

with the unlikely name "tardigrade" is crawling through the filaments using the hooked claws at the end of each leg.

The gleaming white cliffs of a glacier at the head of the valley entice us to continue our walk. When we reach this wall of ice we decide to put on our crampons and with the help of our ice-axes we climb up onto the glacier surface. We are surprised to find numerous pools of cold water, all of them with a thin layer of sand over the bottom. Here we encounter more of the jelly-like algae, actually growing on a glacier! Out with the microscope again and a quick look at a tiny specimen shows us that there are animals that can live happily even in these

of water in which are the lushest growths of plants that we have yet seen. Orange sheets of algae coat stones and gravel in the bed of the stream and bright green filaments wave in the turbulent flow. We follow the stream for at least two hundred metres and there are similar growths all the way along.

The waters enter a large lake in the bottom of the valley. This is at least a kilometre long and is typical of the thousands of lakes in other ice-free areas around the continent. Only the water around the edge of the lake is free from ice, elsewhere there is a sheet of ice at least a couple of metres thick floating on the surface. Peering into the crystal clear water from the bank we can see an

when we realise the nature of the amazing life that lives within it.

## A Fragile Continent

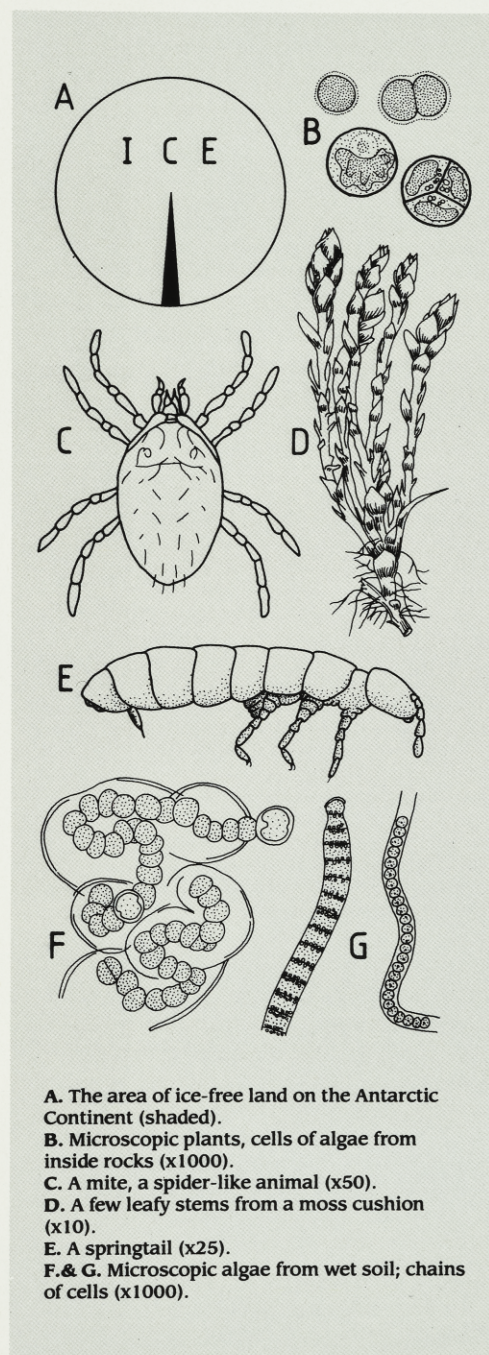
These small forms of life are under increasing threat as human presence on the Continent continues to expand. Although extremely hardy in the way that they grow, and sometimes thrive, under the rigorous Antarctic conditions, in another sense they are extremely delicate due to the ease with which they are catastrophically disturbed by our activities. Damage to the fauna and flora is easily caused by building and other construction works, by vehicles, trampling of feet and even by the accumulated effects of scientific studies by successive field parties in remote regions.

The growth rates of these organisms are slow, so once damaged or removed from an area recovery would be imperceptible if it occurred at all. A major reason for concern is that this life exists on a mere 2.4 percent of the Continent and then mostly in a small percentage of this area close to the coast. It is this fraction of ice-free land which suffers the greatest human impact.

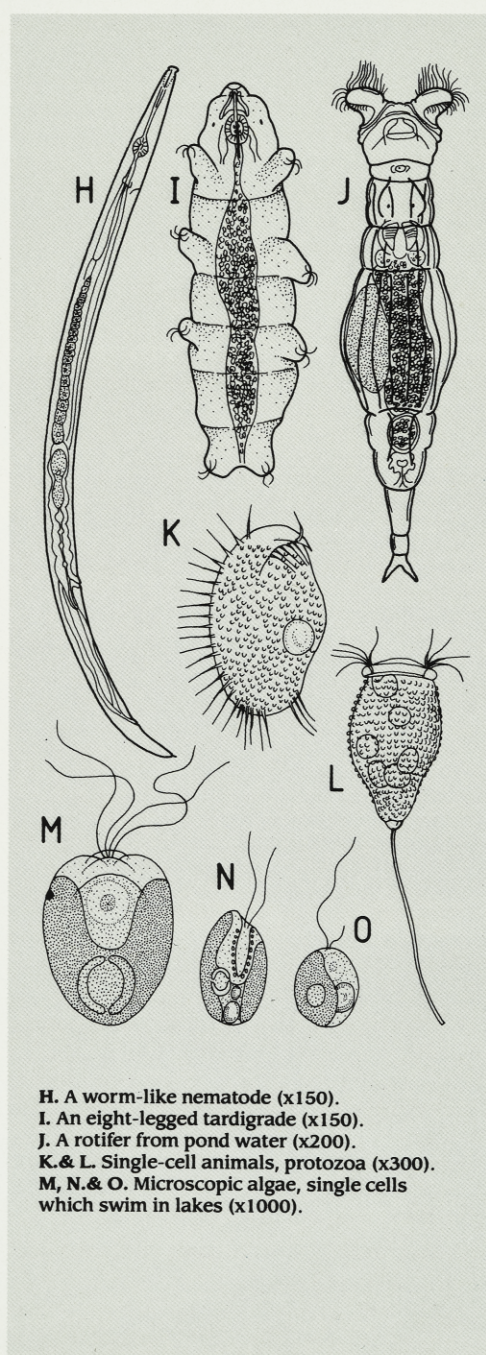
During the last decade, international interest in Antarctica has been increasing rapidly and shows no sign of diminishing. Eighteen nations now have stations which they occupy all the year round. Others are strongly interested in establishing a presence in the region or are in the process of constructing facilities. Most nations are rebuilding and expanding their bases and some are constructing new stations in ice-free areas which have previously lacked buildings of any kind. France has commenced construction of a rock-based aircraft landing strip and Australia is strongly interested in constructing another. It has been proposed that the latter could also service an hotel for tourists. Of special concern is the probability that early next year a convention will be agreed and signed by Antarctic Treaty nations which will open up the region for mineral exploration, including oil. Exploitation could be the next stage if deposits of suitable size and quality are discovered.

At present the environmental movement, led by the Antarctic and Southern Ocean Coalition, (of which Forest and Bird is a member) is lobbying vigorously for the strongest possible environmental safeguards to be written into the "Minerals Convention". However, they realize that this is very much a second best. A stronger guarantee of Antarctica being maintained as a wilderness area of global importance would be for the international acceptance of a "Conservation Regime". Under this the region would be managed for its natural values and mining activities would be excluded. Increased public support for this policy is essential now. Details of how you can help will gladly be provided if you write to ASOCNZ, P O Box 11-057, Wellington. The next year could be a critical turning point for the future of Antarctica. 🐧

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A. The area of ice-free land on the Antarctic Continent (shaded).  
B. Microscopic plants, cells of algae from inside rocks (x1000).  
C. A mite, a spider-like animal (x50).  
D. A few leafy stems from a moss cushion (x10).  
E. A springtail (x25).  
F. & G. Microscopic algae from wet soil; chains of cells (x1000).



H. A worm-like nematode (x150).  
I. An eight-legged tardigrade (x150).  
J. A rotifer from pond water (x200).  
K. & L. Single-cell animals, protozoa (x300).  
M, N. & O. Microscopic algae, single cells which swim in lakes (x1000).

constantly chilly conditions. The smallest of these consist of just a single cell. They are "protozoa", which move rapidly in between the algae by thrashing their whip-like appendages. Larger, but still invisible to the unaided eye are the "rotifers", which use similar appendages attached to their heads in order to move through the water.

Because the sun is shining brightly there are streams of meltwater cascading over the terminal ice-cliffs. On the ground below, these merge to form quite substantial flows

abundance of algae similar to those in the stream. Where some of these have washed ashore we can see that the sheets are at least ten centimetres thick, possibly the result of hundreds of years of growth! In a droplet from the lake our microscope reveals other algae swimming through the water.

We return to our camp convinced that there is far more to Antarctica than at first meets the eye. The awe-inspiring beauty of the landscape is all the more fascinating