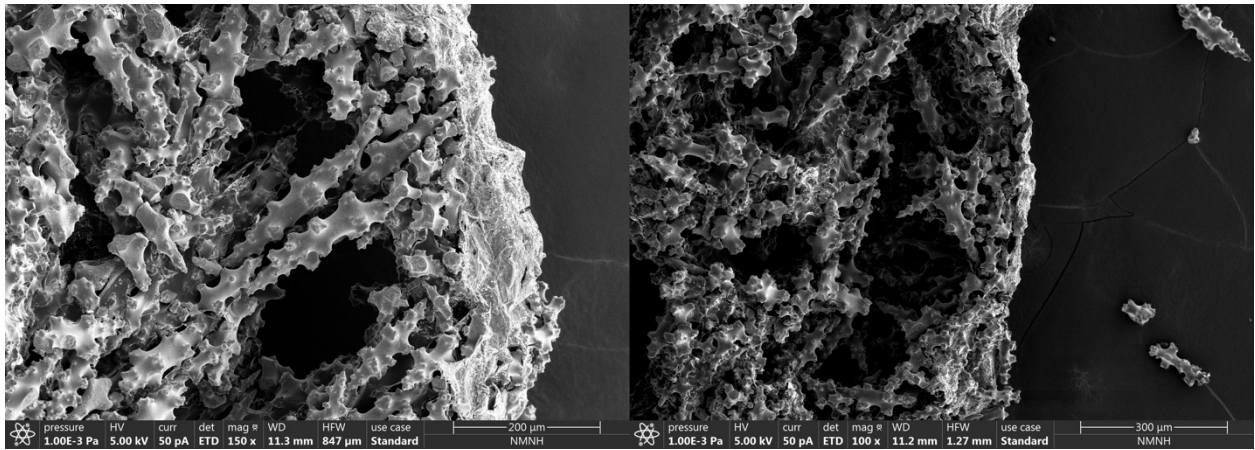
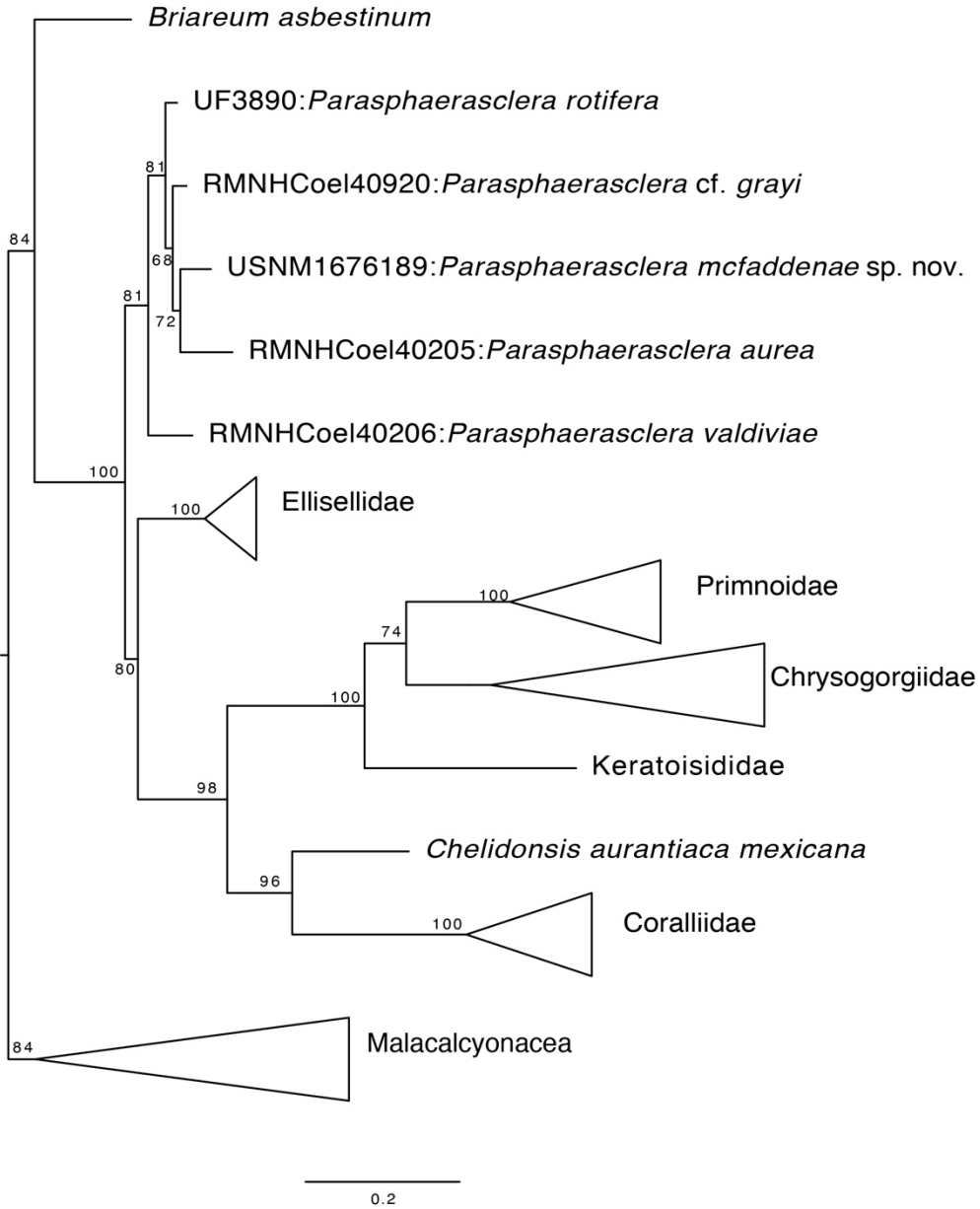


Supplemental Figure 1. Images of *Parasphaerasclera mcfaddenae* sp. nov. paratypes.



Supplemental Figure 2. Scanning electron microscopy images of cross-section of *Parasphaerasclera mcfaddenae* sp. nov. holotype USNM1676189.



Supplemental Figure 3. Maximum likelihood tree of Octocorallia based on an alignment of 28S rDNA (551 bp). Ultrafast bootstrap supports are included. The order Scleralcyonacea is rooted to the order Malacalcyonacea. Some nodes are collapsed.

Supplemental Table 1. Properties of the mitogenome of *Parasphaerasclera mcfaddenae* sp. nov. Negative numbers represent overlaps between genes.

Name	Length (bp)	Start codon	Stop codon
<i>cox1</i>	1698	ATG	TAA
<i>cox1-rns</i>	-115		
<i>rns</i>	1078	ATG	TAG
<i>rns-nad1</i>	72		
<i>nad1</i>	972	ATG	TAG
<i>nad1-cytb</i>	60		
<i>cytb</i>	1161	ATG	TAG
<i>cytb-nad6</i>	2		
<i>nad6</i>	582	ATG	TAG
<i>nad6-nad3</i>	44		
<i>nad3</i>	354	ATG	TAG
<i>nad3-nad4L</i>	23		
<i>nad4L</i>	294	ATG	TAA
<i>nad4L-mtMutS</i>	14		