



*Amanita muscaria*



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Fotografía: Carolina Magnasco

# CHILE – A FANTASTIC COUNTRY

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Chile is a fantastic country in South America that borders the Andes mountain range and Argentina to the east, Antarctica to the south, the Pacific Ocean to the west, and the Atacama Desert alongside Peru and Bolivia to the north. The country is as thin as 150 km from ocean to mountain but nevertheless is home to the driest desert on Earth, gigantic ice fields, fjords, and forests. It is a Spanish speaking country with approximately 17 million human inhabitants. That said, we're better known for *Cyttaria* (see "*Cyttaria*, the most bizarre mushroom" elsewhere in this edition), condors, pumas, *Araucaria* trees, and ... wine! A ferocious dictatorship by "the unnamable" sometimes sticks out, but as for our favorite Chilean humans poet Pablo Neruda has the lead. A Nobel Prize winner, along with poet Gabriela Mistral, Neruda marked many with his poems to love, nature, and food. Other authors such as Isabel Allende and

Cortázar have put a literary spotlight on this noble country.

What few know about are the astounding temperate rainforests in the northern part of Patagonia. Yes, Patagonia is a shared region between Chile and Argentina. It is here that Douglas and Kristine Tompkins donated one million acres of land—that was met with a nine-million-acre donation by the country—to create a protected area for one of the most pristine territories on Earth. Let us enter the temperate rainforests of northern Patagonia ...

Old-growth forests packed with centenary trees of the genus *Nothofagus*, a genus of ectomycorrhizal trees found only in the southern hemisphere and known as southern beech in English. The trees go back millions of years to Gondwana, the super-continent that gave form to the Southern Hemisphere when it drifted apart hundreds of millions of years ago. *Nothofagus* drifted with the land. *Cyttaria* drifted

with *Nothofagus*. The trees are found in Chile, Argentina, New Zealand, Australia and Tasmania, and Papua New Guinea. They are quite diverse in size and shape, with most of them being deciduous. Coigue, Lenga, Ñire, Raulí, Roble, and Coigue de Magallanes are some of the Spanish names. They reach over 40 meters and have small leaves. They also conquer mountains in species strata that make autumn a spectacular season to visit the forests. But aside from the trees themselves, these forests make Chile a hotspot for fungi. Yes, our beloved mushrooms and other fungi! With lamellae, pores, teeth, growing resupinate, crustaceous, fleshy, woody. All the colors of the rainbow and more. It's simply sublime.

All that said, there is really a star genus in these temperate rainforests, and it is *Cortinarius*. There are hundreds and hundreds of species, along with astonishing textures and colors. Southern Patagonia receives



*Cyttaria espinosae*

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*Atheniella adonis*



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fungophiles with a *Cortinarius* rainbow, almost always. Several naturalists, mycologists and even botanists fall hypnotized at their stipes. Sometimes the search for the perfect reflection on the glabrous pileus of *Cortinarius magellanicus* turns into a foray in itself. Believe me, I've seen it happen!

The study of fungi in Chile is quite recent and still in development. Darwin visited and collected some, but it's people like Thaxter, Spegazzini, Gamundí, Singer, Horak, and Moser who really contributed to the determination of the mycota present in this fantastic land. Chilean mycologist Waldo Lazo collected with many of them and produced a fantastic field guide in 2001, *Atlas Micológico Hongos de Chile*. Lately, many foreign mycologists have been coming to Chile to meet our fungi, as well as chemists who find novel metabolites in them. Matthew E. Smith from the University of Florida and Brandon Matheny from the University of Tennessee led a star-studded team through three years of forays which inspired many young Chilean mycologists to learn more field mycology. Tuula Niskanen of Kew, Donald Pfister from Harvard, Eduardo Nouhra from Universidad de Córdoba in Argentina, Camille Truong from Switzerland are just a few. A true privilege!

Traditional use of fungi for food mainly occurs in the center and south of the country. *Grifola gargar*, *Butyriboletus loyo*, *Morchella conica*, *Cortinarius lebre*, *Ramaria flava*, *Ramaria subaurantiaca*, and most species of *Cyttaria* are all traditional Mapuche foods. Other *Cyttaria* and *Calvatia* are eaten in the extreme south, and were staple foods for the nomadic Patagons in Tierra del Fuego—the Land of Fire.

Although Chile is home to many fungi, the main bulk of the population is quite afraid of them. It's safe to say that The Fungi Foundation—a Chilean NGO dedicated 24/7 and exclusively to fungi—has started to change this since work began in 2010. That year, and with The Fungi Foundation at the trigger, fungi were incorporated into Chile's Environmental Law No.19.300. It establishes that the Ministry of Environment must ensure fungi are classified in a national inventory using scientific and technical criteria as well as IUCN Red Listing criteria, and



that regulation must be developed to design management, conservation and recovery plans for species under threat. In late 2013, the Environmental Impact Assessment System Regulation came into effect which ruled that fungi be included in both environmental

impact assessments and declarations in all terrestrial ecosystems. In effect, every terrestrial project seeking an environmental permit must include fungal baseline studies and analyze the threats posed to the species found. This has created jobs for mycologists

and has evidenced the need for more study opportunities that finally help mycologists shine a light on the ecosystemic vision of nature. Fungi are amazing for that; they make a forest a “whole.” No species is isolated.

Unfortunately, Chileans use the same



*Cortinarius magellanicus*

Quechua word for mushroom and penis. This really does complicate things! *Callampa* (pronounced kayampa) is used in many negative ways and is the most widespread name for mushrooms. Not fungi, mushrooms. We call fungi hongos, with a silent “h.” To surpass this, we at the Foundation have taken it upon ourselves to turn the term into a positive thing. Something trendy and cool, as mushrooms are, of course. More on this in years to come!

Wild edible fungi have made a huge contribution to overruling the negative term mentioned above, with Chile’s three of the four chefs in the “International 50<sup>th</sup> Best” lists being ambassadors for fungi. In fact, the famous restaurants Boragó, 99, and Ambrosía all use fungi in their prized dishes, and it is those dishes in many cases that have led them to success. Chile shares marine ingredients with Peru; meat and dairy products with Brazil, Argentina, and Uruguay; but it is our fungi that make us unique in the region. I hope you may come try for yourself! 🍄



*Mycena cyanocephala*

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