

Fun Fact Sheet - Herbivory: Remember to Eat Your Reds, Greens and Browns!

1. Herbivores are an important part of the coral reef ecosystem because they help keep seaweed density down, creating space for coral larvae to settle (Ludwig 1997).
2. Parrotfishes are a well-known group of herbivores and have a beak-like mouth (which is how they got their name) that they use to scrape algae from the reef structure (Streelman et al. 2002).
3. Surgeonfishes are another group of herbivores and get their name from the ‘scalpel’ they have at the base of their tail (used for defence).
4. Herbivorous fishes such as parrotfishes, damselfishes, rabbitfishes, and surgeonfishes help keep macro and turf algae populations low so that coral larvae have a better chance to settle and survive on the reef (Monterey Bay Aquarium 2004).
5. Sea urchins, crabs, and some species of sea snails are examples of important herbivores besides fishes which also keep macroalgae densities low (Paine 1995).
6. Parrotfishes are responsible for excreting much of the sand on the beaches that we enjoy. Some individuals produce more than 381 kg of sand per year (Perry et al. 2015).
7. Some parrotfish species sleep at night by resting on the sea floor and surrounding themselves in a mucus sac. The mucus sac reflects light so that many predators cannot detect them while the parrotfish sleeps (Grutter et al. 2010). Other parrotfish rely on camouflage to avoid being eaten at night.
8. A keystone species is an organism that other organisms in that ecosystem depend on, and its absence would cause a significant change in that ecosystem. Long-spined sea urchins, one such keystone species, play a critical role in keeping reefs healthy through herbivory (Precht 2015).
9. Even though urchins may seem like simple animals, they also have to rely on learned behaviour. Martin Moe, a marine aquarist, was trying to breed them and release them onto the reef. He found that those reared in aquaria were eaten almost immediately once they were put onto the reef - they hadn’t learnt that they needed to hide from predators!
10. Parrotfish, on the other hand, have a pestle and mortar in their throat and a gut that relies on mechanical grinding of food. Because of this, they have no problem eating the hard, calcified algae (National Geographic, 2013).
11. The Bermuda chub is another important herbivorous species in the Cayman Islands, but there is not much known about them in the Caribbean. There are two species that are visually indistinguishable, and we don’t know which one we have here (Moore 1962).
12. Chub can travel several kilometres every day looking for food and form groups (called “schools”) in the hundreds of fish (Eristhee, 2001).