Pterobranch Cephalodiscus removed a priori Vetulocystis catenata Yanjiahella biscarpa 70% -Beidazoon venustum Rotadiscus Vetulicola cuneata Eocrinoidea Gogia Eocrinoidea Akadocrinus %Rhombifera Macrocystella <sup>∟</sup>Rhombifera Pleurocystites Eocrinoidea Ubaghsicystis 100% Eocrinoidea Lyracystis radiata Eocrinoidea Kinzercystis Crinoidea Aethocrinus Edrioasteroidea Camptostroma 98% %Helicoplacus Helicocystis moroccoensis 92% Edrioasteroidea Kailidiscus chinensis Edrioasteroidea Stromatocystites Solute Castericystis vali Solute Coleicarpus sprinklei 100% 87%-Cornute Ceratocystis perneri Cornute Ponticulocarpus Mitrate Lagynocystis pyramidalis 74% -Mitrate Mitrocystella incipiens 92%Ctenocystoid Courtessolea Ctenoimbricata spinosa Cinctan Bohemiacinctus havliceki Banffia constricta Pterobranch Rhabdopleura Hemichordata Oesia ₩Enteropneusta Spengelidae Glandiceps Enteropneusta Harrimaniidae Saccoglossus Hemichordata Spartobranchus Hemichordata Gyaltsenglossus Herpetogaster collinsi Phlogites longus 83% Shankouclava anningense Leaf stability 85% Tunicata Ciona Unstable Cephalochordata Branchiostoma Amiskwia sagittiformis Stable

Pterobranch Cephalodiscus removed a posteriori Yanjiahella biscarpa -Beidazoon venustum Vetulicola cuneata Eocrinoidea Akadocrinus 100% <sup>⊃</sup>Q<sup>2</sup>Rhombifera Macrocystella LRhombifera Pleurocystites Eocrinoidea Ubaghsicystis 999 Eocrinoidea Gogia Eocrinoidea Lyracystis radiata Eocrinoidea Kinzercystis 71% Crinoidea Aethocrinus Edrioasteroidea Camptostroma 100% <sup>9</sup>Helicoplacus 97% <sup>©</sup>Helicocystis moroccoensis Edrioasteroidea Kailidiscus chinensis Edrioasteroidea Stromatocystites Solute Castericystis vali Solute Coleicarpus sprinklei 82%-Cornute Ceratocystis perneri Cornute Ponticulocarpus 100% -Mitrate Lagynocystis pyramidalis Mitrate Mitrocystella incipiens 94%Ctenocystoid Courtessolea Ctenoimbricata spinosa Cinctan Bohemiacinctus havliceki Vetulocystis catenata Banffia constricta Pterobranch Rhabdopleura Hemichordata Oesia 95% Enteropneusta Spengelidae Glandiceps Enteropneusta Harrimaniidae Saccoglossus Hemichordata Spartobranchus -Hemichordata Gyaltsenglossus -Rotadiscus Herpetogaster collinsi Phlogites longus Shankouclava anningense Leaf stability Tunicata Ciona Unstable Cephalochordata Branchiostoma Amiskwia sagittiformis

Stable

