

Sneaky fungi in stored mangrove rice: Guinea-Bissau

This is the first study about the fungi present in stored rice seeds in Guinea-Bissau, creating a knowledge base for future research and development.

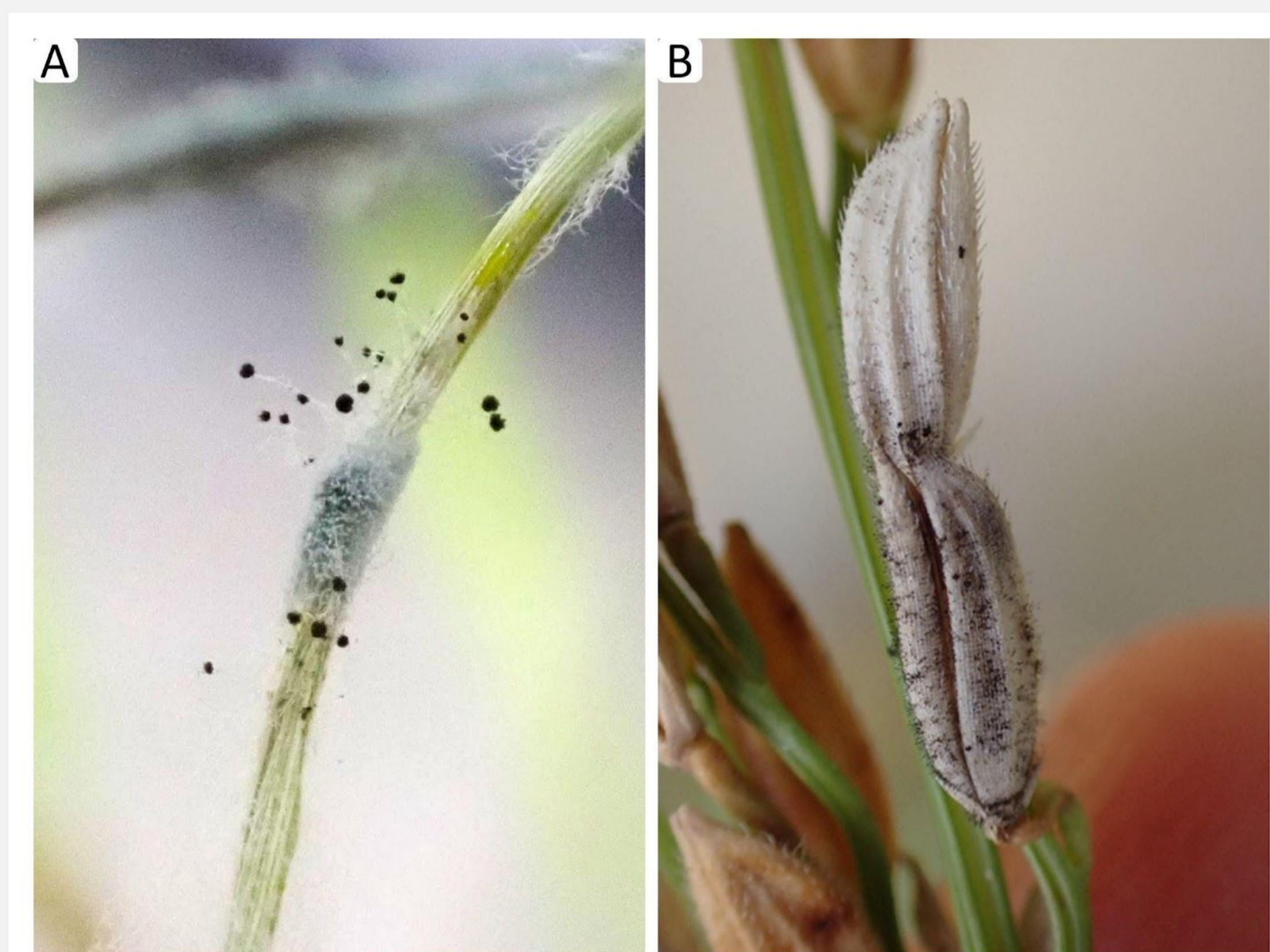
This will allow more specialised studies aimed at improving storage conditions, respective cultivation success and food safety.

Some traditional storage structures/containers used by farmers can be improved.

Most represented fungi genera are *Aspergillus*, *Curvularia*, and *Bipolaris*.

Some of the identified fungi are associated with rice diseases that can impact crop productivity.

Despite the presence of mycotoxic fungi, aflatoxin analyses concluded that they are not affecting human health.

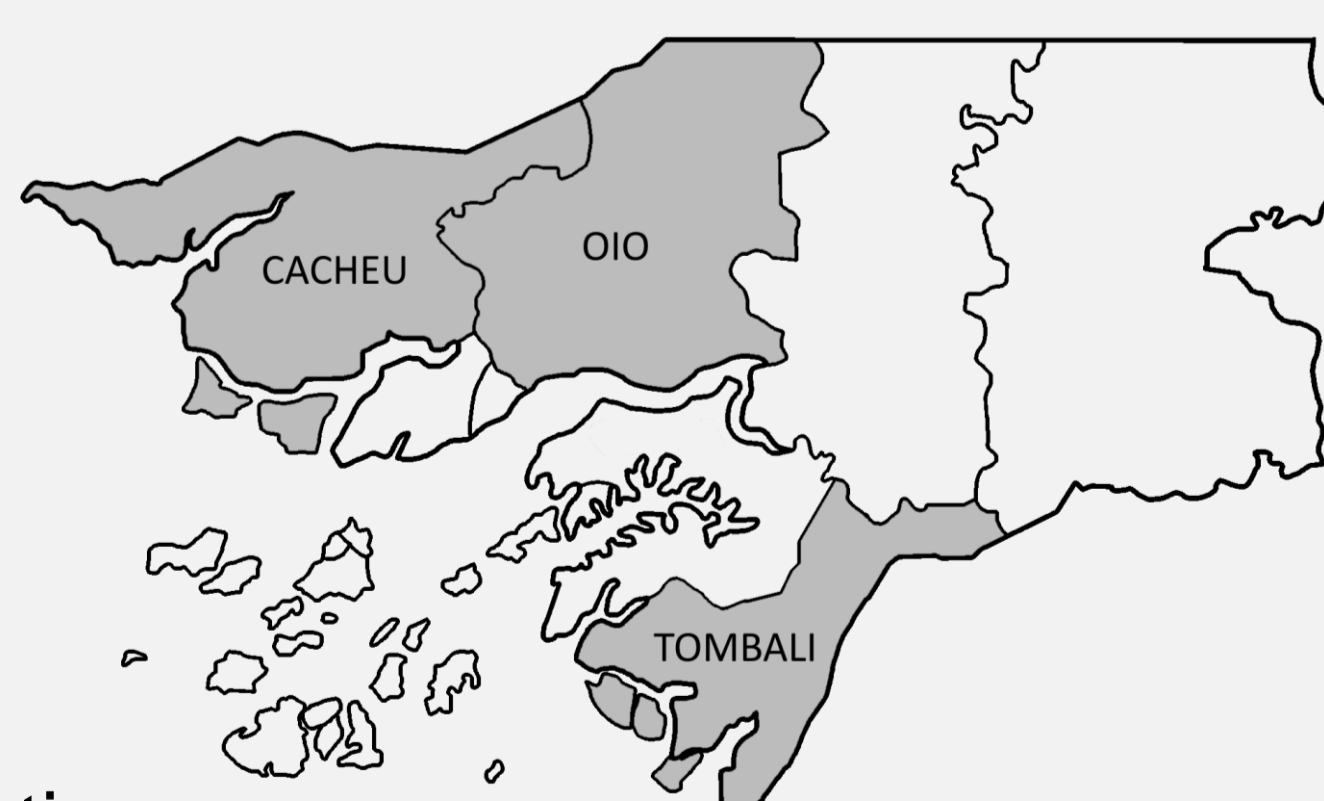


Visible *Aspergillus* sp. (possibly *A. niger*) in: **A)** the end of germination trials, fungal development on the seedling leaf; **B)** a rice plant in the field in the maturation phase, fungal development on the seeds.



METHODS

- **Field sample collection** [30 farmers, 13 villages, 3 regions] [≠ rice varieties and storage facilities]
- **Laboratory work**
 - Seed germination rate
 - Fungi isolation
 - DNA extraction, amplification sequencing and bioinformatics
 - Aflatoxin analyses



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WHY STORED RICE?

Rice is one of the most important economic activities in many countries, Guinea-Bissau is no exception. Thus the correct storage between production cycles is essential for crop success.

WHY GUINEA-BISSAU AND MANGROVE SWAMP RICE?

Despite rice being a world studied crop, West Africa remains out of the world research focus, resulting in few studies considering *Oryza glaberrima* or even *O. sativa* mangrove rice varieties.

