

Table 1 Summary of comparative diversity among animal taxa at various levels

Animal taxon	Scleractinian coral	<i>Hydra</i>	<i>Exaiptasia</i>	Sponge	References
Number of eukaryotic photosymbiont 'species' in the taxon as a whole	>10 ² <i>Symbiodinium</i> ITS2 types*; unknown for other algae	<10	3	10 ¹ –10 ² <i>Symbiodinium</i> ITS2 types; unknown for other algae	Cerrano <i>et al.</i> (2004), Mieog <i>et al.</i> (2007), Taylor <i>et al.</i> (2007), Hill <i>et al.</i> (2011), Erwin <i>et al.</i> (2012), Franklin <i>et al.</i> (2012), Kawaida <i>et al.</i> (2013), Thornhill <i>et al.</i> (2013), Tonk <i>et al.</i> (2013)
Number of eukaryotic photosymbiont 'species' per individual	10 ² –10 ³ <i>Symbiodinium</i> ITS2 sequence types (<15 OTUs) [†] ; unknown for other algae	1	1	? [‡]	Arif <i>et al.</i> (2014), Edmunds <i>et al.</i> (2014)
Number of prokaryotic cells per individual (per volume for sponges)	10 ⁵ –10 ⁶ cells/mL mucus (Garren & Azam 2010); 10 ² –10 ⁷ cells/cm ² coral surface (Coffroth 1990; Koren & Rosenberg 2006) [§]	10 ^{5¶}	?	10 ⁹ /cm ³	Savage (1977), Taylor <i>et al.</i> (2007)
Number of bacterial OTUs per individual	10 ² –10 ⁴	10 ²	?	10 ¹ –10 ³	Chen <i>et al.</i> (2011), Ceh <i>et al.</i> (2012), Lee <i>et al.</i> (2012), Methé <i>et al.</i> (2012), Schmitt <i>et al.</i> (2012), Bourne & Webster (2013), Carlos <i>et al.</i> (2013), Franzenburg <i>et al.</i> (2013), Li <i>et al.</i> (2013)

*Estimate is based on traditional (i.e. non high-throughput sequencing) methods.

[†]Traditional methods generally reveal one or two dominant *Symbiodinium* types within a single coral colony, with sometimes one or a few additional types occurring at low relative abundance. Recent high-throughput sequencing methods have revealed the presence of thousands of sequence types within single coral colonies, but most of these likely represent intragenomic variants. Numbers of operational taxonomic units (OTUs) based on a 97% similarity cut-off (which was based on variation observed within monoclonal cultures) suggests the number of real types (i.e. putative species) is <15. Additional high-throughput sequencing studies will clarify some of these uncertainties.

[‡]Unknown.

[§]Additional bacterial data have been generated, but evaluation and comparison is hampered by methodological variations (Garren & Azam 2010).

[¶]A single polyp *Hydra* animal consists of ~1–2.10⁵ cells (Greber *et al.* 1992) and harbours 1–2 bacterial cells per host cell (Franzenburg *et al.* 2013).