

## Feeding the favoured few

### Territorial behaviour

Anybody who has spent time at the seashore will be familiar with limpets, those hard, flattish shells stuck fast on the rocks. Seeing one of these, motionless on its rock, you may not think it a particularly bright or aggressive sort of an animal. But in nature, when we look carefully, we are often surprised.

Limpets graze on a crust of algae growing on the surface of rocks, rasping it off as they move forward. Individual limpets maintain a specific area of the rock as their territory, and defend it against all comers – not just other limpets, but any of several other species of grazers. If a limpet encounters another grazer, it lowers the forward edge of its shell, and repeatedly strikes and shoves the intruder, until it either falls off, or is pushed outside the territory.

If a predatory snail – one that would attack and eat the limpet – shows up, however, its response is quite different. It raises the forward edge of its shell, and then brings it down sharply on the snail's soft foot; a behaviour called 'stomping'. Usually one such stomp is enough to make the carnivorous snail quickly retract its foot, let go, and fall off the rock. On the other hand, if our limpet encounters an inert object, it simply feeds around it. Remarkably varied and discriminatory behaviour for such an apparently 'simple' animal, don't you think?

Apart from seeing off potential predators, then, defending a territory sequesters a supply of good food from other grazers. The thicker and more luxuriously the algae grow, the smaller is each territory, and the more limpets there are in one place. The biggest limpets with the best territories produce the most offspring. Many smaller ones have to make do with eking out an existence in places where there is little food, or it is of poor quality. But if a good territory falls vacant, one of them will quickly take it over.

There are very many animals, from tiny invertebrates to large mammals, which, like these 'lowly' limpets, maintain a territory and show complex behaviour in defending it. Nearly always this serves to exclude others from a