

## In December, two types of organisms are highlighted, Bryophytes and Lichens, which are quite affected in this season due to their increasing use for Christmas decoration

Bryophytes (mosses, liverworts and hornworts) and lichens are important elements of biodiversity. In general, they present similar dimensions and are often associated in nature, presenting the same ecological requirements. Bryophytes are plants and lichens result from the association between an algae and a fungus. These organisms do not produce flowers or seeds (but produce spores), do not have roots, and do not have vessels to conduct water and nutrients.

Lichens and bryophytes play a very important role in ecosystems, as good indicators of the quality of habitats and their ecological functioning. They create conditions for the accumulation of humus and stabilization of the soil, contributing for the fixation and germination of seeds and serving as food and protection for several species of animals. On rainy and foggy days, they act as “sponges”, promoting a slow flow of water to the ground and avoiding water swirls. There are also species that germinate after a fire, being fundamental in the post-fire environmental recovery.

Many of these species of bryophytes and lichens are quite sensitive to man-made disturbances, suffering the risk of disappearance. Bryophytes conservation is threatened by the deregulated harvest during the Christmas period. This group is therefore the target of an European red list by the International Union for Conservation of Nature (IUCN), with the participation of researchers from this Museum, contributing for the preservation of such species. Lichens are also very threatened and although the most used ones are protected by European legislation, they are intensively used in the Christmas season for decoration.

Thus, in December these organisms are greatly affected since they are massively harvested, in general by people who do not know about the species' vulnerabilities. The natural habitats where these species are harvested also became quite fragile. The impact is enormous, both for such organisms and for all other species related with them.

### ALTERNATIVES

Sprouts of cereals in cribs (eg. wheat, oats, barley)

1. Put a good amount of seeds in a container and add water to cover;
2. Soak about 24 hours and drain all water from the seeds; rinse with running water (tap) and drain all water again;
3. Place the wet seeds on a plate to cover the bottom (or other flat container).
4. Cover with wet towel (without wrapping). Once a day (at least) and for 2-3 days flood the seeds with running water and drain all the water leaving the seeds moist; again cover with wet towel.
5. At the end of 3-5 days, the sprouts will be already visible and can be used. If the seeds continue to be moistened in the same way, the plants will grow and can even be trimmed.

