

Cladistics

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Cover image: Tunicates comprise roughly 3000 species, most of which are sessile ascidians. In the first cladistic analysis of morphological characters for Tunicata, Braun et al. show that these phenotypic characters by themselves support – concordant with molecular phylogenies – the planktonic appendicularians as sister group to the remaining tunicates and – contrary to sequence-based analyses – the planktonic thaliaceans as paraphyletic with respect to a monophyletic group comprising all sessile ascidians.

Lower left: Scanning electron micrograph of the planktonic appendicularian *Oikopleura dioica*.

Lower middle: Immunostained blastozoid of the planktonic doliolid *Doliolum nationalis*.

Lower right: Colonial form of the planktonic salp *Cyclosalpa pinnata*.

Larger image: The colonial stolidobranch ascidian *Botryllus planus*.

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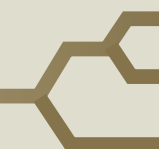
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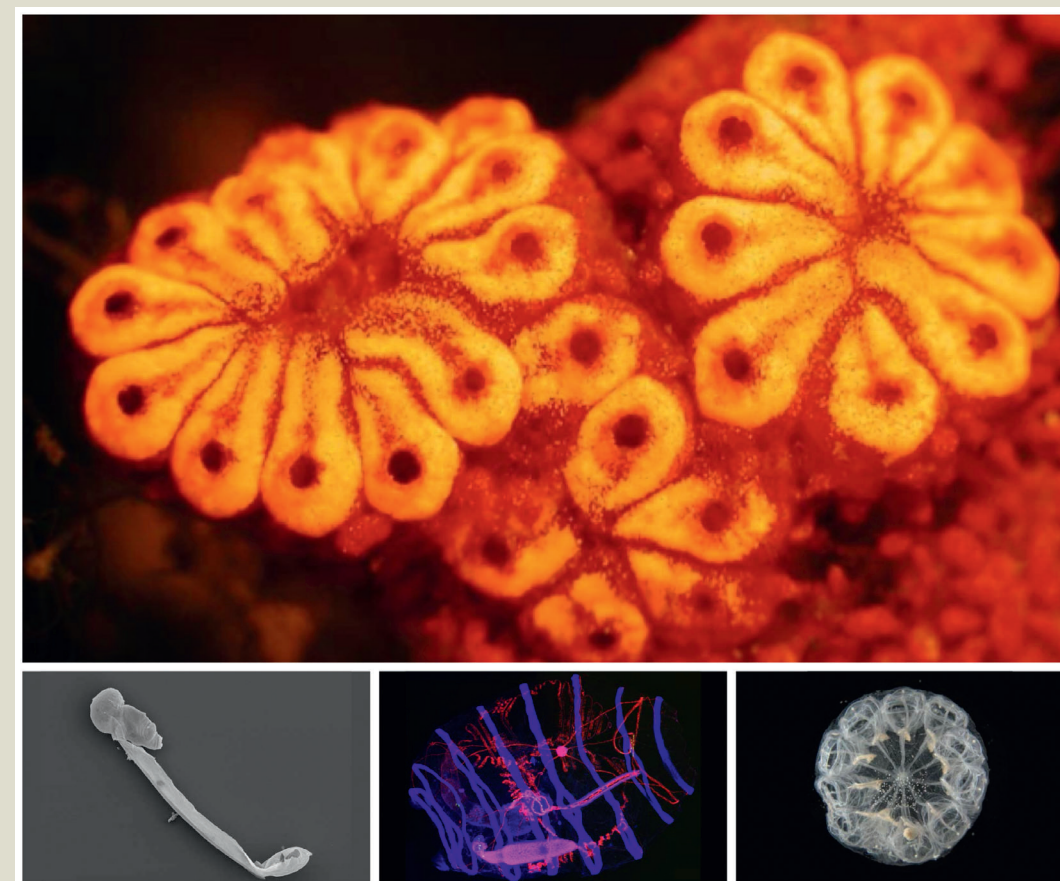
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