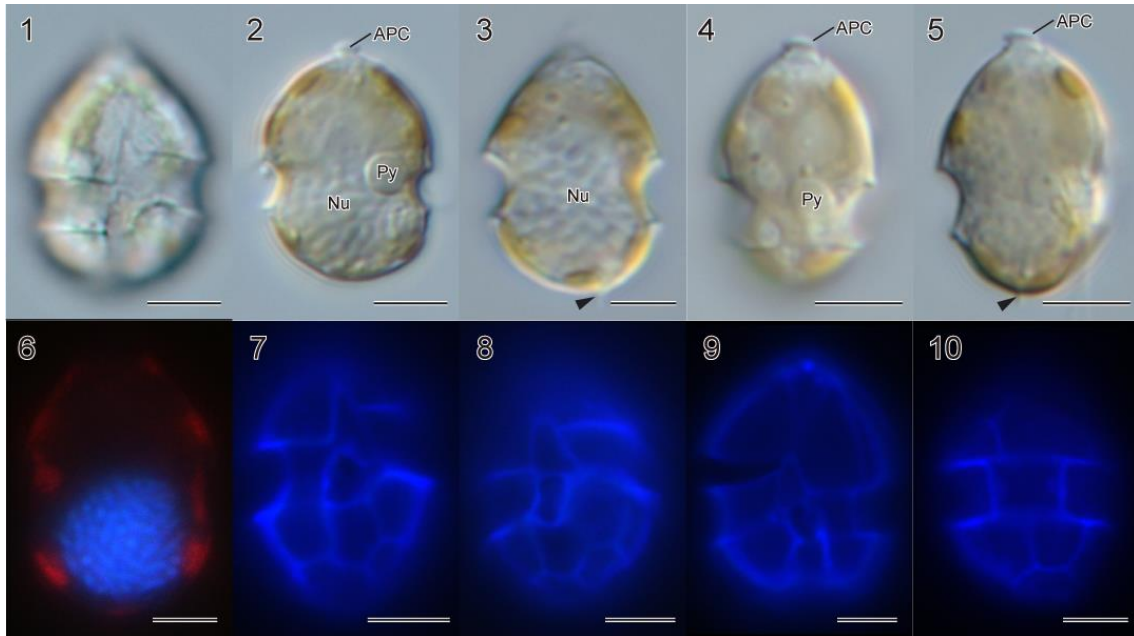


A new small thecate dinoflagellate *Azadinium anteroporum* sp. nov. (Amphidomataceae, Dinophyceae) isolated from the Asian Pacific

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Figs 1–10. Light and fluorescence microscopy of *Azadinium anteroporum* sp. nov. (strain AmAz661). Scale bars = 5 μ m.

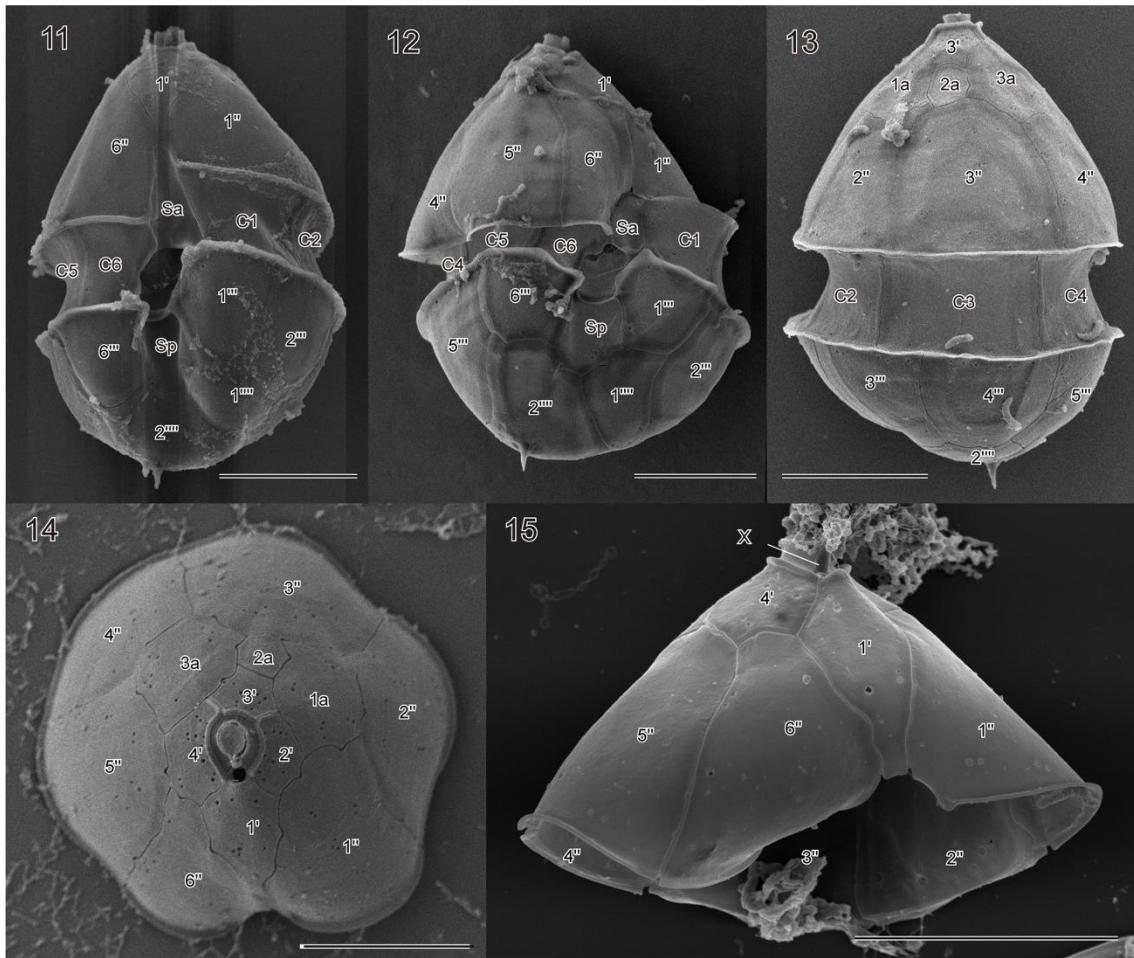
Fig. 1. Ventral view.

Figs 2, 3. Deeper focus showing the nucleus (Nu), pyrenoid (Py), apical pore complex (APC), and antapical spine (arrowhead).

Figs 4, 5. Lateral view from the right side of a cell showing pyrenoid (Py), apical pore complex (APC), and antapical spine (arrowhead).

Fig. 6. Fluorescence microscopy with DAPI staining, showing the spherical nucleus (Nu) and chloroplast.

Figs 7–10. Fluorescence microscopy with calcofluor staining, ventral views (Figs 7–9) and dorsal view (Fig. 10).



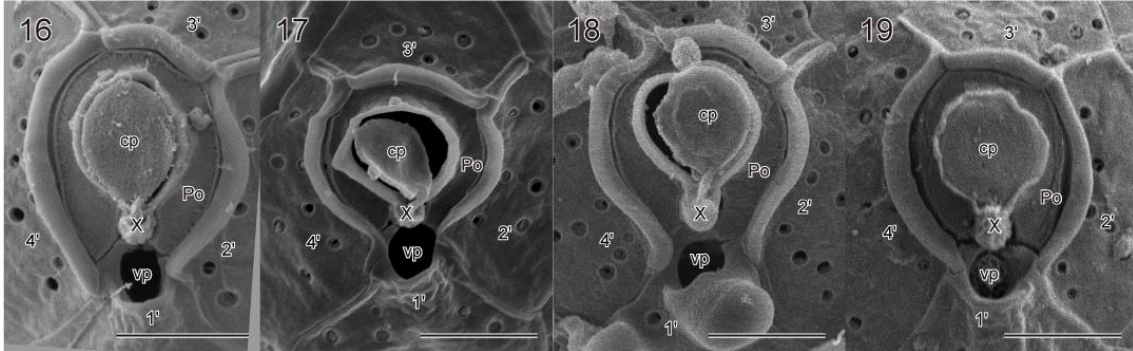
Figs 11–15. Scanning electron microscopy of *Azadinium anteroporum* sp. nov. (strain AmAz661). Canal plate (X), apical plates (1'–4'), anterior intercalary plates (1a–3a), precingular plates (1''–6''), cingular plates (C1–C6), anterior and posterior sulcal plates (Sa and Sp), postcingular plates (1'''–6'''), and antapical plates (1'''' and 2''').

Figs 11, 12. Ventral view of Cells showing the thecal plates. Scale bars = 5 μ m.

Fig. 13. Dorsal view. Scale bar = 5 μ m.

Fig. 14. Apical view. Scale bar = 5 μ m.

Fig. 15. Epithecal plates in ventral view. Scale bar = 5 μ m.

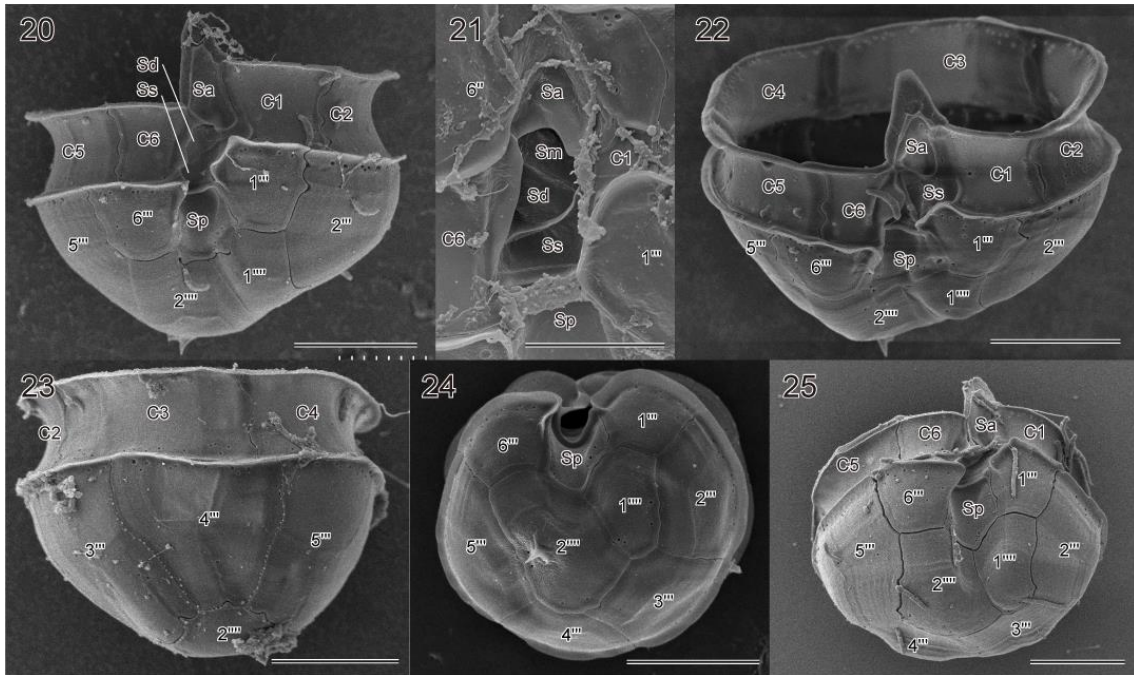


Figs 16–19. Apical pore complex of *Azadinium anteroporum* *sp. nov.* (strain AmAz661), scanning electron microscopy. Thecal plates are apical pore plate (Po), cover plate (cp), canal plate (X), and apical plates (1'–4'). Scale bars = 1 μ m.

Figs 16, 17. Apical pore complex, note ventral pores (vp) contacted both with X-plate and ventral left margin of Po plate.

Fig. 18. Ventral pore (vp) contacted only with the X-plate.

Fig. 19. Ventral pore (vp) contacted only with the ventral left margin of Po plate.



Figs 20–25. Sulcal and hypothecal plates of *Azadinium anteroporum* sp. nov. (strain AmAz661), scanning electron microscopy.

Fig. 20. Hypothecal plates in ventral view. Scale bar = 5 μ m.

Fig. 21. Detailed view of the sulcus. Scale bar = 3 μ m.

Fig. 22. Hypothecal plates in ventral view. Scale bar = 5 μ m.

Figs 23–25. Hypothecal plates in antapical view. Scale bar = 5 μ m.

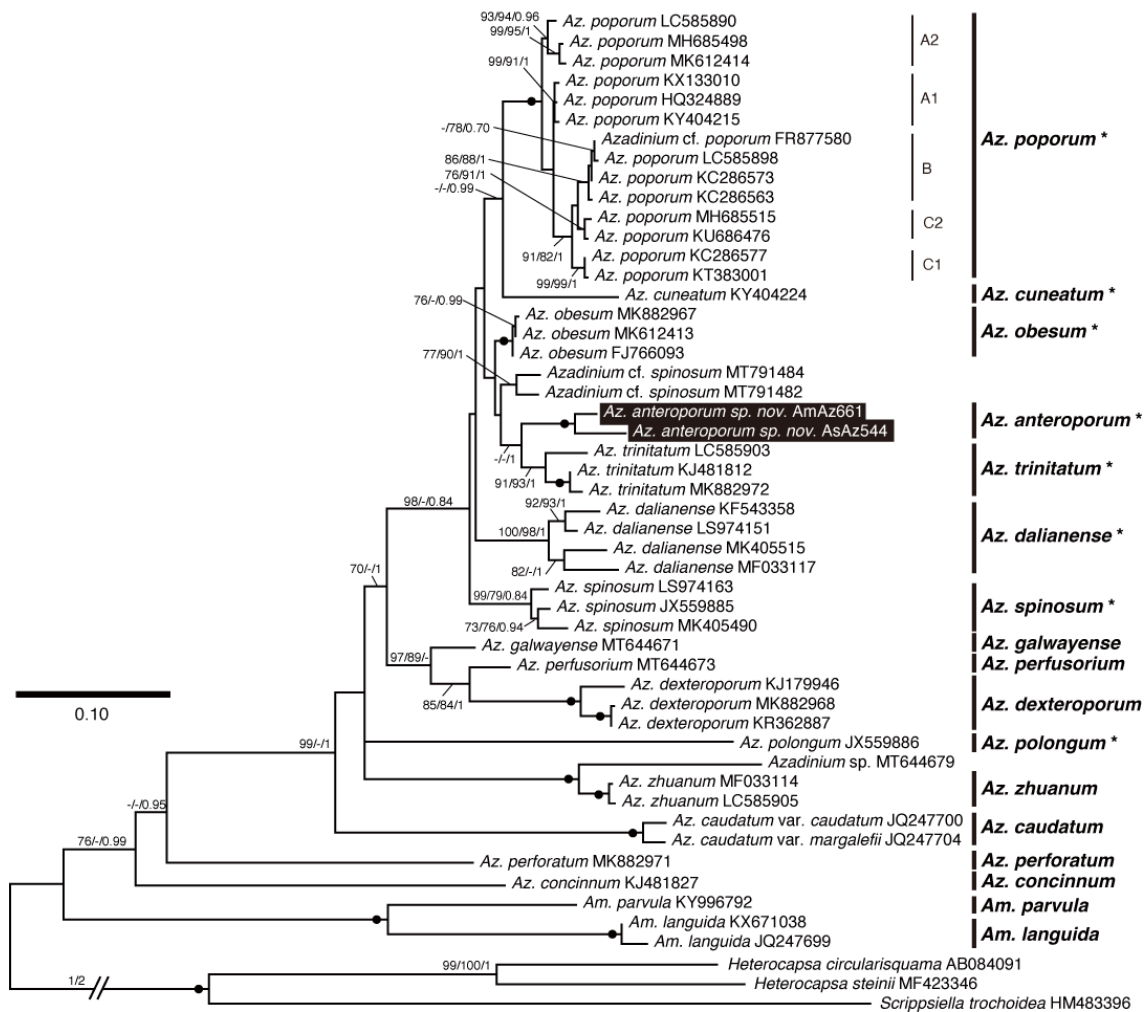


Fig. 30. Maximum likelihood (ML) phylogeny of *Azadinium* and *Amphidoma* species inferred from ITS sequences. Bootstrap support values (>70%) of ML and neighbor-joining (NJ), and posterior probabilities (>0.80) of Bayesian inference (BI) are given at nodes, and black dots indicate maximum supports (ML/NJ/BI = 100%/100%/1.00). Sequences determined in this study were highlighted in black. Asterisks show the species which have a ventral pore in the left lateral side of its cell.

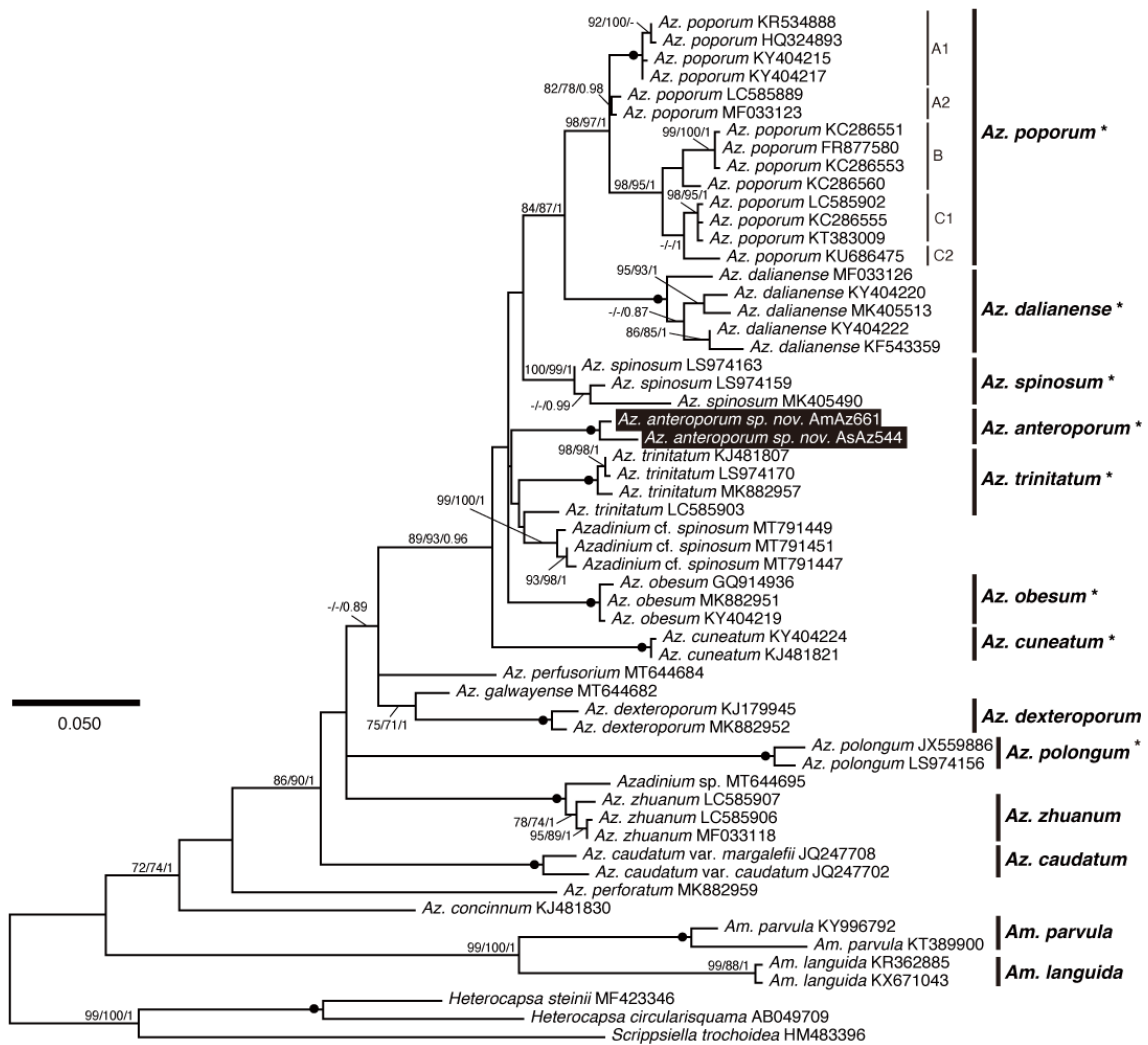


Fig. 31. Maximum likelihood (ML) phylogeny of *Azadinium* and *Amphidoma* species inferred from LSU rDNA (D1–D3 region) sequences. Bootstrap support values (>70%) of ML and neighbor-joining (NJ) and posterior probabilities (>0.80) of Bayesian inference (BI) are given at nodes. Black dots indicate maximum supports (ML/NJ/BI = 100%/100%/1.00). Sequences determined in this study were highlighted in black. Asterisks show the species which have a ventral pore in the left lateral side of its cell.

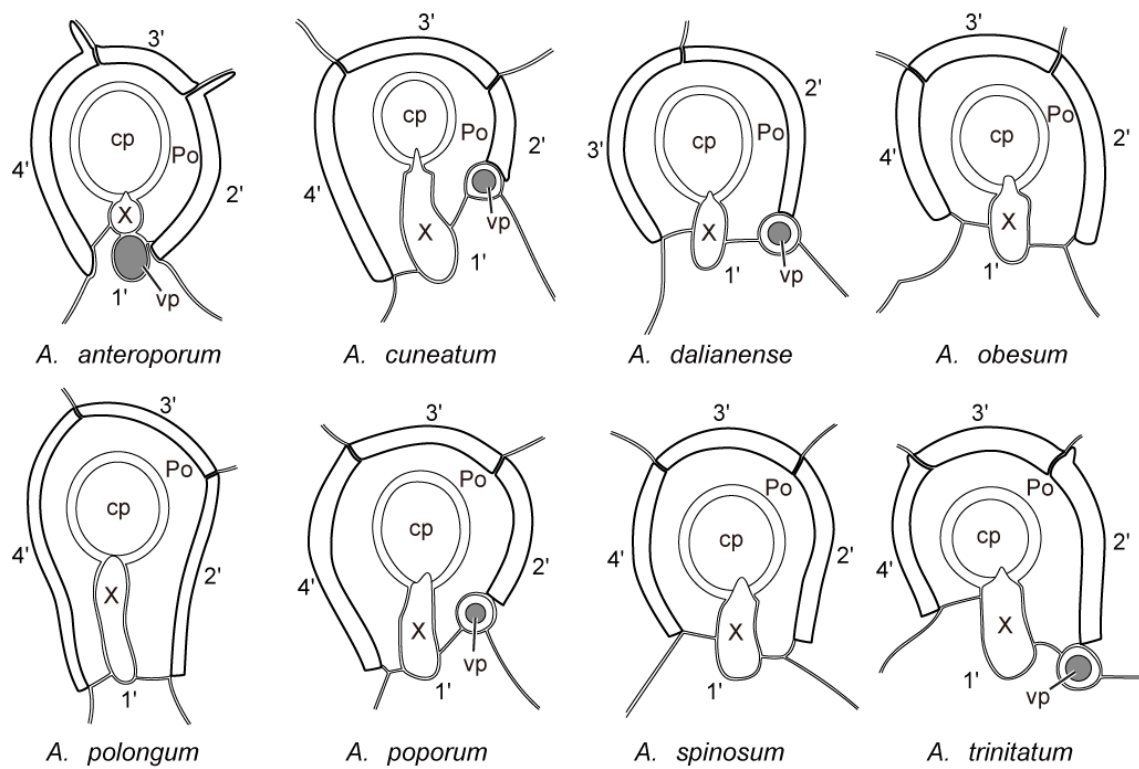


Fig. 32. Schematic illustrations of apical pore complex of *Azadinium anteroporum* sp. nov. and related species, with apical pore plate (Po), cover plate (cp), canal plate (X), apical plates (1'–4') and ventral pore (vp). The arrangements of related species according to previous studies (Tillmann *et al.* 2009, 2010, 2011, 2012, 2014; Luo *et al.* 2013).