Additional morphological features identified during dissections (*A. kojimai*)

Pictured are a) close-up of a neck furrow with an additional central epidermal fold (arrowhead); b) view of the digestive diverticula visible on the adapical – right – side of the visceral hump, with part of the epithelium removed. The overlying epithelium (Ep), branching visceral sinus (VS, preserved blood removed to reveal channels) and part of the intestine (In) are indicated in the accompanying schematic; c) cardio-renal complex - auricle (Au) is characterised by a large pool of preserved blood (similar in consistency to blood found in the primary efferent branchial vessel and anterior aorta, which are both removed). The afferent renal vein (ARV) is visible where folds on the right side of the nephridium (Ne) have been removed. The inset image (ii) is of the ventricle (V) cut in half, with the region where blood and muscle fibres co-occur highlighted; d) histological section of the ventricle wall, showing dense arrangement of criss-crossing muscle fibres (stain: Harris’ haematoxylin and Eosin Y); e) location of ospradium (Os) in relation to the ventral face of the branchial axis (dotted arrow), from which extend the branchial filaments (BF). Note the distinct white spongy appearance of the bacterioocyte-rich region of the filaments (BR, displaced ventrally during dissection). These regions were white-to-cream coloured and engorged in this way in *A. kojimai* and *A. strummeri* but were a darker brown and highly mucous in *A. boucheti*; and f) posterior sides of branchial filaments taken from each of the three species, with *A. kojimai* filaments being particularly broad dorsoventrally (note some proximate filament is missing in *A. strummeri*). The free-floating halves lie right of the asterisks.