

Five new truffle species identified in New Hampshire

May 1 2017, by Holly Ramer

They aren't the type you'd sprinkle over pasta. But University of New Hampshire researchers have found five new truffle species.

While other types of so-called deer truffles have been found across Europe and the western United States, the particular species doctoral student Ryan Stephens found in the White Mountain National Forest have never been formally identified and named.

More specifically, the truffles were found in Bartlett Experimental Forest, one of the most well-studied forests in New England, he said. They could contain important information about the health of the region's forests, scientists say. Two of the five have only been found in New Hampshire.

"So to discover a number of new species is exciting, and just goes to show how much we still have to learn," Stephens said.

Truffles are the fruit of underground fungi, which many trees depend upon for growth. But unlike mushrooms, which can spread to new locations via spores dispersed in the wind, truffles require animals to dig them up, eat them and disperse their spores via scat. That makes them harder to study, but their symbiotic relationship with tree roots make them a key component to forest health, said Michael Castellano of the U.S. Forest Service, who has studied truffles around the world. For example, efforts to restore a forest after a fire or clearcutting would benefit from knowledge about what was there before, he said.

"They're not important for the culinary aspect, unless you happen to be a rodent or mammal that hangs out in the forest, but they're very important to the ecosystem," he said. "Trees couldn't survive without mycorrhizal fungi in their root systems. So they're very important for forest health."

The New Hampshire-specific truffles have been named *E. remickii*, after UNH student Tyler Remick, who helped collect the truffles, and *E. bartlettii*, after Josiah Bartlett, a signer of the Declaration of Independence and the first governor of New Hampshire.

Researchers have named a third—*E. oreoides*—because when cut in half, it has a dark-light-dark pattern similar to an Oreo cookie and has a sweet odor.

"They all kind of have their own unique aroma, but it's not something I'd want to eat," Stephens said.

Finding such a large number of species in such a small area is exciting because New England isn't known for truffle diversity, Castellano said.

"Because truffles fruit underground, everybody walks on them but they don't even know that they're there," Castellano said. "They're hidden treasures in our forests, so it's exciting to see work like Ryan has done to discover some of those treasures right here in our own backyard."

The research was conducted by the New Hampshire Agricultural Experiment Station at the University of New Hampshire. An article detailing the findings written by Castellano and Stephens was published in March in *IMA Fungus*, the journal of the *International Mycological Association*.

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