# TEM evidence for eukaryotic diversity in mid-Proterozoic oceans

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## ABSTRACT

Biomarker molecular fossils in 2770 Ma shales suggest that the Eucar a diverged from other principal domains earl in Earth histor . Nonetheless, at present, the oldest fossils that can be assigned to an e tant eukar otic



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ા પૈકુકુ માં માં મુખ્યત્વે કે ગુમા મુટે પૈકુકુ માં મુખ્યત્વે કે મુખ્યત્વે પૈકુકુ માં મુખ્યત્વે કે ચિકુ મુટે પૈકુકુ માં મુખ્યત્વે કે ચિકુ મુખ્યત્વે કે અને આ ગુમા મુખ્યત્વે કે

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### MATERIALS AND METHODS

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**Fig. 2** Eukar otic microfossils from the Roper Group, Australia. a-e: *Tappania plana*, a-c: light microscop, a: specimen Aith heteromorphic processes (including a branched process-long arro A) distributed as mmetricall about the vesicle and budding (short arro A), b: specimen Aith possible e c stment structure (arro A), c: specimen Aith as mmetricall distributed processes Aith closed, slightl e panded terminations, d: SEM sho Aing structural continuit bet Aeen vesicle Aall and process bases, e: TEM sho Aing unila ered homogeneous electron-dense Aall Aith variable thickness due to taphonomic processes; f-i: *Valeria lophostriata*, f: partiall enrolled half vesicle, likel resulting from medial split (light microscop), g: SEM sho Aing ridges spaced 1 µm apart on the internal surface of the vesicle, h, i: TEM sho Aing t Ao Aalls of compressed vesicle Aith ridges (h) and unila ered homogeneous electron-dense Aall (i). Scale bar in a = 35 µm for a, 20 µm for b, 25 µm for c, 33.5 µm for d, 1.4 µm for e, 32 µm for f, 2.5 µm for g, 2 µm for h, 0.25 µm for i.



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Fig. 4 Leiosphaerids from the Roper Group, Australia. a-d, m: Leiosphaeridia jacutica. a: specimen sho Ling thick folds (light microscop ), b: SEM sho Ling a smooth

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