

# *Agaricus bresadolanus*

## - a toxic mushroom

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A couple of hours after consuming a meal of mushrooms collected from a garden lawn, a couple from North Norfolk felt distinctly ill. Their symptoms, and the time course these followed, differed somewhat. Initially the woman had an uncomfortable feeling in her stomach which grew steadily to a dull but severe pain. About four hours later she vomited, after which the symptoms subsided and she felt relatively well by the next day. Her husband also had severe abdominal pain but did not vomit; his symptoms came in waves of decreasing frequency for three days. Neither suffered from dizziness or loss of balance but both were understandably frightened by their experience.

The next day they were sufficiently concerned to visit a doctor who told them that they would live, but if they wanted to know what they had

eaten, to contact TL! The obvious assumption was that that they had consumed one of the yellow-staining group of mushrooms but when the fresh specimens were brought it was clear that a different species of *Agaricus* was involved.

Some of the specimens possessed white rhizomorphs. This, and other characteristics, initially suggested that the culprit could be either *A. bresadolanus* or *A. romagnesii*. Spores were 7.2 (6.0–8.0) x 4.7 (4.3–5.2) µm; while the cheilocystidia were variable, pyriform to club-shaped, some irregular. According to Cappelli (1984), the cheilocystidia indicated the latter species. However, in the Checklist (CBIB, [www.basidiochecklist.info](http://www.basidiochecklist.info)) these species are synonymised (under *A. bresadolanus*). Subsequent reference to Kibby (2011) supported the opinion that the mushroom was *A. bresadolanus*, in which cheilo-



Fig. 1. *Agaricus bresadolanus*, Cley, Norfolk. Photograph © Tony Leech.

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cystidia may or may not be present. However, a lack of brown scales on the cap (just a few brown fibrils were present) cast some doubt on this identification. Recently, AE has been able to confirm that the species responsible was indeed probably *A. bresadolanus* by demonstrating 100% agreement (668/668 nucleotides) with a region stretching from the internal transcribed spacer of the 18S ribosomal RNA gene to the partial 28S ribosomal RNA gene of a collection in GenBank, accession JQ824134. This was a French collection which formed part of a large study by Foulonge-Oriol *et al.* (2012) into the medicinal mushroom *A. subrufescens*. The authors include a well known authority (P. Callac) on *Agaricus*, thus lending credibility to the identification.

*A. bresadolanus* is uncommon in Britain, reported mostly from the Midlands and south-east England, often in parks and gardens.

### Toxicity

Cappelli (1984) states that “according to a number of authors [*A. bresadolanus*] is regarded as a good edible species in opposition to *A. romagnesii*, which on the contrary is reported to be sometimes indigestible or even poisonous”. However, Pietro Curti (<http://www.funghiitaliani.it/?showtopic=62039>) describes a case of poisoning by *A. bresadolanus* in which a couple experienced severe abdominal pain but without vomiting or other gastrointestinal complications. For two days they suffered repeated periods of dizziness and fainting but made a full recovery.

The advice that ‘true’ mushrooms that do not turn strongly yellow on bruising, and that do not smell ‘phenolic’, are edible, must be revised. With a lack of brown scales on the cap, very slight reddening flesh in the cut stipe and no sign of yellowing except on the outside of the stipe base, it is of concern that these Norfolk specimens would not have been assigned to *A. bresadolanus* using Buczacki (2012), illustrations in Courtecuisse & Duhem (1995) or Kibby’s (2011) synoptic key. The photograph in Phillips (2006) is closer but the text states that cheilocystidia are absent. Photographs matching exactly the collection shown here may however be found in Parra Sánchez (2008), where specimens are shown with caps ranging from entirely smooth to entirely broadly scaly. He also makes it clear that collections may commonly be found with or without cheilocystidia.

It must be incumbent on the mycophagist intending to eat wild *Agaricus* species to note the rhizomorphs and a somewhat swollen base to the stipe.

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