

# The identification of mushrooms from pictures by mycologists versus an online identification tool: a comparison study.

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## Objective

The objective of this study was to verify if mushrooms responsible for exposure calls to the Belgian Poison Centre and different French Poison Centres could be identified with pictures taken by the victim himself or by bystanders using an online identification tool (OIT).

## Methods

The original pictures were first identified by a mycologist and then by an OIT (i.e. [www.waarnemingen.be](http://www.waarnemingen.be)). The OIT identified the mushrooms in the pictures in a first phase without further editing and in a second phase after resizing the pictures in order to optimize identification. If the OIT yielded an identification with a certainty of 66.7% or more, the identification was considered to be reliable. The study was performed from 10 to 24 October 2020.

## Results

From the original pictures, 162 mushrooms, of which 38.9% (N=63/162) are known to be toxic, could be included. Without editing the pictures, 8.0% (N=13/162) of the mushrooms yielded a reliable identification, which was correct for 76.9% (N=10/13) of all identified mushrooms.

After resizing of the pictures, 31.5% (N=51/162) of the mushrooms yielded a reliable identification, which was correct for 52.9% (N=27/51) of all identified mushrooms. If the mushroom was known to be toxic, 28.6% (N=18/63) yielded a reliable identification and 50.0% (N=9/18) of these mushrooms were correctly identified along with 44.4% (N=8/18) who were incorrectly identified as a non-toxic or an edible mushroom. One toxic mushroom was wrongly identified as another toxic mushroom.

If the mushroom was known to be non-toxic, 33.3% (N=33/99) yielded a reliable identification with 72.7% (N=24/33) correctly identified as well as 27.3% (N=9/33) who were incorrectly identified. One of these was wrongly identified as a toxic mushroom.

## Conclusion

This study confirms the added value of mycologists, in addition to the toxicological experts working at a Poison Centre, in the correct identification of mushrooms in case of an exposure.

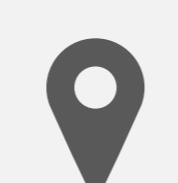
Although an OIT might be helpful in some cases, risk assessments based only on the identification of mushrooms by an OIT could be misleading. Good relations, mutual appreciation and short communication lines between Poison Centres, clinical toxicologists and mycologists should therefore be strongly encouraged and supported.



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