



Basidiobolus ranarum

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Pilobolus:
velocity of
spores

<https://www.youtube.com/watch?v=T8OAmcUnm4g>

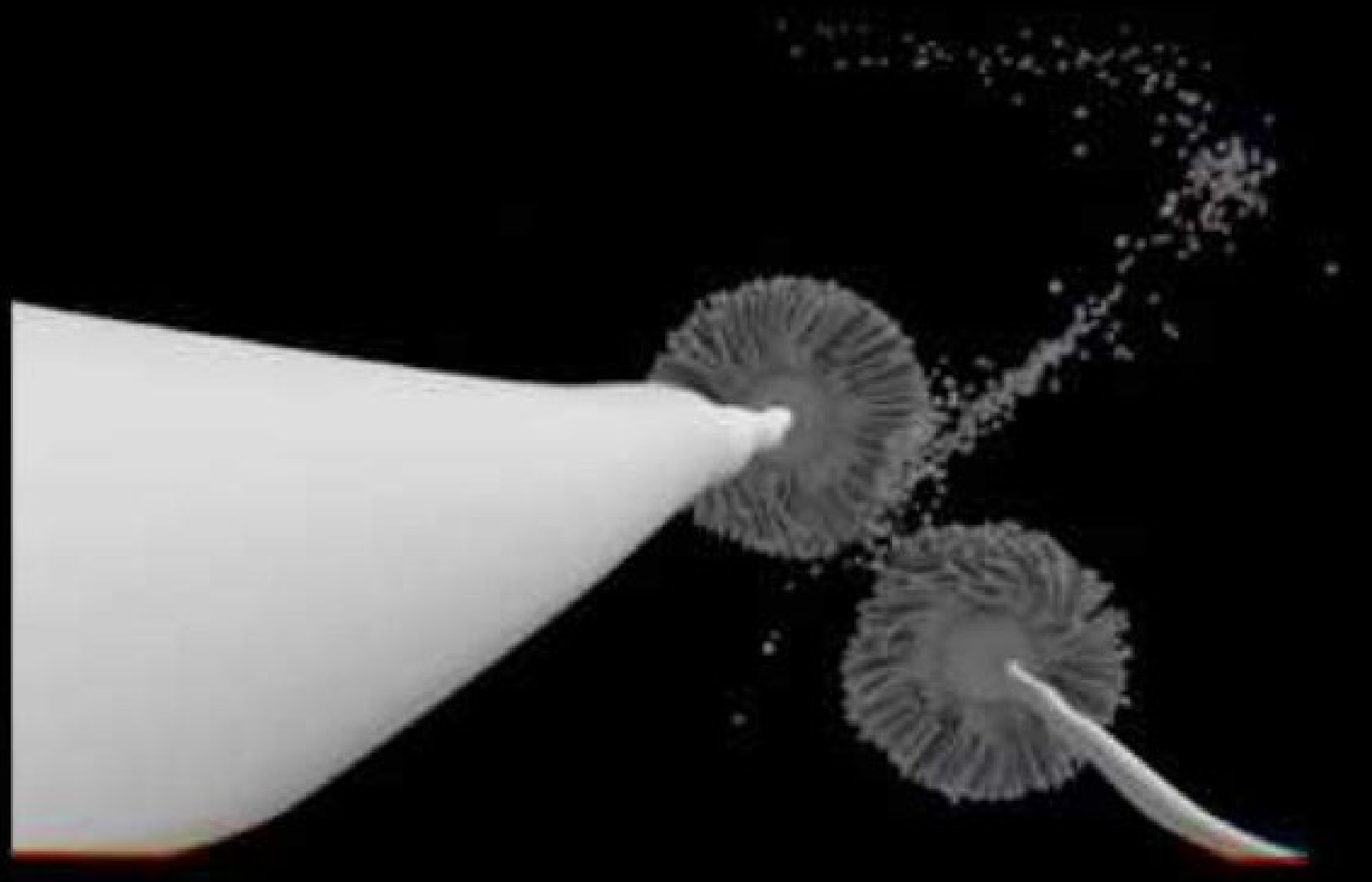


Aspergillus spores



<https://www.youtube.com/watch?v=fxTfZyvBJVY>





Basidiobolus ranarum

Taxonomy

- Basidiomycete
 - Zygomycete (Mucor, Absidia)
 - *Basidiobolus* genus

Entomophthoramyces (*Conidiobolus*, *Basidiobolus*)

Saprophyte found in frog feces (other cold-blooded vertebrates)

Causes subcutaneous infections, especially in temperate areas of Africa

In Arizona associated with intestinal mass-like infections



Conidiobolus species

- United Kingdom
- Eastern seacoast of US
- India
- Found in decaying plant material, inhale spores
- Rhinofacial disease
 - Distinguish from
 - Mucorales, *Balamuthia mandrillaris*

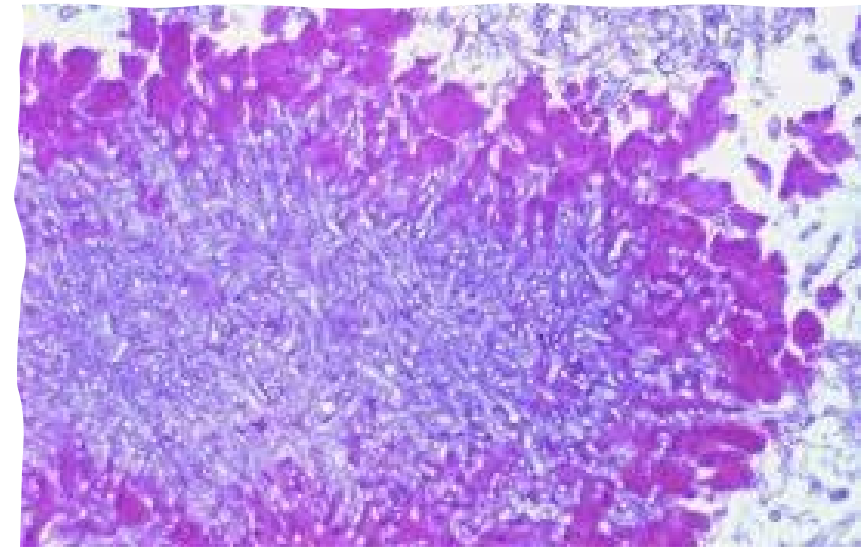
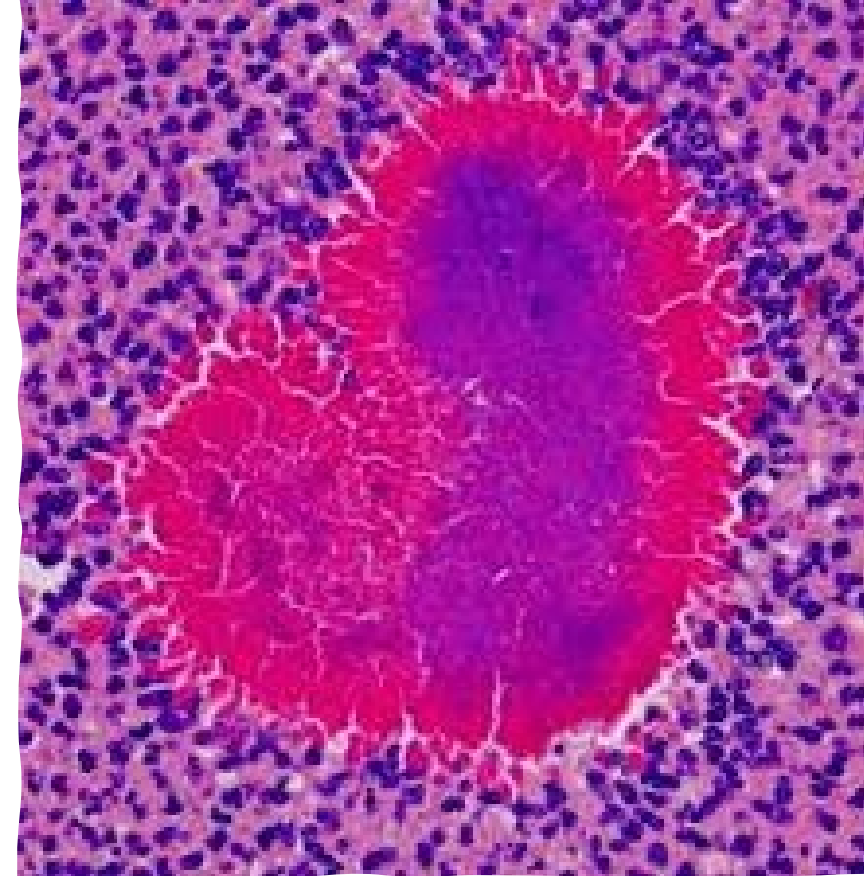
Basidiobolus species

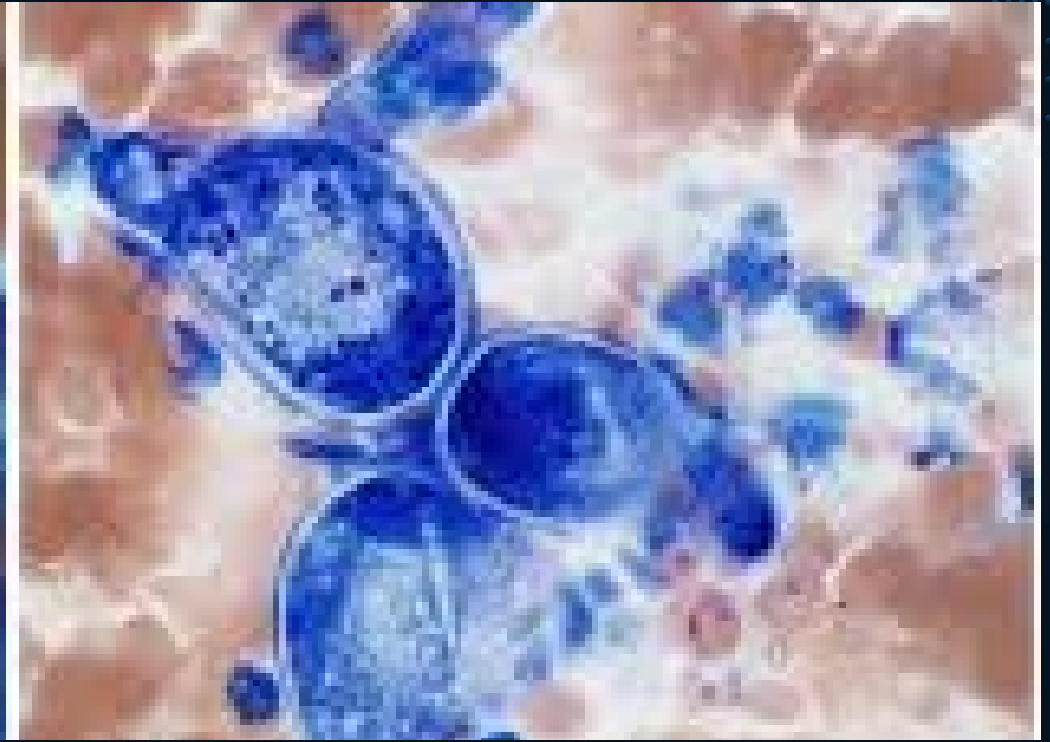
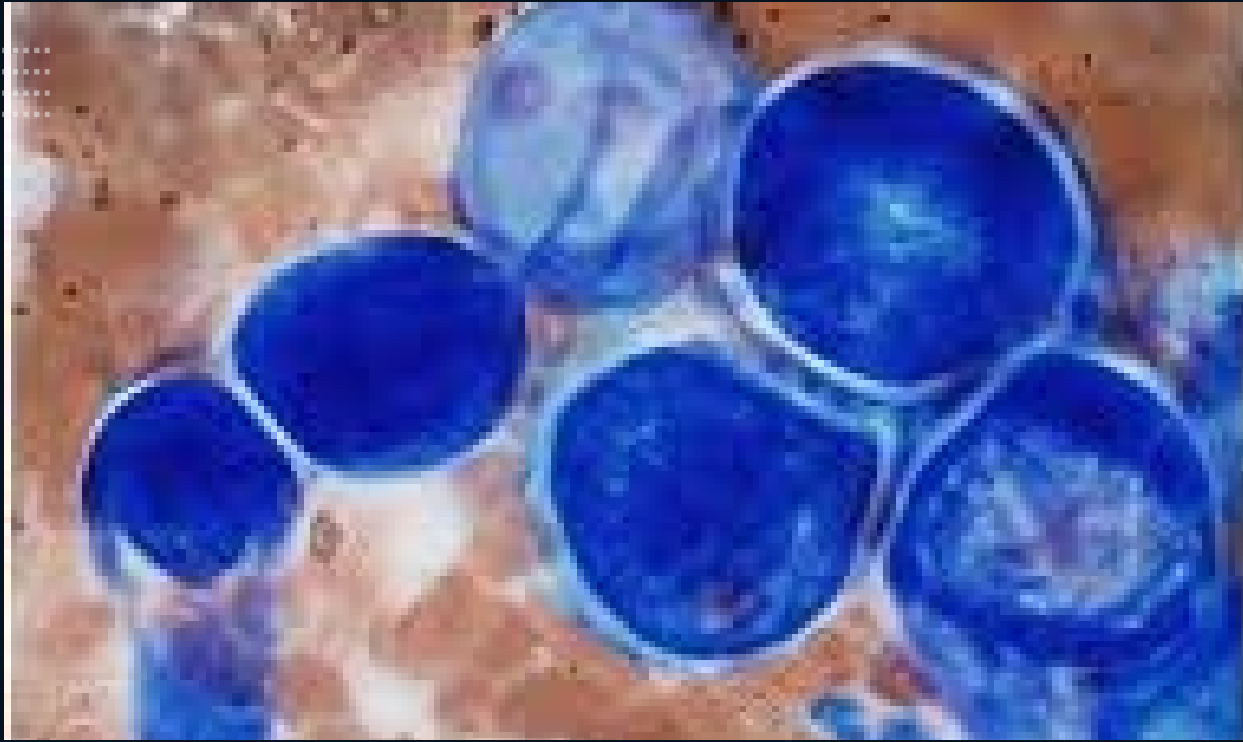
- Infections in India, Pakistan,
- Kenya
- Arizona(GI disease):
resembles inflammatory
bowel disease or malignancy
- Or
- Subcutaneous lesions
- Found in feces of
amphibians and reptiles



GI *Basidiobolus*

- GI *Basidiobolus* should be considered a possibility for patients with a gastrointestinal mass exhibiting subacute onset of abdominal pain, weight loss, and fever, as well as eosinophilia in their lab results.
- those with an absence of the Splendore-Hoeppli phenomenon may experience worse outcomes and increased mortality.





Treatment

- Imidazoles: itraconazole
- ~Lipid amphotericin B

Arizona cases

- Mayo researchers studied 44 cases of human gastrointestinal basidiobolomycosis reported from around the world, including **17 from Arizona**, one from southern Utah and one from elsewhere in the U.S. Eight of the 44 patients died. Mayo's review of the cases is published online in the journal [Clinical Infectious Diseases](#) 2012.

- 6 cases in Arizona 1994-1999 MMWR 1999

Basidiobolus subcutaneous infections

- The classic presentation around buttocks and thighs, basidiobolomycosis is said to have a 'bathing suit' distribution. The nodules of basidiobolomycosis cause erythema and warmth of the overlying skin due to the underlying inflammation. The subcutaneous lesions are typically attached to the overlying skin but not the underlying tissues allowing them to **remain freely mobile**.

Table 2. **Summary of pathological findings for the 7 patients with GIB in Arizona, 1994-1999.**

Pathological finding No. of patients

Gross examination

Anatomic site involved

Colon 6

Stomach 1

Mucosal lining

Intact 4

Ulcerated 3

Microscopic examination

Granulomatous inflammation

Present 4

Extensive 3

Tissue eosinophilia 7

Extensive necrosis 4

Fungal elements 7

Spendore-Hoeppli phenomenon

Prominent 2

Less pronounced 2

Present 3

Basidiobolomycosis Summary

Rare mycosis found almost exclusively in Arizona within the US

Now found in pediatric cases: subcutaneous and GI
GI disease mimics cancer or IBD

Swallowed conidia

Traumatic injection of conidia under the skin

Predilection for adipose tissue; enzyme with cellulase activity
Prominent Eosinophilia in tissue and peripheral blood count