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# Do you know ... *Rhodotus palmatus*?

*Phil Pinzone*

**R***hodotus palmatus* commonly known as the wrinkled peach nearly hypnotized me when I first came across it. The wrinkles on its cap, vibrant shade of orange-pink and varying gill lengths beneath its cap make this species a stunner to look at. I knew that eventually I would have to dedicate some time to learning about it. My mother told me never to judge a book by its cover, but fungi are not books, and this is one charismatic species! One can find this beauty growing from felled hardwoods in the eastern half of North America, Europe, and throughout most of Asia.

In Europe, this mushroom is exceedingly difficult to find which has led to its placement on the endangered

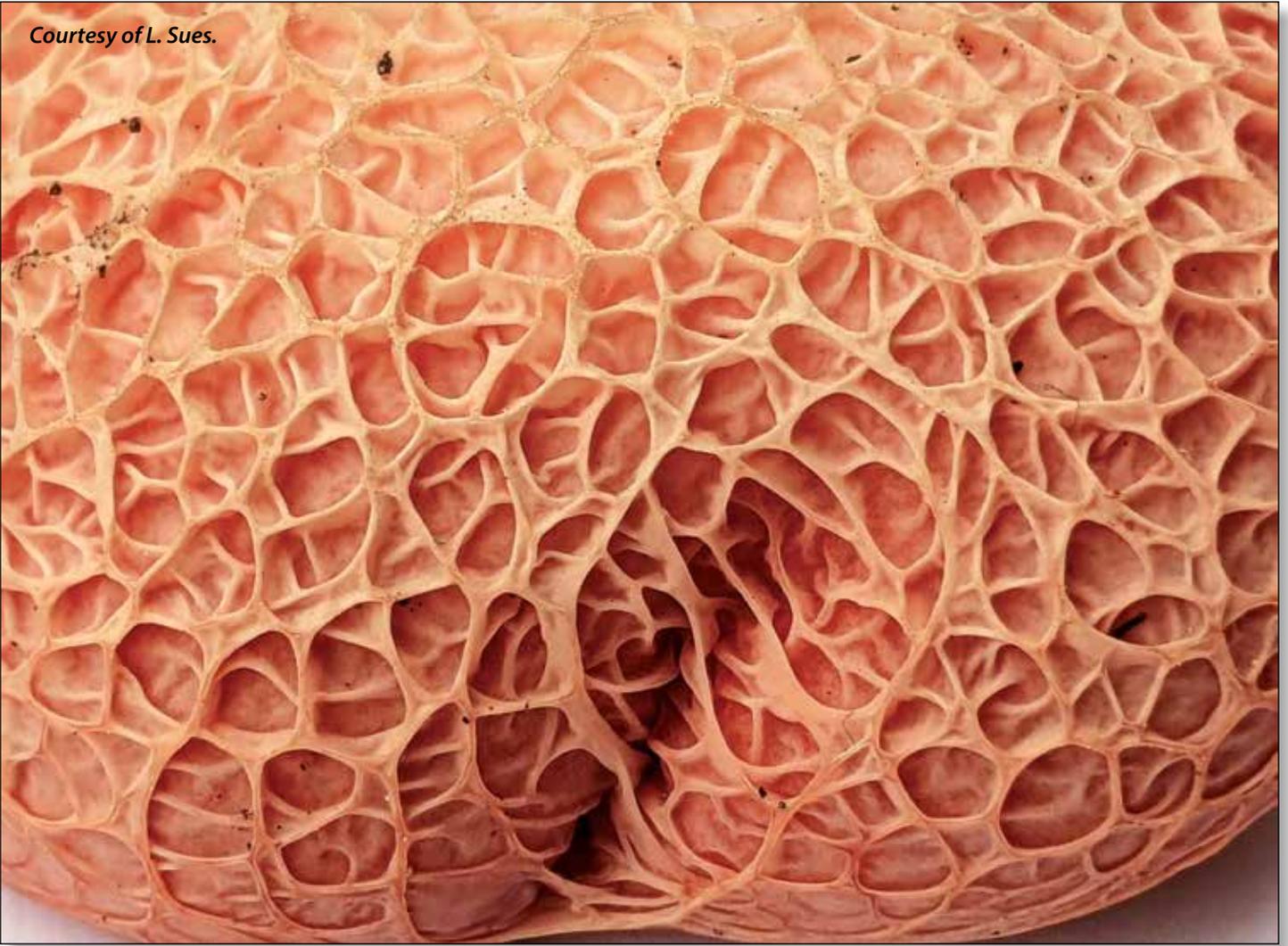
Red List in more than half of all European countries. In 12 countries, *R. palmatus* is considered as near threatened, endangered, or critically endangered. Alarmingly, in the Baltic region the species is considered regionally extinct. If you type the name of this fungus into the mycological cataloging website Mushroom Observer, nearly all of the observations reported are from eastern North America.

*Rhodotus palmatus* is a pioneer species when it comes to decomposition. Unlike many *Galerina* species that prefer latter succession woody substrates largely broken down by subsequent fungi, *R. palmatus* has an affinity for freshly felled hardwoods. Many specimens are found fruiting from elm trees, with a lesser

*Photo is from the Mushroom Wonderland book, see Bookshelf Fungi for a review.*



Courtesy of L. Sues.



Courtesy of B. Bunyard.



occurrence found on horse chestnut, basswood, and maple. Many species that specialize on freshly fallen trees tend to be latently present within the wood. Spores of latently present saprotrophs that land on a living suitable host tree may persist in a dormant state on or within the tree for several years until the plant finally dies. It is only then when the decomposer goes to town on the carbon rich organic material within.

If you look up this fungus yourself, you will notice that it varies in its appearance quite a bit. Some have extremely defined cap wrinkles, while others are smoother. Their colors also vary, from electric pink, to pale peach, to more dominating yellow hues. Back in 1980, researchers Orson Miller, John Palmer, and Linnea Gillman wanted to better understand what drove this variance in the species appearance. With their work, we now know that the spectrum of available light that penetrates to the forest floor drives the specie's variability.

Most other species of fungi utilize light from the shorter blue wavelength to time the different phases of its development. These aforementioned researchers discovered that the fruiting of *R. palmatus* occurs with the longer red, yellow, and green wavelengths of the visible spectrum. In their laboratory, they found out that growing the fungus under more green light, fruiting bodies produce deep wrinkles and appeared more pale peach. In the field, this phenotype would be found growing beneath a dense green canopy, as broadleaf trees filter the blue and red spectrum, only allowing more of the green light to penetrate to the forest floor. When grown

Courtesy of C. Wick.



in the realm of the red and yellow spectrum, fruiting bodies produce less wrinkles and appeared more bright orange. This phenotype occurs yet again in broadleaf forests, but in the midst of fall, while yellow and red leaves still remained attached. Before learning this, I never really thought about the seasonal light spectrum. I knew and understood how light intensity changes through the year, but not so

much how the color of light deviates beneath deciduous forests.

This is without a doubt a bucket list species for me! I have a better chance of finding it in my own neck of the woods, but finding it in Europe would really be a treat. This fungus is a special species that really just motivates me to keep learning about the natural world through a mycological lens. This planet is fascinatingly diverse, and I just really hope that future generations get to see and learn about extant species rather than extinct ones. The forest floor is a gold mine of biological activity, and I think that the more we understand it, the more we will appreciate it. Our appreciation will radiate directly to conservation effort to preserve these natural communities that have been living far longer than we have.

### Reference Cited

Miller, O.K., J.G. Palmer, and L.S. Gillman. 1980. The fruiting and development of *Rhodotus palmatus* in culture. *Mycotaxon* 11: 409–419. ↑

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