Tropical Factsheets

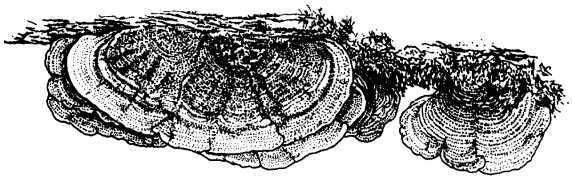
Other life in the Cryptosphere

Single cell organisms

- Microscopic **bacteria** and **protozoa** are **tiny one-celled organisms.** They're not animals or plants, but form a group of their own. .
- They play a very important role as the first stage in breaking down and recycling plant matter and nutrients for the living forest to use.
- They decompose the easily digested materials such as **sugars** in the leaves and outer bark.

Fungi

- Fungi are **non-green** plants that **can't make their own food.**
- They are found mostly in the **top layer** of the cryptosphere in damp, decaying areas like rotting logs.
- They feed mainly on **decaying** plant and animal matter.
- After the bacteria and protozoans have finished their work, fungi colonise and break down the **harder cellulose and lignin** in dead plant matter, especially wood.
- Fungi don't have flowers or seeds, and reproduce from **spores**.
- **Threadlike roots** grow from the spores, and gradually a fungi develops.
- The most common of these are Toadstools, Mushrooms, Puffballs, Coral fungi and Bracket fungi.
- Fungi are covered in detail in a separate fact sheets on **Fungi Facts, Types of Fungi** and **Uses of Fungi.**



Bracket Fungus

These fact sheets are based on the Tropical Topics newsletters edited by Stella Martin
and produced by the Wet Tropics Management Authority and the Queensland Environmental Protection Agency.

Centipedes and Millipedes

- Centipedes and millipedes are arthropods – animals with a segmented body and jointed limbs. Other common arthropods found in the cryptosphere are covered in fact sheets on **Insects** and **Arachnids.**
- Centipedes have at least **19 body segments.** Each segment has **one pair** of legs, and therefore they are fast-moving creatures.
- Centipedes grow up to **15 cm** long in the tropical rainforests of north Queensland. ‘
- They feed on **decaying organic matter** on the forest floor.
- Millipedes have rounded bodies with at least **11 body segments.** Each segment has **two pairs** of legs, which enables them to move very fast around the cryptosphere.
- Millipedes feed on **leaf litter** on the forest floor.
- When **Pill Millipedes** are threatened they roll themselves into balls for protection.

Earthworms

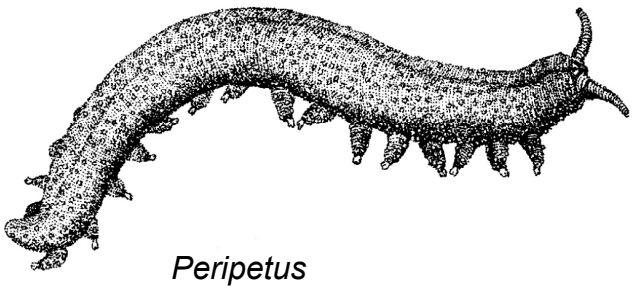
- There are **41 species** of earthworms belonging to five different genera living in the forests of north Queensland.
- Earthworms are annelids – their bodies are divided into cylindrical rings. **Leeches** are another well known annelid.
- Earthworms make **tunnels** by eating their way through the soil. As the soil passes through their bodies, the **organic matter** is digested, and the remaining soil is passed out. Worm tunnels **oxygenate** the soil and allow **water** to penetrate more easily.
- Earthworms come out of their burrows at **night** to collect decaying plant matter, which they take down into the ground. When they eat this plant matter, they break it down. This provides more nutrients for plants at **root level**.
- The introduced earthworm ***Pontoscolex corethrurus*** occurs in disturbed areas and only feeds on leaf litter (not wood), whereas native earthworms feed on both leaf and wood detritus. This ‘feral’ earthworm may become a future threat to native earthworms and nutrient cycling in the rainforest.
- Earthworms can be **bioluminescent**. They exude luminescent fluid from pores on their backs or their mouths as a way of signalling to each other.
- Each earthworm is **both** male and female. After mating, both worms lay eggs.
- **Predators** of earthworms include birds and the Boyd’s Forest Dragon.

Flatworms

- Most of Queensland's **62** species of terrestrial flatworms are found in the tropical rainforests of north Queensland. This **moist** area suits them because they die if they dry out.
- Flatworms are **long and flat** and range from 5 mm to 100 mm long.
- Flatworms are the simplest animal to possess a true **brain**, and they have a simple form of **memory**.
- They are mainly **nocturnal**.
- They **glide** along on a track of slime, but they can also **crawl** rapidly and are sometimes mistaken for leeches.
- They are **omnivores**. Apart from **detritus**, they also eat earthworms, small insects, slugs and snails.
- They capture their prey with **sticky secretions**.
- Some **scavenge** dead animals.

Peripatus

- Peripatus are called **velvet worms** because of their soft skins and because they move with a flowing motion.
- They are found in **damp** leaf litter and rotting logs in the tropical rainforests of north Queensland.
- They have a pair of leg-like appendages on every segment - between **14** and **43 pairs**.
- The Peripatus is a **voracious carnivore**. When it finds prey such as a cricket or beetle it shoots jets of **slime** out from its head. This slime **hardens** and traps the prey.
- Some peripatus females give birth to **live young**, which are white miniatures of the parents.
- Only one species of peripatus lays **eggs**. (They can take up to 17 months to hatch.)
- The Peripatus has a fossil record extending back to the Cambrian period, over 500 million years ago. They have features in common with both the annelids (segmented worms such as earthworms) and arthropods (such as centipedes and millipedes).



Peripetus

Land Snails

- The land snail is a type of mollusc called a **gastropod** which means **stomach-footed.**
- Most land snails live under rocks, logs and other forest debris where it's cool and moist.
- To **move** about the snail extends its foot beneath its shell and creates a series of muscular spasms along the foot. **Glands** under the foot produce **slimy mucous** which lubricates the snail's path.
- Land snails are **detritivores**. They feed on decaying organic matter. Most snails feed at **night**, rasping away at leaves or fungi using their **radula**, a tongue-like organ covered with tiny sharp teeth.
- They obtain their **moisture** through their skin and from food.
- All snails are **hermaphrodites,** they have both female and male reproductive organs. They lay **eggs** which hatch into tiny snails.
- **Predators** of snails are reptiles, frogs, rats and birds. (The **Noisy Pitta** places the snail on a rock and then hammers it with its beak to break open the shell so that it can eat the snail's soft body.)
- There are **217** snail species in the tropical rainforests of north Queensland. Of these, 185 species (85%) are endemic – they are found nowhere else in the world.
- The **largest** snail in the tropical rainforests of north Queensland is ***Hadra bipartite***, which grows up to 7cm in diameter.
- The **Butterscotch Snail** is a **flat, yellow litter-snail** which looks like a butterscotch. It preys on other snails and soft invertebrates often larger than itself.
- The **Daintree River** forms a barrier to snails and slugs. Many species occur either only to the north, or only to the south.
- The high mountains of **Bellenden Ker, Bartle Frere, Lewis** and **Thornton Peak** have the greatest diversity of land snails and slugs because they are consistently **moist** areas.

Slugs

- The tropical rainforest also has a large number of **semi-slugs** and **slugs**. Because they don't have proper shells to protect them, they live in very wet areas so they don't dry out.
- **Semi-slugs** are **half-way** between slugs and snails. They have **small, thin shells** which they can't fit inside.
- They are well **camouflaged** amongst the leaf litter.
- One slug species at the top of Mt Bellenden Ker is **bright red**.

Many animals in the cryptosphere an inflict painful stings. Leave them alone and they will do the same to you.