

26. A forest feast of interrelationships

Aim

This activity introduces students to interrelationships between plants and animals in two common forest ecosystems found in parks.

The activity can be adapted to other ecosystems. If used as a pre-visit activity, teachers should contact the park for information on the park's ecosystems and species.

Materials

- Resource sheet 26a: Mountain Ash forest food webs.
- Resource sheet 26b: Messmate Forest producers and consumers.
- Pens/pencils.

Activities

Mountain Ash Forest

1. Read the resource sheet *Mountain Ash Forest* and use its food web to answer the following.

2. Name:
- i) a producer
 - ii) a herbivore
 - iii) a carnivore
 - iv) a omnivore

3. What would be the effect if beetles were removed from the food web?

4. Cats and foxes have been introduced into this food web. They prey upon small mammals and birds including possums, antechinus, superb lyrebird and rats.

a) Add cats and foxes to the Mountain Ash food web diagram. Use arrows to illustrate their feeding relationships.

b) What would be the effect on native mammals if the number of foxes and cats increased?

5. Mature Mountain Ash trees provide important food resources for many organisms. For what other reasons are these trees important?

Messmate Forest

6. Use the resource sheet *Messmate Forest* to construct a food web for a Messmate Forest.

7. Refer to the Messmate Forest Food Web.

- a) Name
- i) a producer
 - ii) a herbivore
 - iii) a carnivore
 - iv) a omnivore

b) Which organisms would be affected if cats and foxes were introduced into this food web?

Comparing Forest

8. Compare the Mountain Ash and Messmate Forests.

a) Which organisms are found in both Mountain Ash and Messmate Forests?

b) Why are some organisms able to survive in a range of ecosystems and habitats?

c) Why are some organisms restricted to a particular ecosystem?

Extension

Use the information gathered from the 'Ecological communities' and/or 'A forest feast' activities to create food chains and foodwebs involving those species.

26a. Mountain Ash forest food webs

A range of ecosystems typically occur within a park. Each ecosystem provides habitat for a variety of organisms and includes a range of feeding relationships.

Organisms can be classified according to their roles or functions within their habitat and according to their food relationships.

Producers:

Organisms which are able to manufacture their own food through a process known as photosynthesis are known as producers. Producers are plants and algae and examples include eucalypts, acacias, ferns, grasses and seaweed.

Consumers:

Organisms which rely on other organisms for their food are known as consumers.

Several types of consumers exist:

Herbivores: animals that eat plants

Carnivores: animals that eat other animals

Omnivores: animals that eat both plants and animals

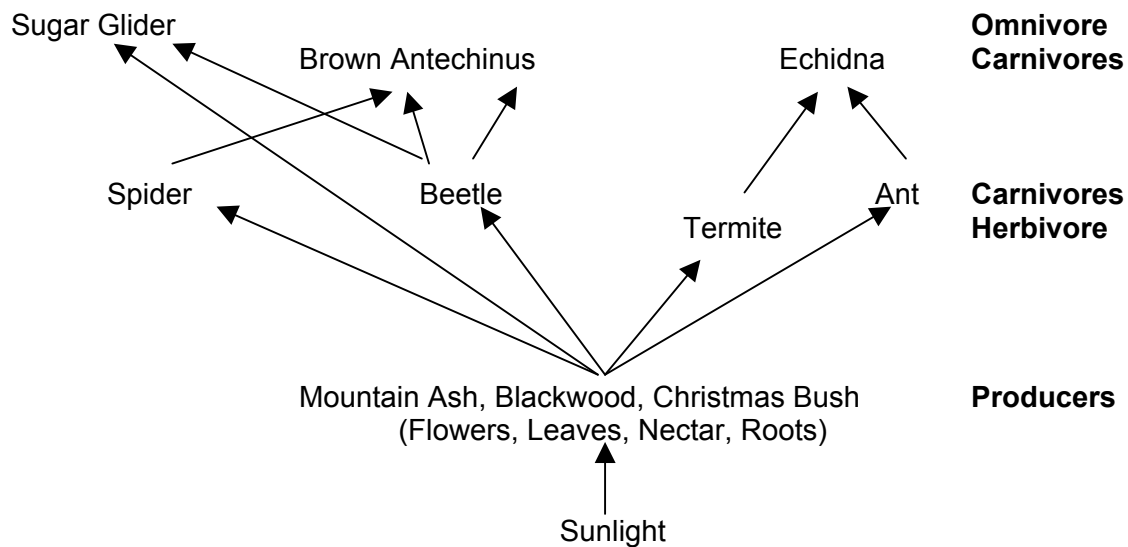
Examples of consumers include possums, parrots, honeyeaters, lizards and invertebrates.

Decomposers:

Organisms which obtain their energy by decaying dead animals and plants are known as decomposers. Examples include bacteria and fungi.

Mountain Ash Foodweb

A variety of producers, consumers and decomposers exist within a Mountain Ash forest. These feeding relationships can be illustrated in a food web.



In a food web the arrows represent the movement of energy throughout the ecosystem. For example, the above food web tells us that brown antechinus feed upon beetles and spiders while echidnas eat termites and ants. The arrows provide us with an easy method to identify the various feeding relationships that exist within an ecosystem.

26b. Messmate forest producers and consumers

Producers: Messmate Stringybark, Mountain Grey Gum, Forest Wire Grass, Common Groundfern (sample list only)

Consumers	Diet
Honeyeaters:	nectar and invertebrates
Wombat:	grass, tubers and roots
Swamp wallaby:	leaves and grasses
Echidna:	termites and ants
Sugar glider:	fruit, leaves and insects
Brushtail possum:	gum, fruit, leaves
Spiders, beetles, termites:	leaves, flowers, nectar
Cup moth:	eucalypt leaves
Ringtail possum:	eucalypt leaves
Tree creepers:	insects



White-throated treecreeper © MT