Review

Renewed perspectives on the sedentary-pelagic last common bilaterian ancestor

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Supplementary material

TABLE S1 Main previous models of the last common (adult) sedentary bilaterian ancestor

Source	**Ancestral organization**	**Degree of individuality**	**Taxonomic groups, involved in the model**	**Homology of the adult stage**	**Ancestral status of the clonal reproduction**	**Taxonomic system of the major groups of Bilatera**	**Paleonto-logical data**	***Hox* genes expression data**
Sedgwick, 1884	Transformed to a motile form polyp with segmentation and open slit-like gut	Solitary	all Bilateria	To single polyp	Not considered	No	Not considered	Inapplicable
Garstang, 1928; Romer, 1967	Pterobranchia-like	Solitary	Only Deuterostomia	To single polyp	Not considered	No	Not considered	Inapplicable
Larsson,	Bryozoa-like	Colonial	Only	Not specified	Considered	Only Deutero-	Not	Inapplicable

1963			Deuterostomia			stomia	considered	
Rieger, 1994	Bryozoa- or Pterobranchia-like	Colonial	All Bilateria	To single or several polyps	Considered	No	Not considered	Not considered
Lacalli, 1997	Not specified	Colonial	Only Deuterostomia	To two polyps	Considered	No	Not considered	Not considered
Dewel, 2000	Cnidarian Pennatulacea-like	Colonial	All Bilateria	To numerous polyps	Considered	No	Considered	Considered

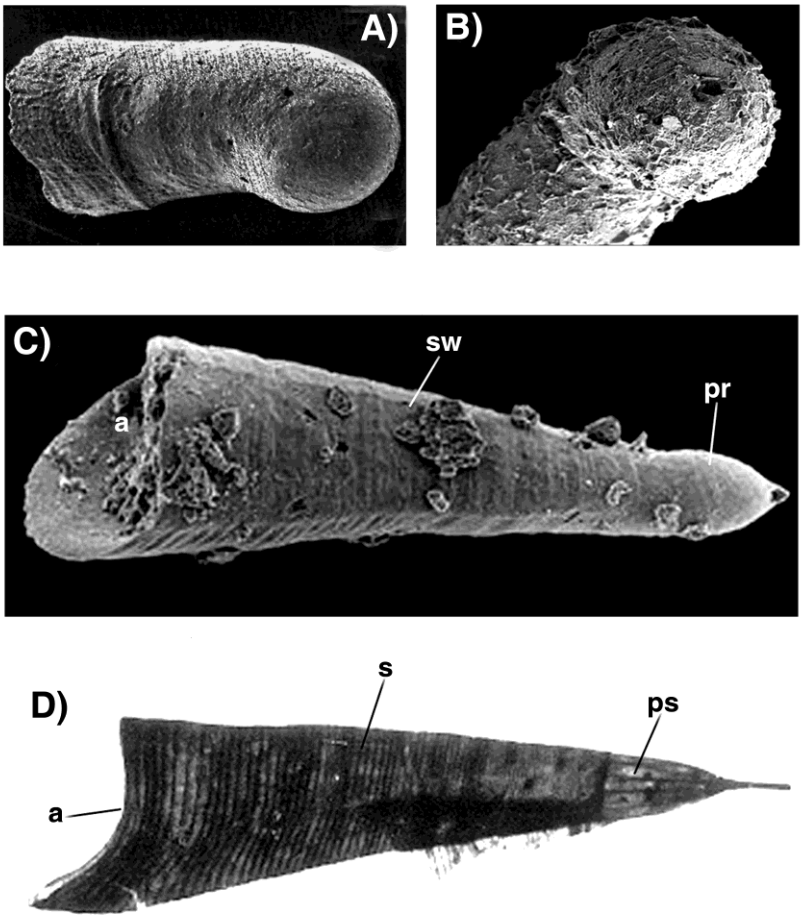

FIGURE S1 A) protoconch (apical primary shell) of representatives of the extinct phylum Hyolitha, *Bactrotheca dens*, early Ordovician (Dzik, 1980, courtesy of Jerzy Dzik); B) apical protoconch-like part of the Ediacaran tube-dwelling organism *Cloudina hartmannae* (Hua et al., 2005, under "fair use" condition); C) complete shell of an early Cambrian hyolith *Parkula* sp. with protoconch and expanded aperture (Bengtson et al., 1990; Bengtson, 2004, courtesy of Stefan Bengtson); D) primary zooid (sicula) with apical protoconch-like part (prosicula) and expanded aperture of an early Orodvician graptolit *Isograptus lunatus*, phylum Pterobranchia (Williams et al., 1997, under non-commercial purposes condition). Abbreviations: a = aperture; pr = protoconch; ps = prosicula; s = sicula wall; sw = shell wall

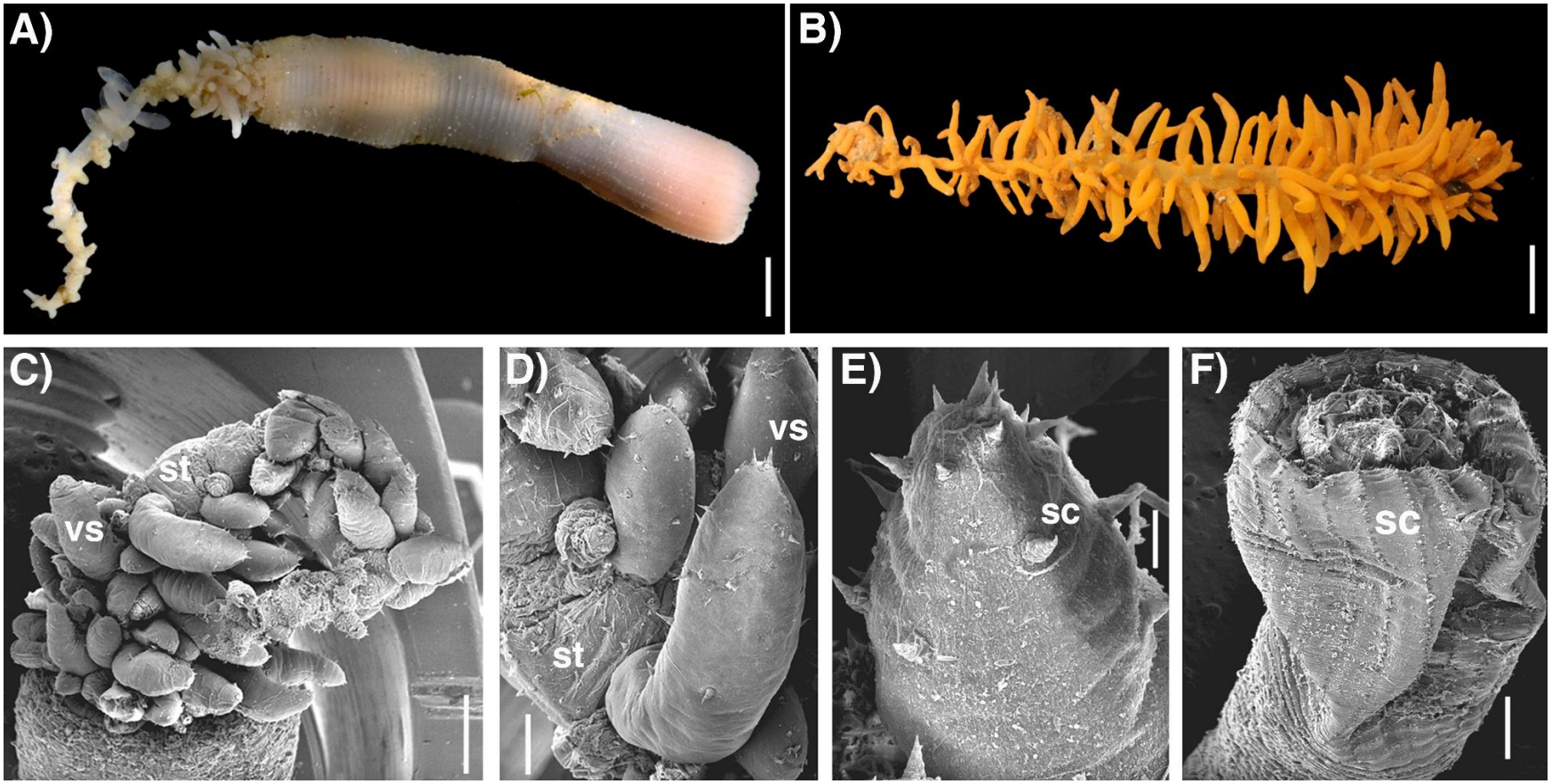

FIGURE S2 Edysozoan *Priapulus caudatus*, phylum Priapulida, showing bud-like clusters of caudal vesicles. A) General view of a living specimen, White Sea. B) Separate extended stolon-like caudal appendage, Barents Sea. C) Stolon-like structure of the posterior extremity of *P. caudatus* caudal appendages, SEM. D) Close up of a group of the bud-shaped vesicles, SEM; E) Close up of the anterior region of a single

caudal vesicle, showing scalids arranged in a similar pattern to the main body of *P. caudatus*, SEM; F) Anterior part of the body of *P. caudatus* showing introvert and scalids, SEM. All images by AM. Scales bars:(A, B) 5 mm; (C) 1 mm; (D) 0.3 mm; (E) 0.1 mm; (F) 1 mm. Abbreviations: st = stolon-like structure of caudal appendages; sc = introvert scalids and scalid-like papillae of the caudal appendages vesicles; vs = bud-like vesicles of the caudal appendages

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