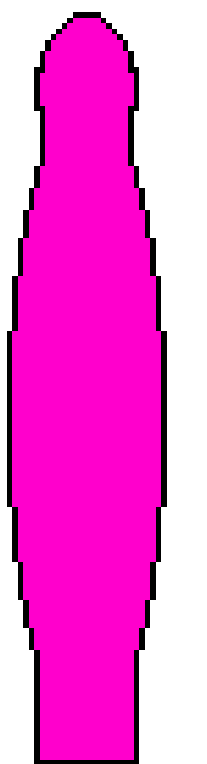
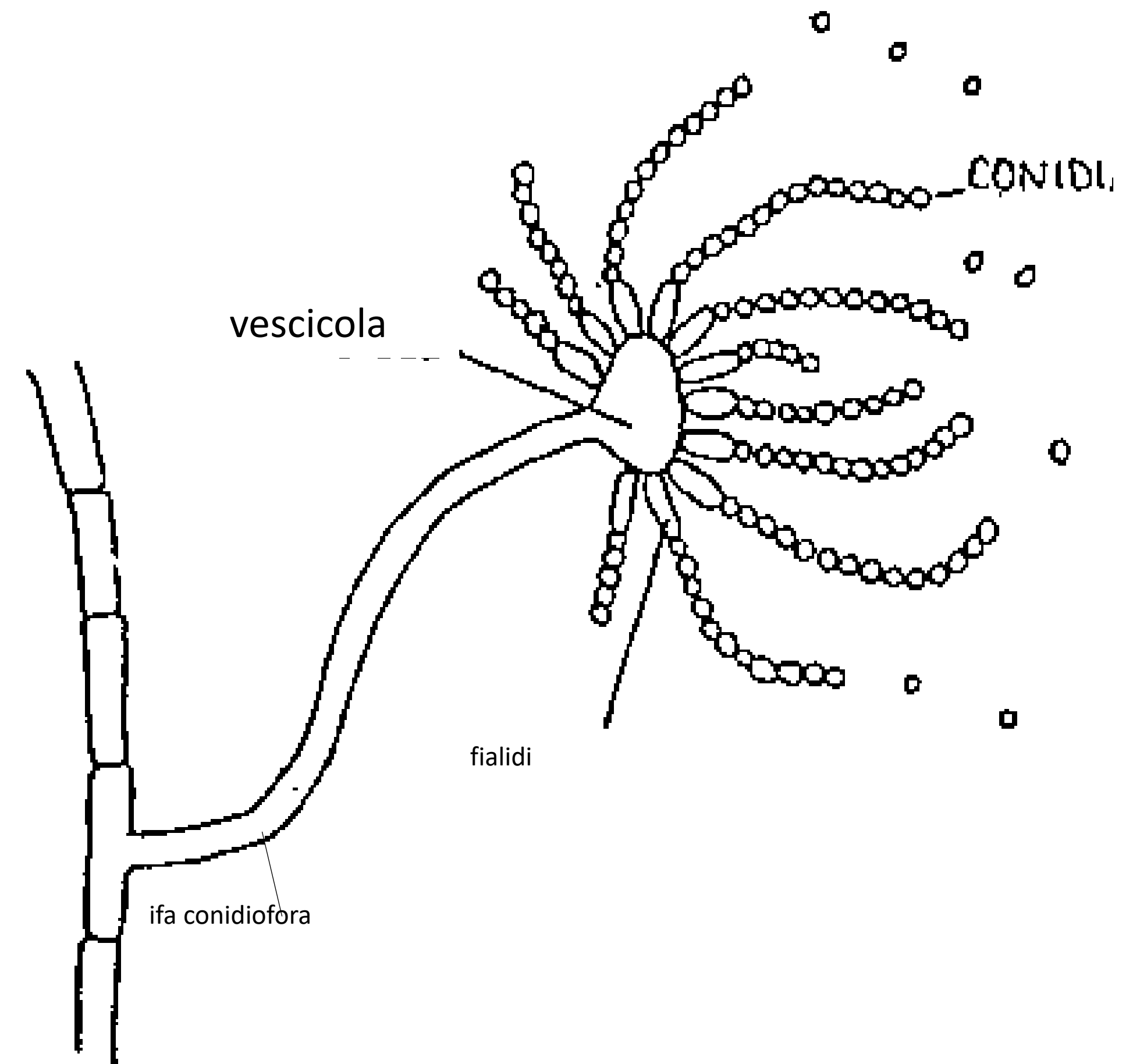
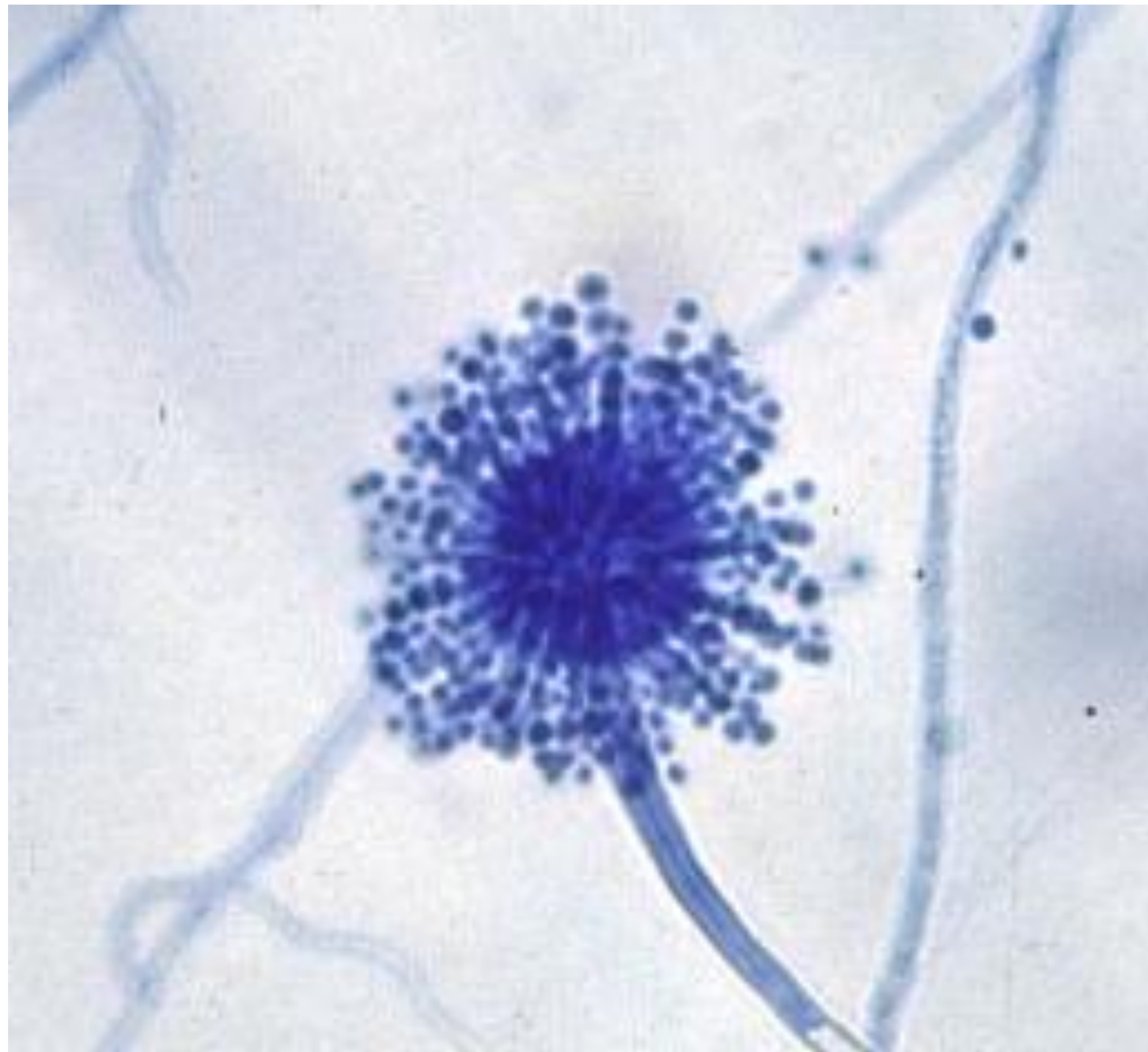


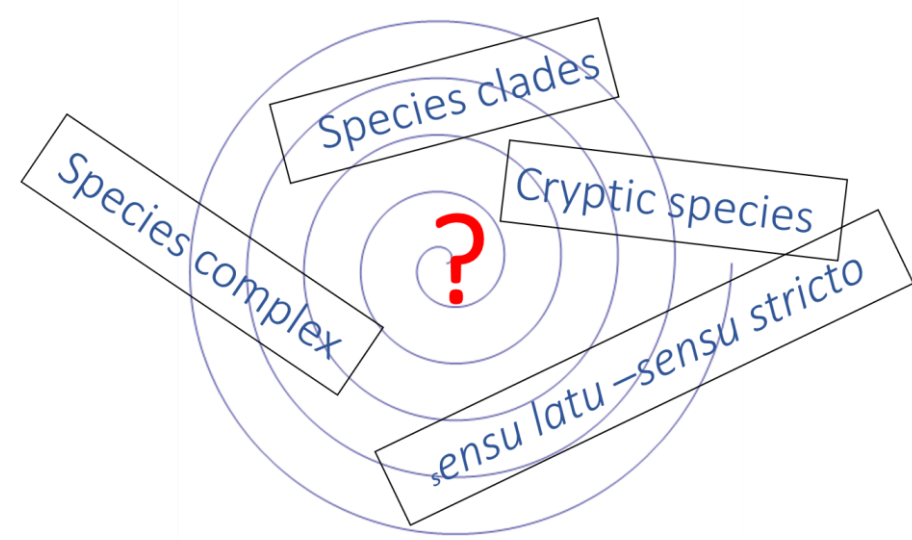


LE MICOSI PROFONDE OPPORTUNISTICHE: ASPERGILLOSI

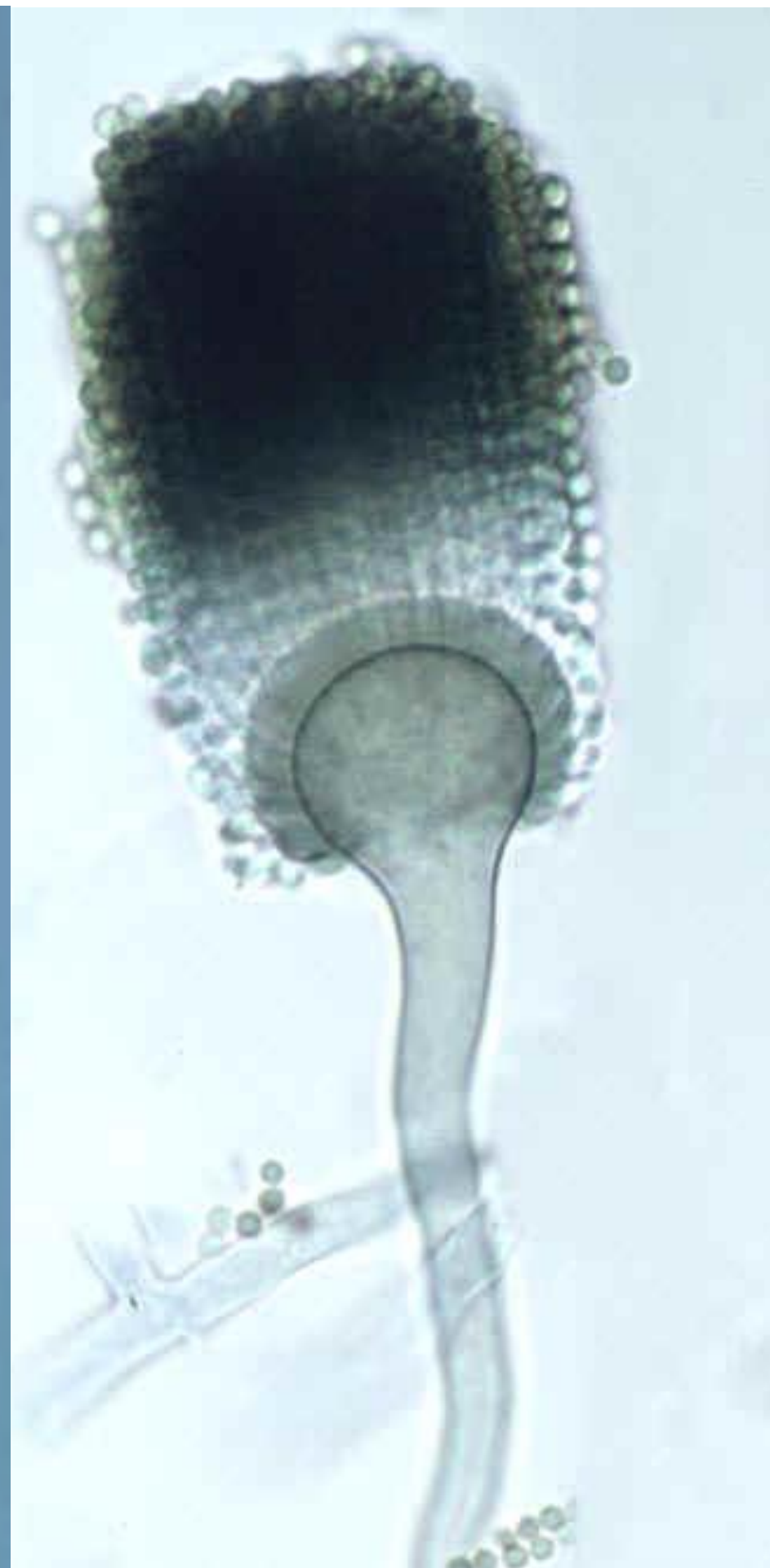
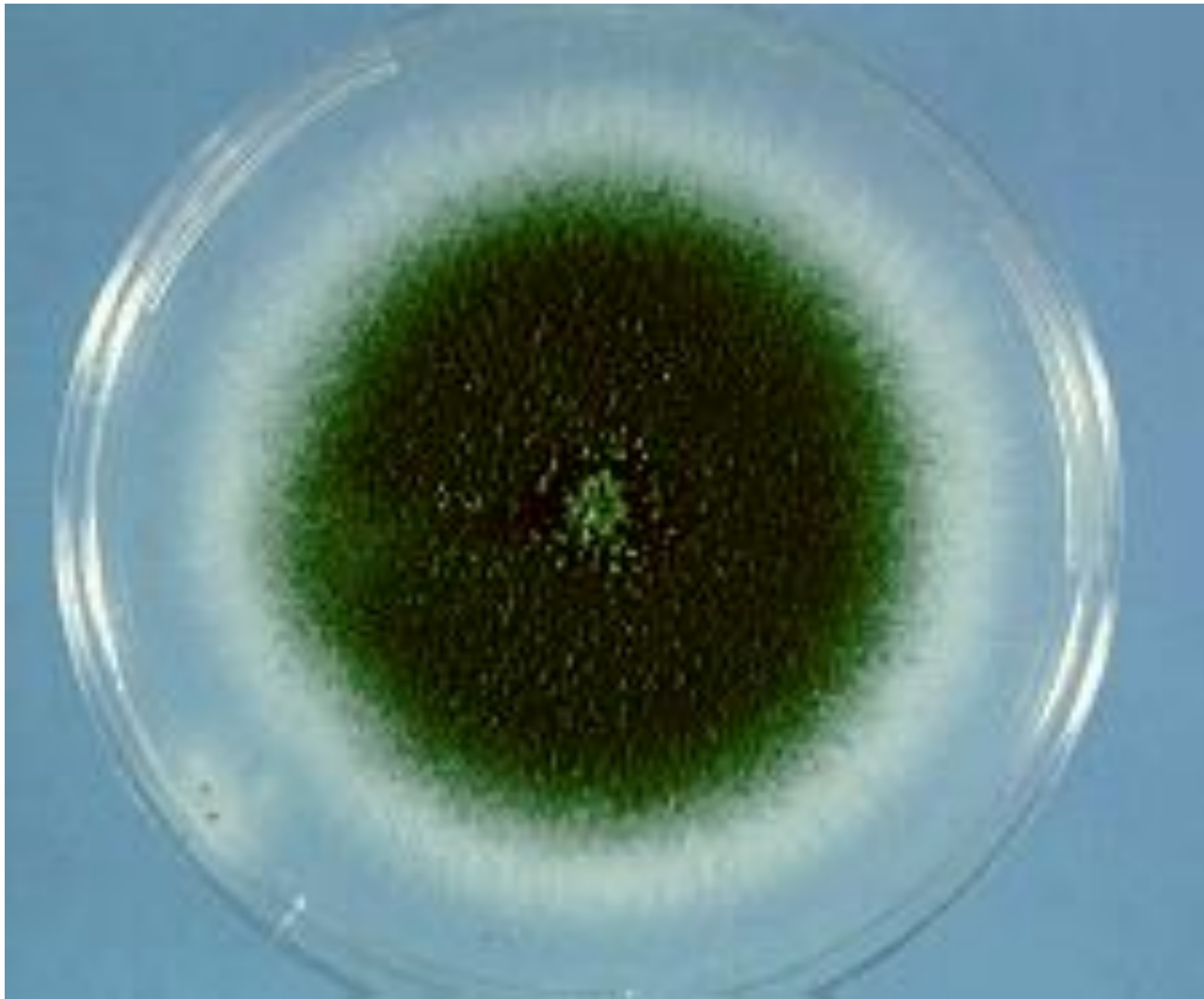
*Roberta Galuppi, Dipartimento di Scienze
Mediche Veterinarie, Alma Mater Studiorum -
Università di Bologna.*

Aspergillus spp.

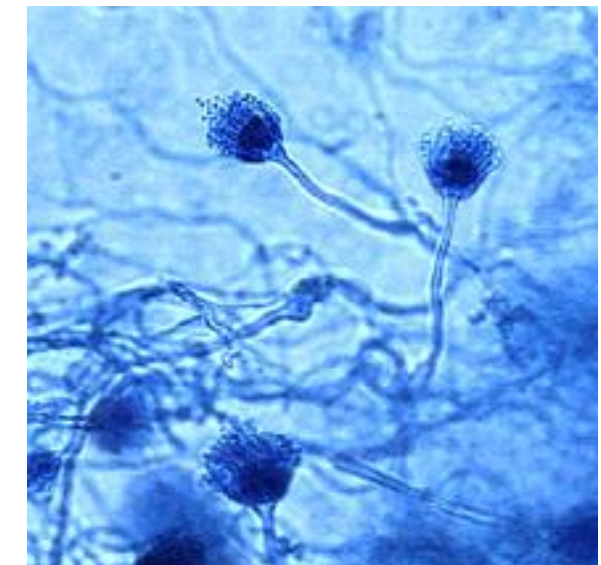
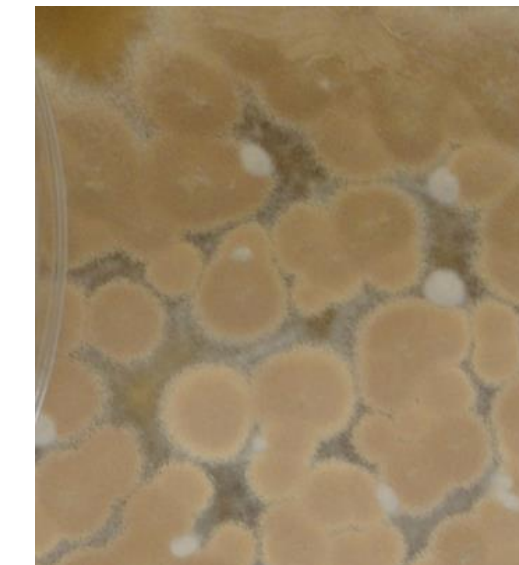




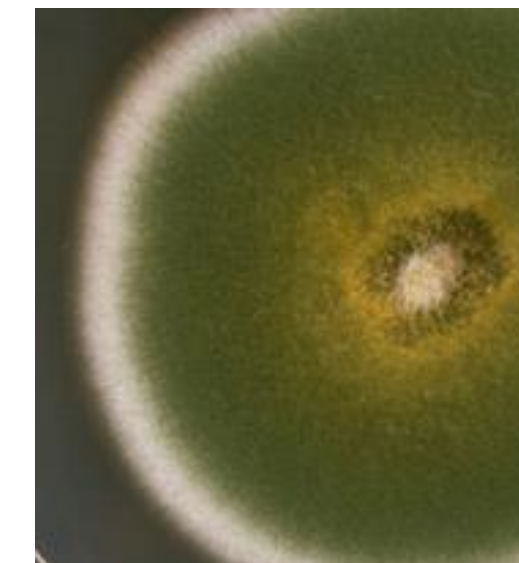
Aspergillus fumigatus



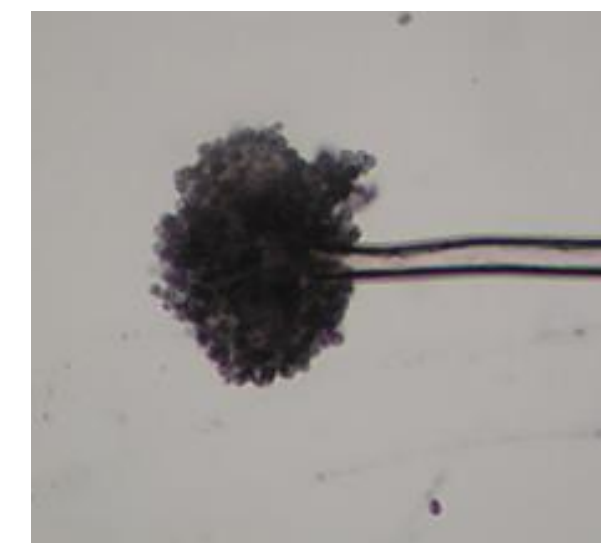
A. terreus



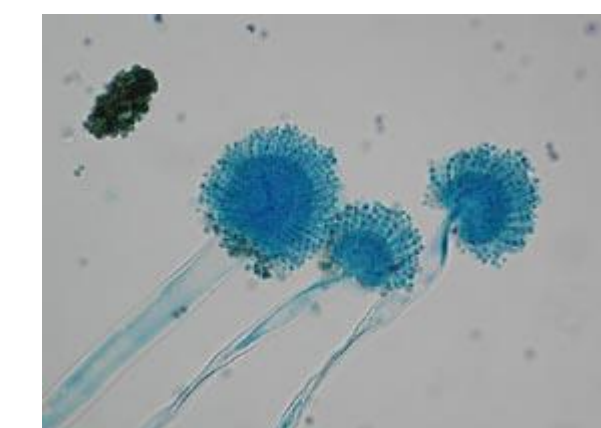
A. nidulans



A. niger



A. flavus



Micosi opportunistiche di origine tellurica

Aspergillus spp. (principalmente *A. fumigatus*)

Fattori di virulenza

Crescita rapida

Termotolleranza (15-55°C optimum 37°C)

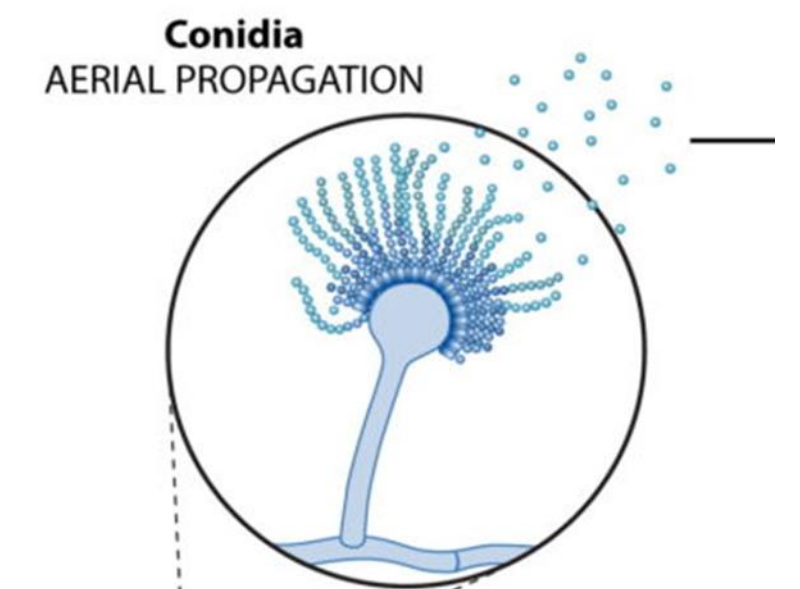
Plasticità nelle richieste nutrizionali

Produzione di enzimi proteolitici e tossine

Piccole dimensioni dei conidi (1-4 µm)



**Fattori predisponenti
in diversi ospiti**



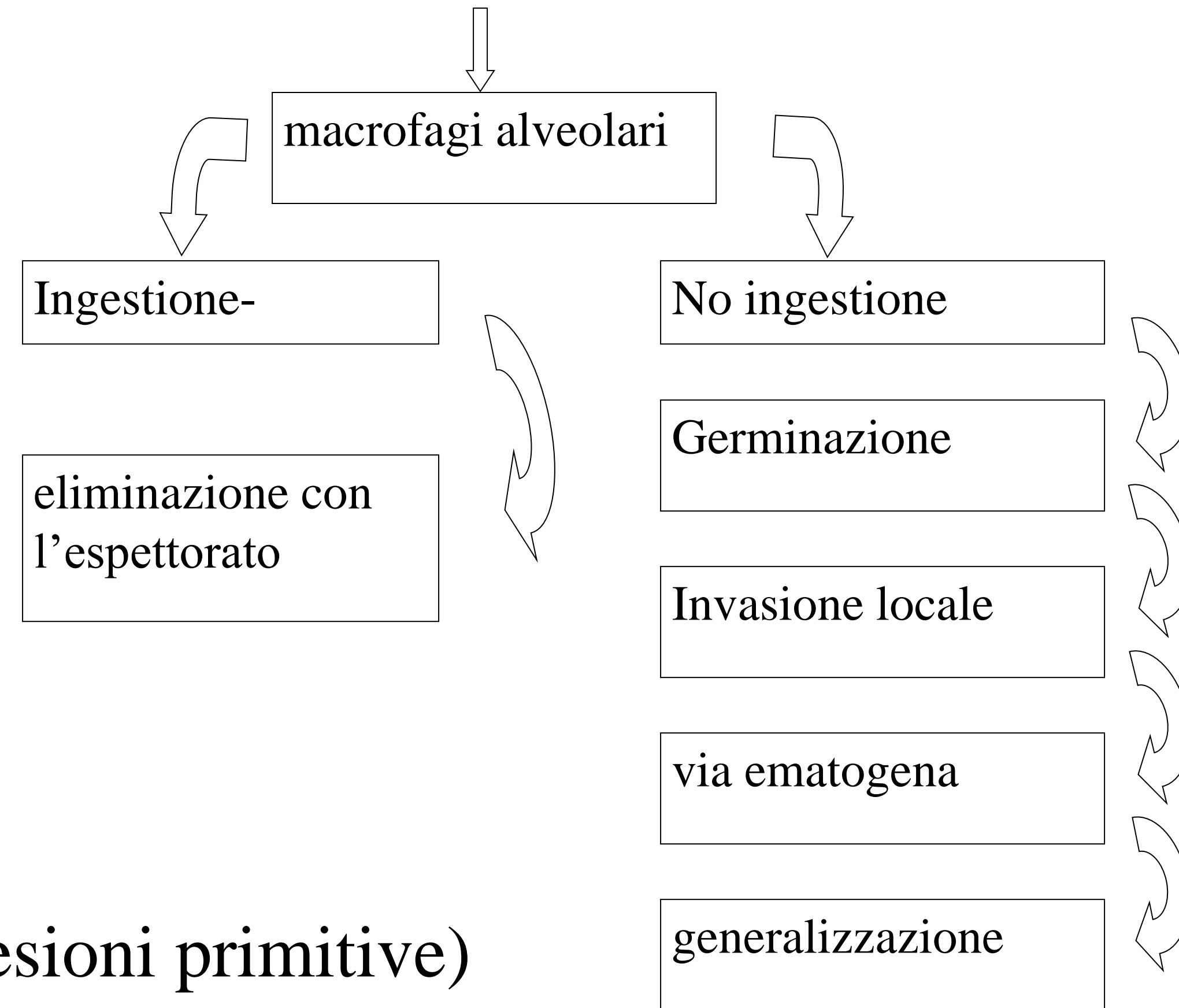
Ambiente
1-10⁸ conidia per m²

ASPERGILLOSI

Vie di ingresso

Via respiratoria

difese



Via digestiva (lesioni primitive)

Via transcutanea

Transmammaria

ASPERGILLOSI

Azioni patogeniche: meccanica

irritativa-infiammatoria

tossica locale

tossica generale

allergizzante

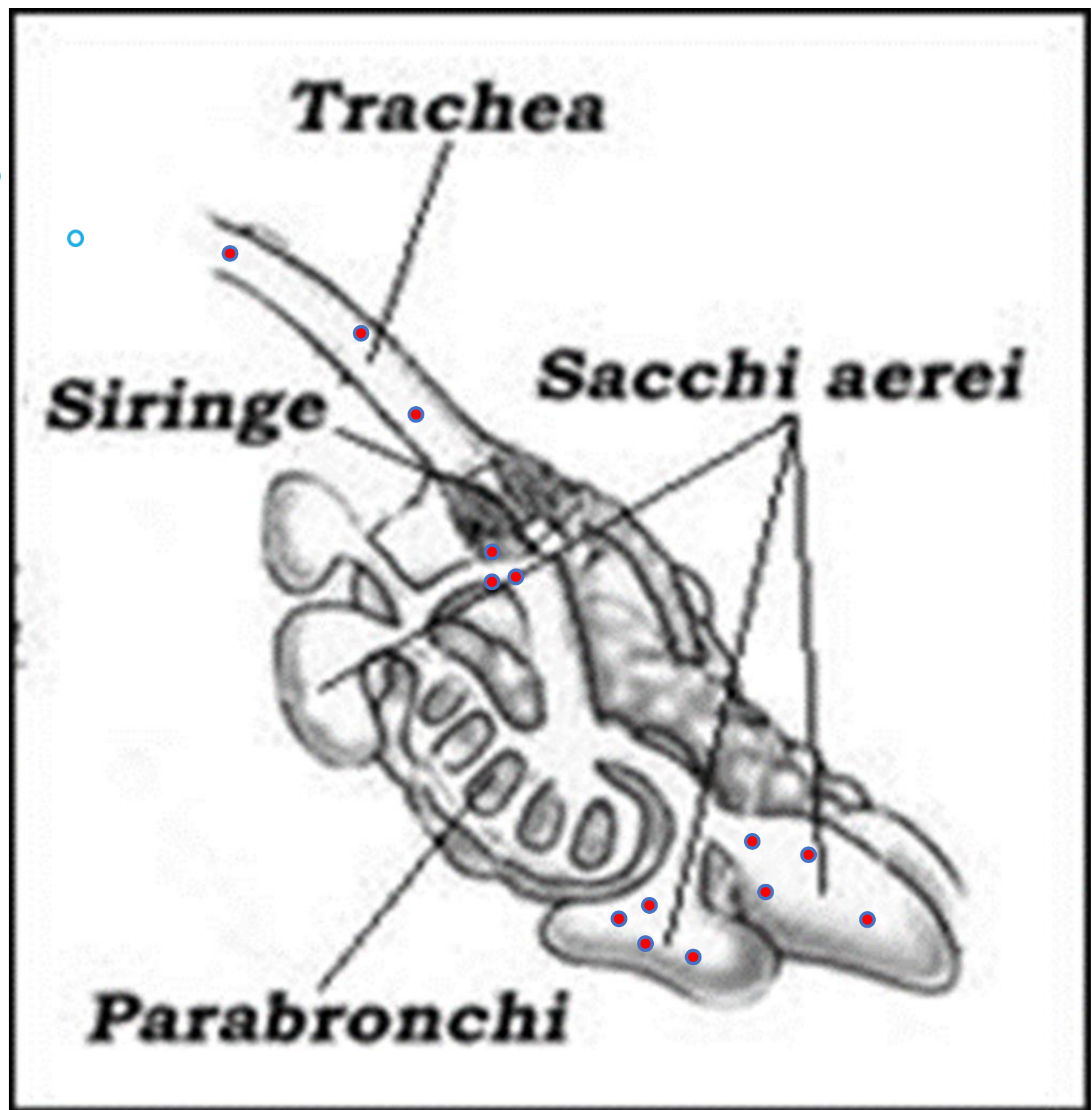
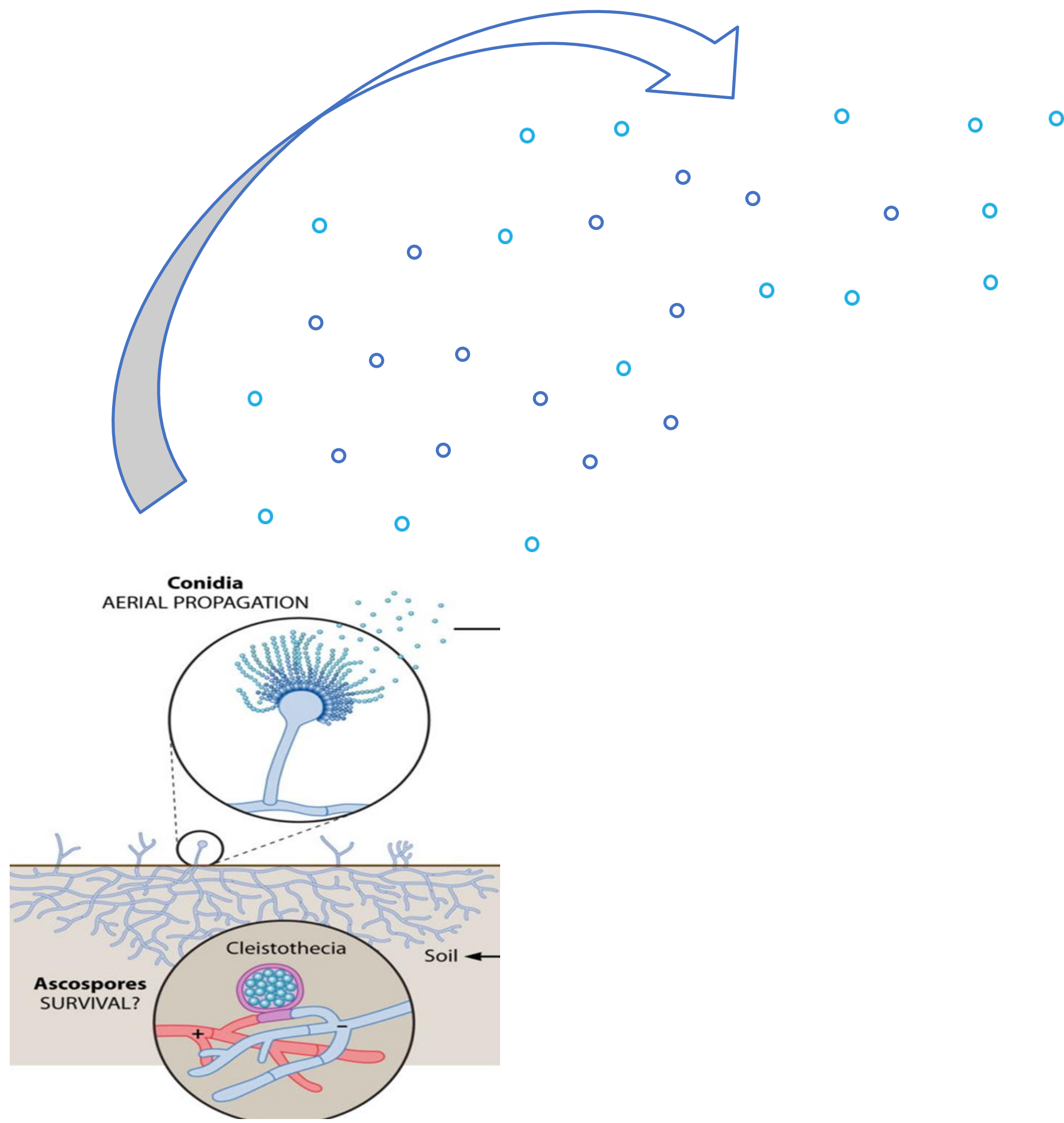
immunosoppressiva

lesioni nodulari

lesioni essudative

Aspergillosi aviare

A. fumigatus, *A. flavus*, *A. niger*, *A. nidulans*



Aspergillosi aviare

Specie di interesse zootecnico



morte in uovo dopo 6-10gg + aspergillosi
in pulcini per infezione alla schiusa.

Polmoniti da incubatoio.
Pulcini di meno di 10 giorni

Forme iperacute.
Morte in 24-48 ore

> 2-3 settimane

Forma acuta/subacuta:

- •Anoressia
- •Letargia
- •Difficoltà respiratorie (dispnea, respiro ansimante, tosse non produttiva, cianosi)
- •Polidipsia
- •Dimagrimento
- •Arresto della crescita
- •Morte improvvisa

Forma cronica

Sintomi dipendenti dalla sede di localizzazione

- •Dispnea
- •Depressione
- •Atassia, tremori, opistotono, decubito laterale, torcicollo, convulsioni per coinvolgimento del SNC
- •congiuntiviti e scolo oculare
- •Zoppie per artriti

Aspergillosi aviare

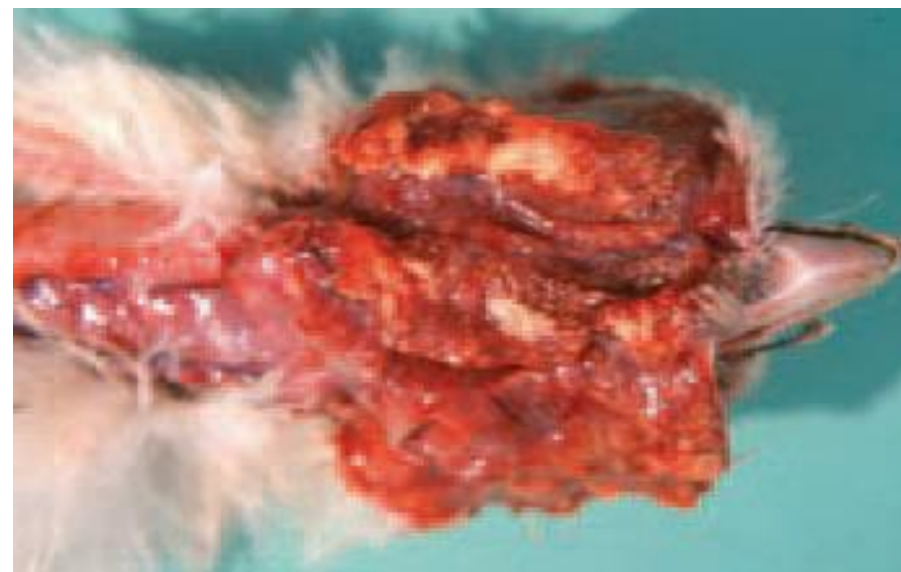
Specie di
interesse
zootecnico



Aspergillosi aviare

Specie di interesse zootecnico

Diagnosi epidemiologica e post-mortem



Diseases of poultry, a colour atlas «2nd edition.

<http://www.thepoultrysite.com/publications/6/diseases-of-poultry/212/aspergillosis>



Cacciuttolo E., Rossi G., Nardoni S., Legrottaglie R., Mani P. (2009)

Anatomopathological aspects of avian aspergillosis.

Vet Res Commun, 33:521–527 DOI 10.1007/s11259-008-9199-7

Aspergillosi aviare

Specie di interesse zootecnico

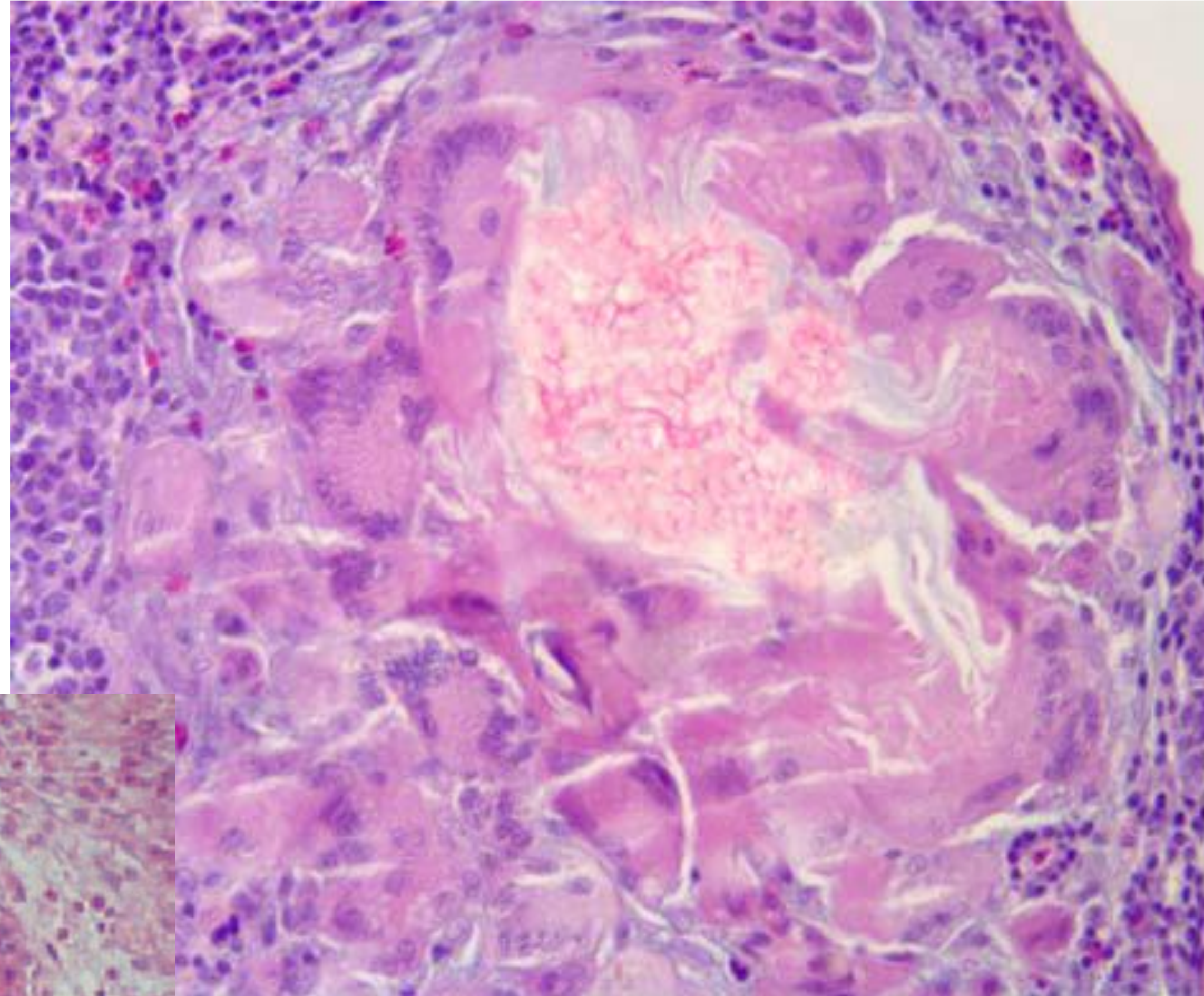


Cacciuttolo E., Rossi G., Nardoni S., Legrottaglie R., Mani P. (2009) Anatomopathological aspects of avian aspergillosis. *Vet Res Commun*, 33:521–527 DOI 10.1007/s11259-008-9199-7

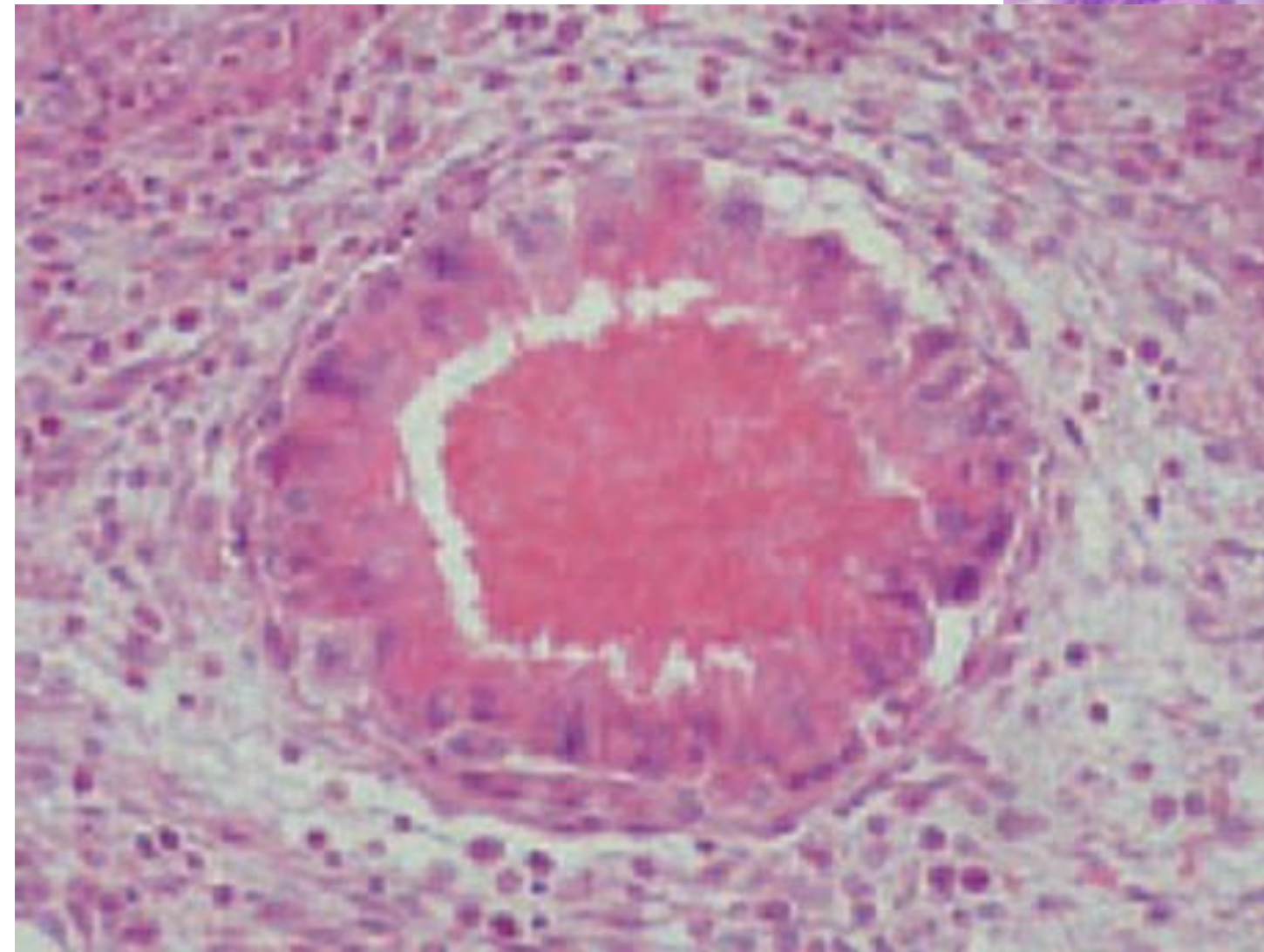
Aspergillosi aviare

Specie di interesse
zootecnico

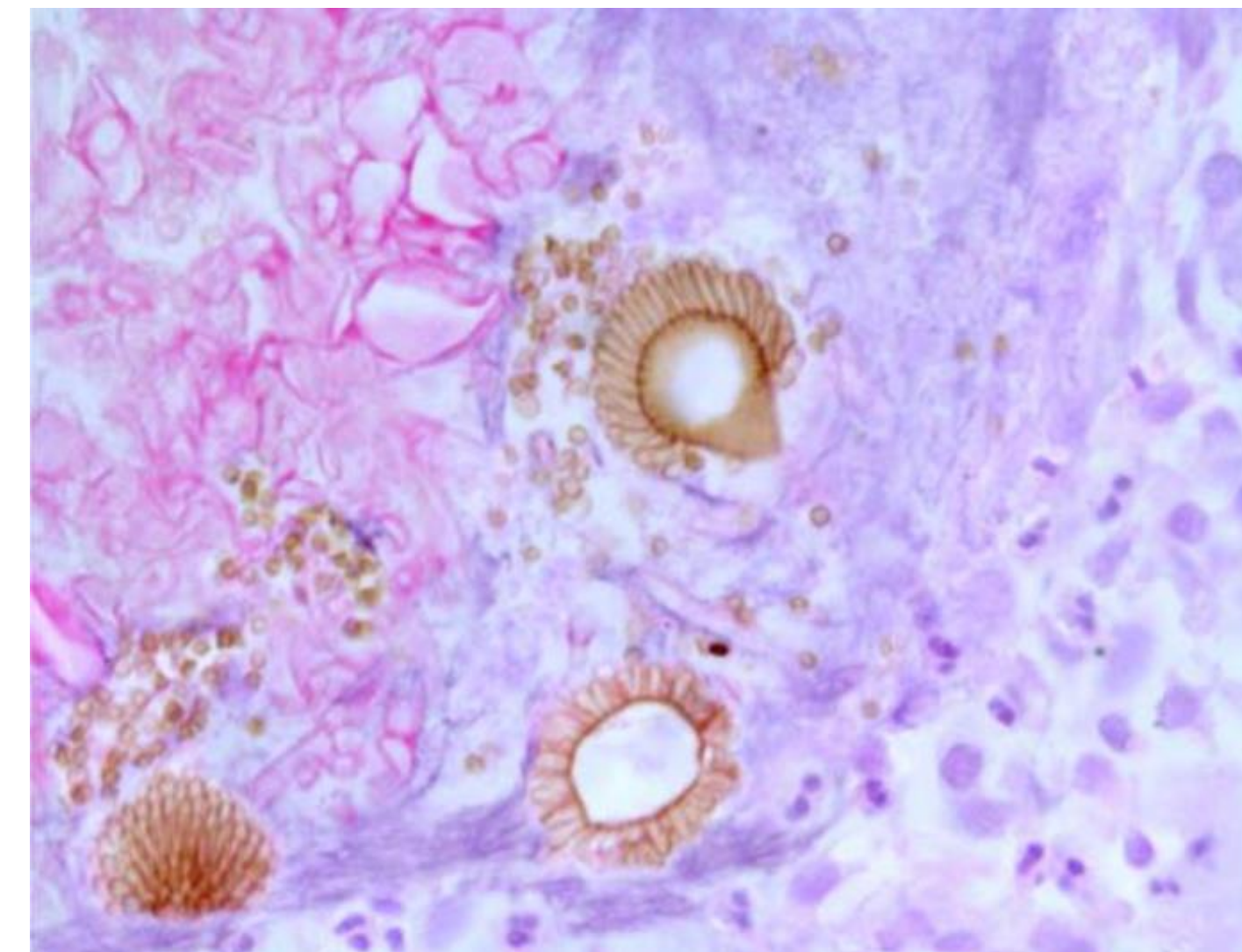
Diseases of poultry, a colour atlas
«2nd edition.
<http://www.thepoultrysite.com/publications/6/diseases-of-poultry/212/aspergillosis>



Se crescita in organi idonei (seni, sacchi aerei, ecc) si può avere sporulazione nell'organismo.



Cacciuttolo E., Rossi G., Nardoni S., Legrottaglie R., Mani P. (2009) Anatomopathological aspects of avian aspergillosis. *Vet Res Commun*, 33:521–527 DOI 10.1007/s11259-008-9199-7



Aspergillosi aviare

Journal of Medical Microbiology (2014), 63, 464–470

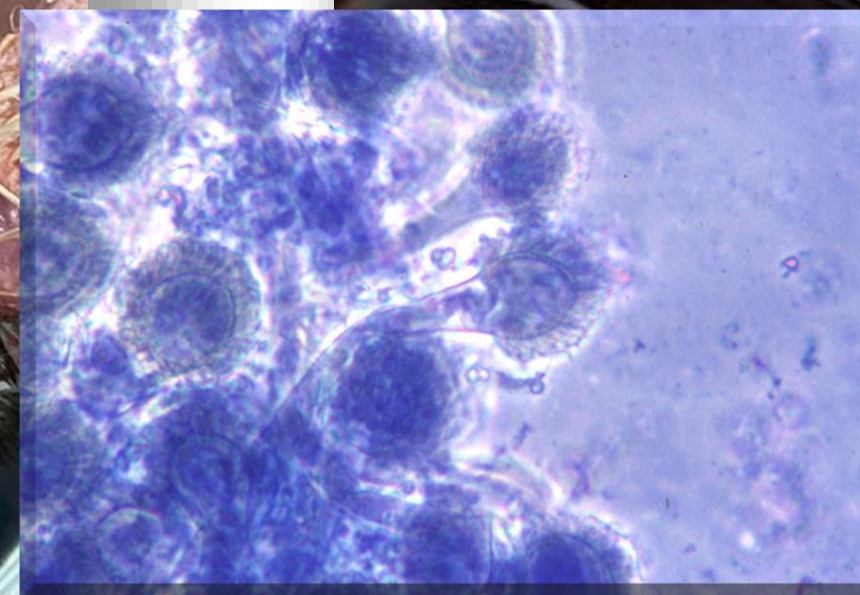
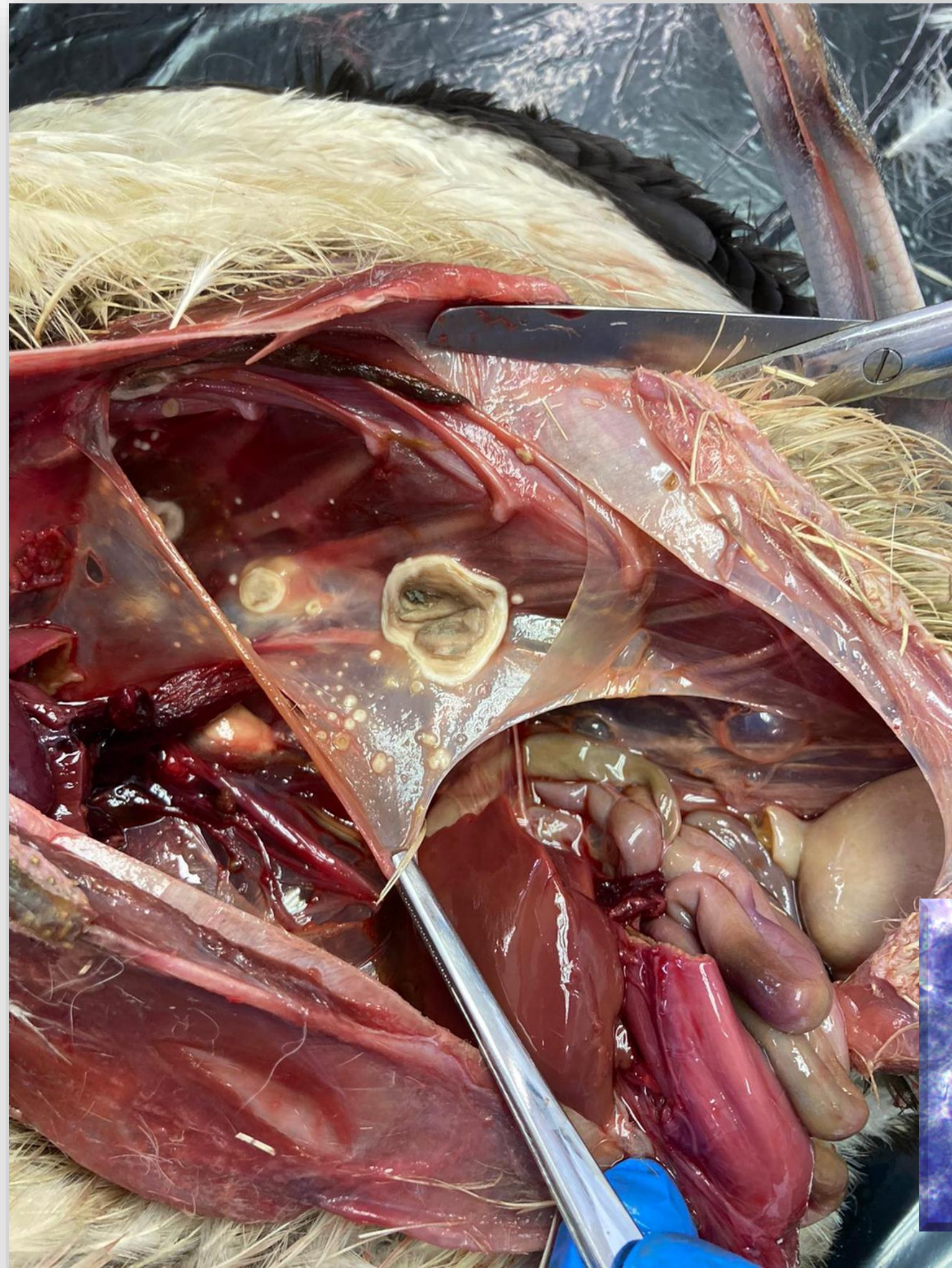
DOI 10.1099/jmm.0.065946-0

Environmental contamination by *Aspergillus* spp. in laying hen farms and associated health risks for farm workers

Claudia Cafarchia,¹ Antonio Camarda,¹ Roberta Iatta,¹ Patrizia Danesi,² Vincenza Favuzzi,¹ Giancarlo Di Paola,¹ Nicola Pugliese,¹ Anna Caroli,¹ Maria Teresa Montagna³ and Domenico Otranto¹

Aspergillosi aviare

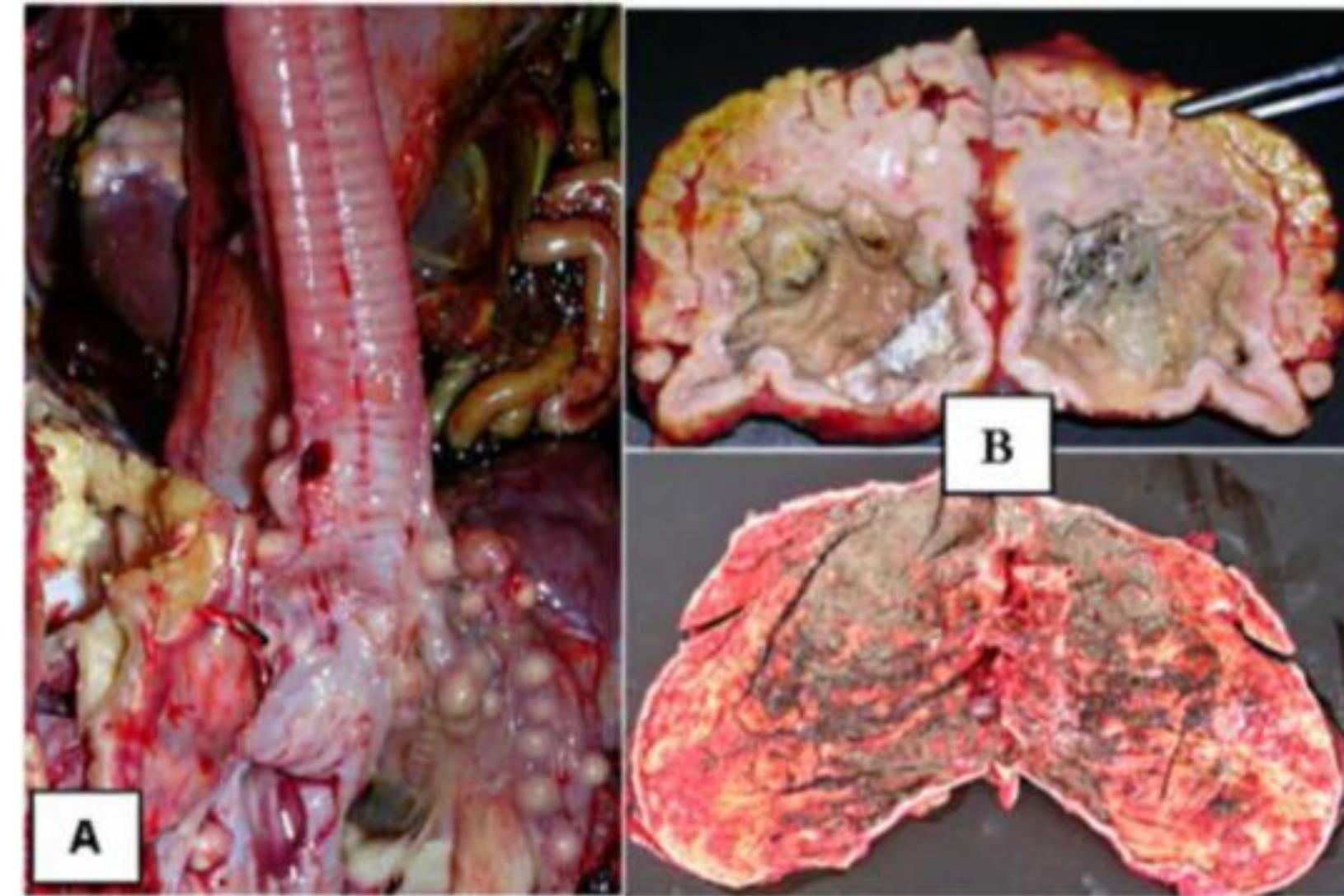
Uccelli selvatici



Gavia arctica

Aspergillosi aviare

Uccelli selvatici



Orzechowski, M. et al. (2011). Clinical and Pathological Findings of Aspergillosis in magellanic Penguin (*Spheniscus magellanicus*). *Anim. Bras., Goiânia*, 12, (3): 520-524,. 2011

Aspergillosi aviare



Cattolica aquarium

Aspergillosi aviare

Uccelli selvatici



Centri di soccorso

Aspergillosi aviare



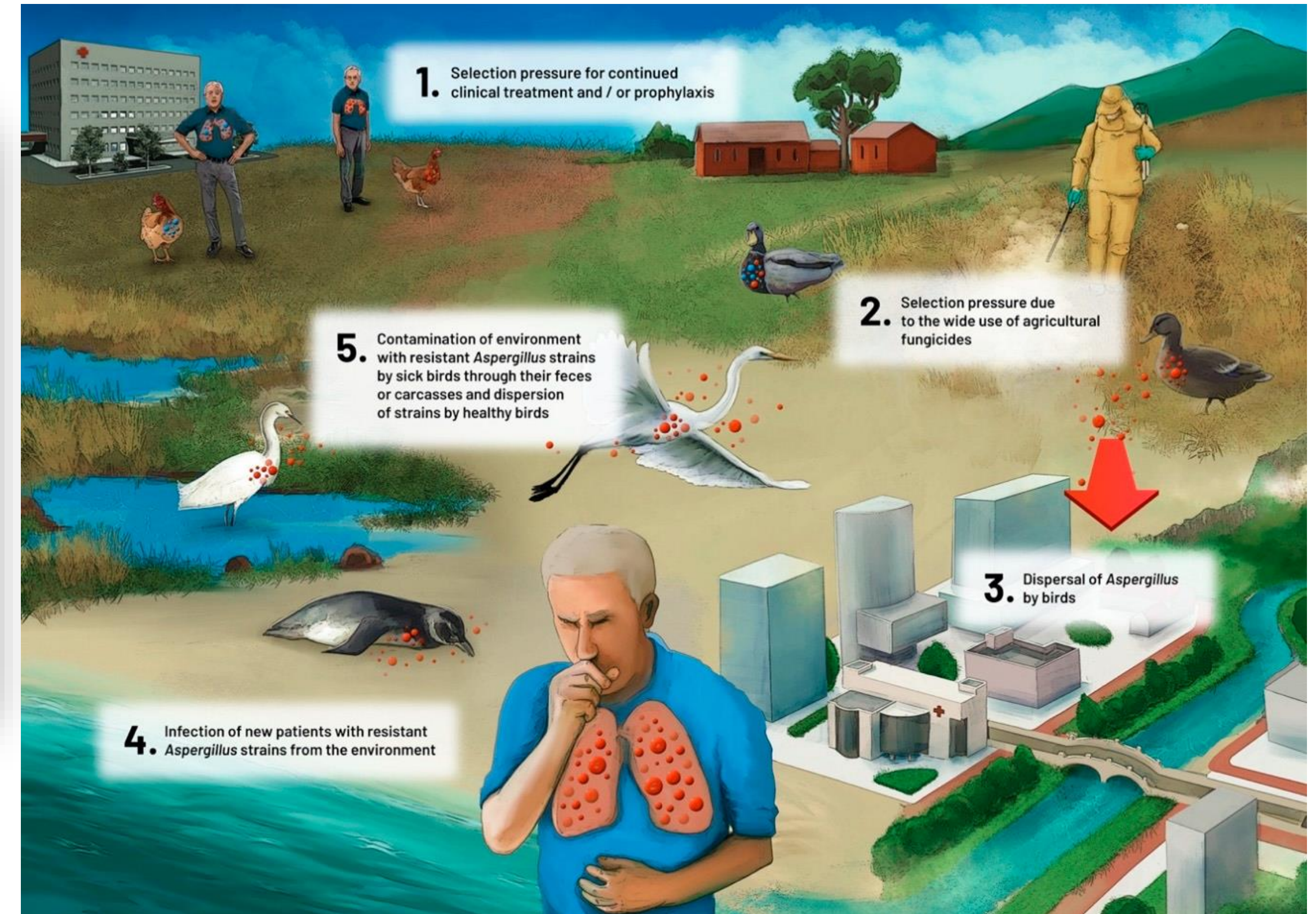
microorganisms

Microorganisms 2020, 8, 2037; doi:10.3390/microorganisms8122037

Review

Aspergillosis, Avian Species and the One Health Perspective: The Possible Importance of Birds in Azole Resistance

Aryse Martins Melo ^{1,2,*}, David A. Stevens ^{3,4}, Lisa A. Tell ⁵, Cristina Verissimo ², Raquel Sabino ^{2,6} and Melissa Orzechowski Xavier ^{1,7}



Aspergillosi bovina

A. fumigatus, *A. flavus*, *A. nidulans*, *A. terreus*

Placentite e aborto

Broncopolmonite

Lesioni gastrointestinali

Infezioni vescicali

Dermatomicosi

Mastite

Moretti et al., 2013: L'aborto ad eziologia micotica nella specie bovina, *Large Animal Review*, 19: 155-161

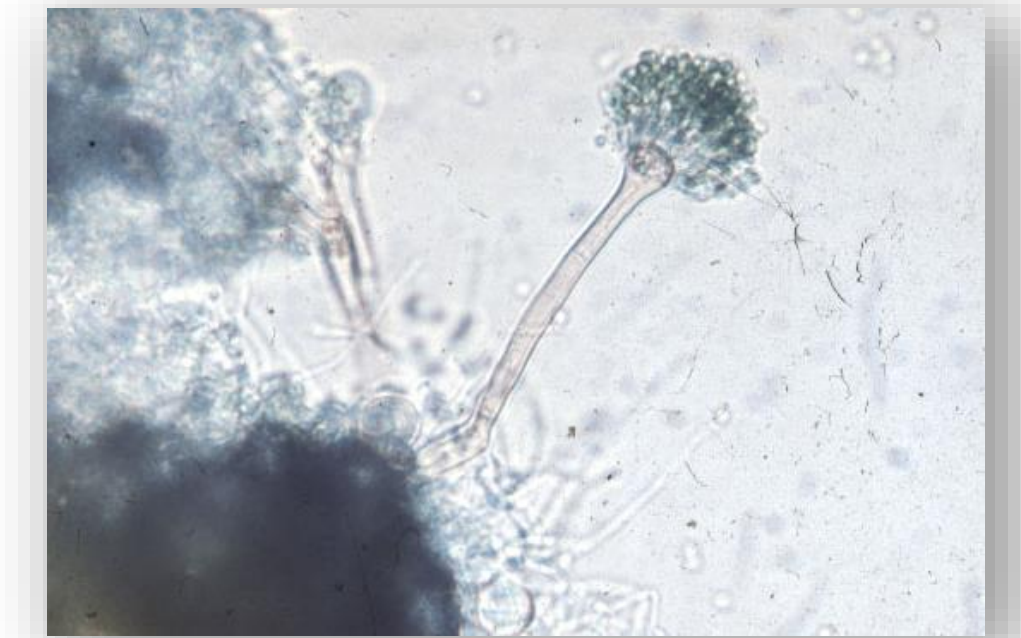
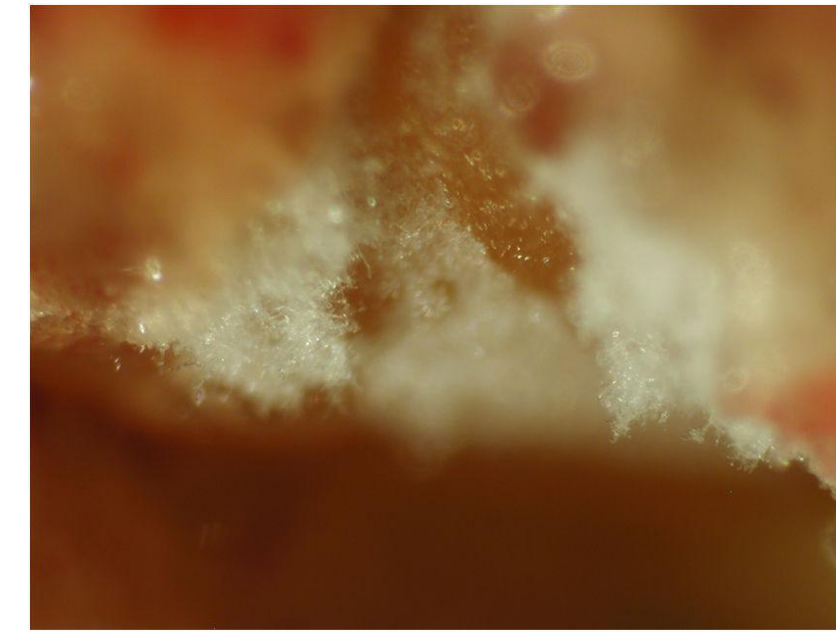
Vie di ingresso:

- digerente
- respiratoria,
- genitale



Forme simili in:
Pecora
capra
Suino

Aspergillosi equina



Rev Iberoam Micol. 2020;37:75-6

Tasche gutturali →

Principalmente ***A. nidulans***

Polmonite →

Principalmente ***A. fumigatus***,

Sinusite

Aborto

Cheratite

Forme sistemiche



Da leggere:

Cafarchia et al., 2013: Fungal diseases of horses, Veterinary Microbiology, Volume 167, Issues 1–2, Pages 215-234, <https://doi.org/10.1016/j.vetmic.2013.01.015>.

Aspergillosi rinosinusale

Aspergillosi canina

A. fumigatus, *A. niger*, *A. nidulans*, *A. flavus*

Fattori predisponenti

Anatomia del cranio-razze
dolicocefale- raro in
brachicefali

Presenza di corpi estranei
nelle fosse nasali

Segni clinici

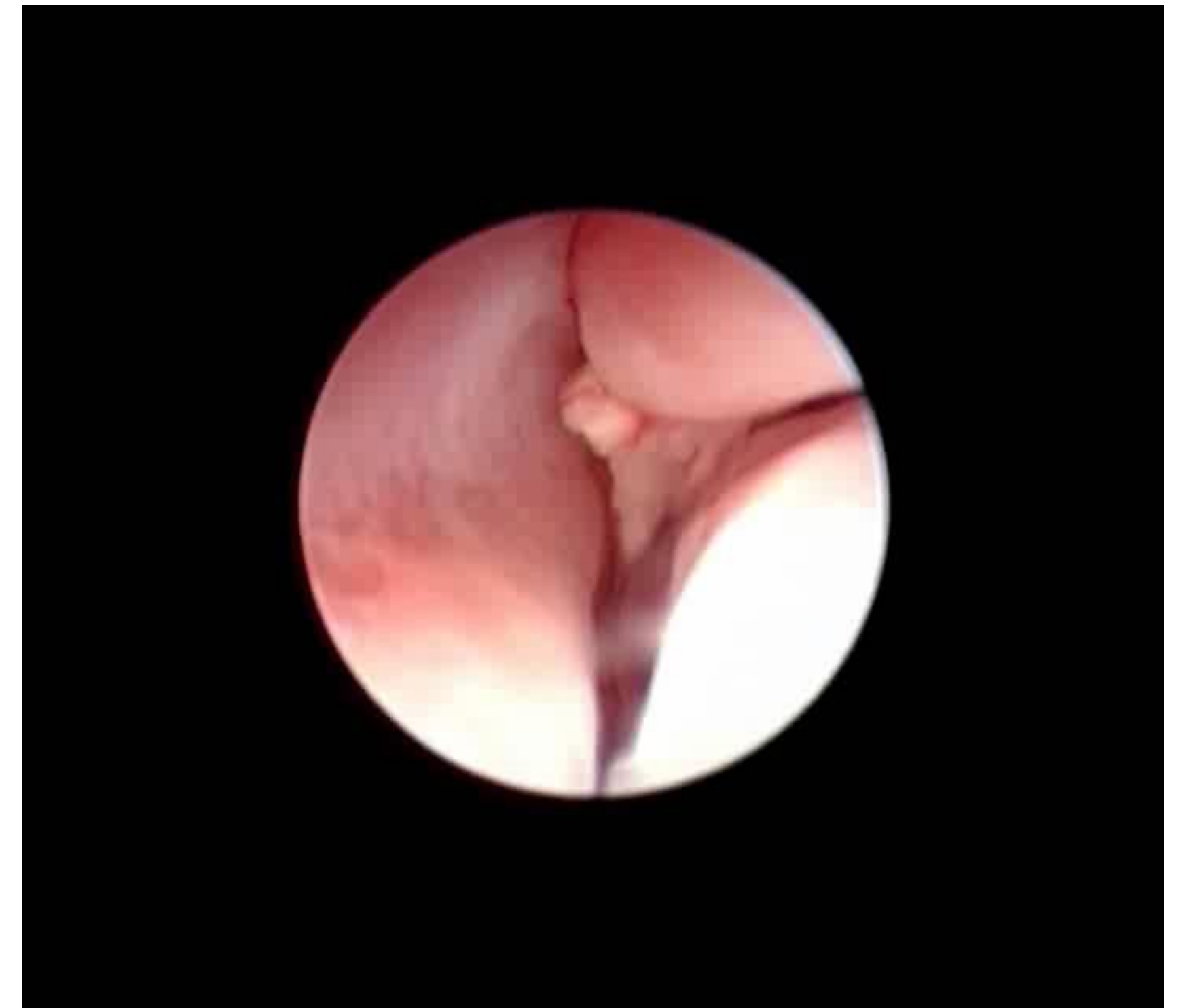
Scolo nasale mucoso o
mucopurulento, mono o bilaterale

Dolore alla palpazione

Ulcerazioni all'orefizio delle fosse
nasali

Epistassi mono o bilaterale

Ulcere arti anteriori (casi trascurati)



courtesy by Prof. Marco Pietra, DIMEVET -Bologna

Terapia e prognosi

Terapia sistemica

Tiabendazolo 10-20 mg/Kg per os ogni 12 ore per 6-8 settimane

Ketoconazolo 5-10 mg/Kg per os ogni 12 ore per 6-8 settimane (43-60% di successo)

Fluconazolo: 2,5-5 mg/Kg per os ogni 12 ore per 10 settimane

Itraconazolo: 5 mg/Kg per os ogni 12 ore per 10 settimane (60-70% di successo)

Pulizia chirurgica

**Trapanazione seni nasali e frontali: pulizia chirurgica (aspirazione e raschiamento)
più trattamento locale con catetere ...(enilconazolo o clotrimazolo**

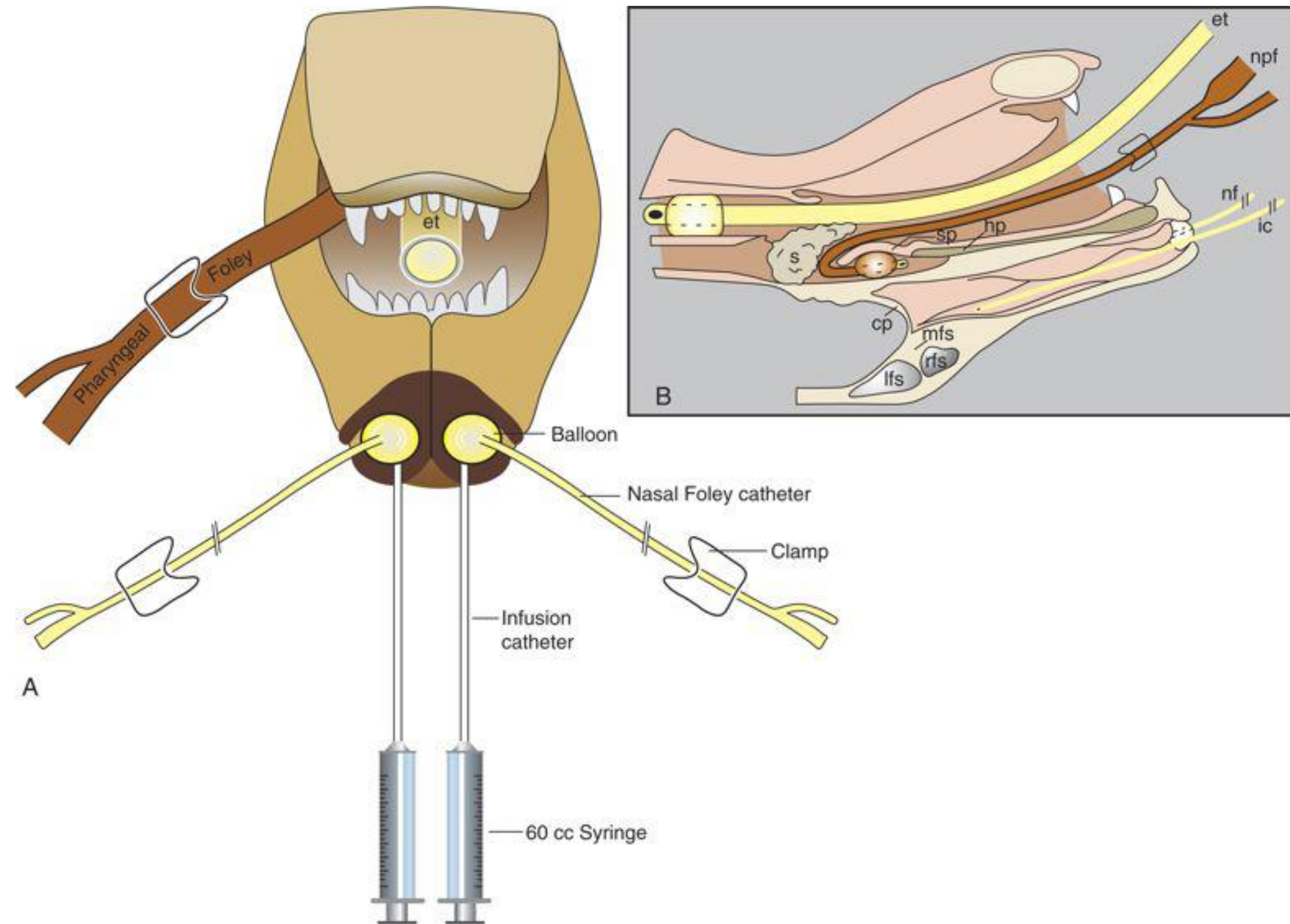
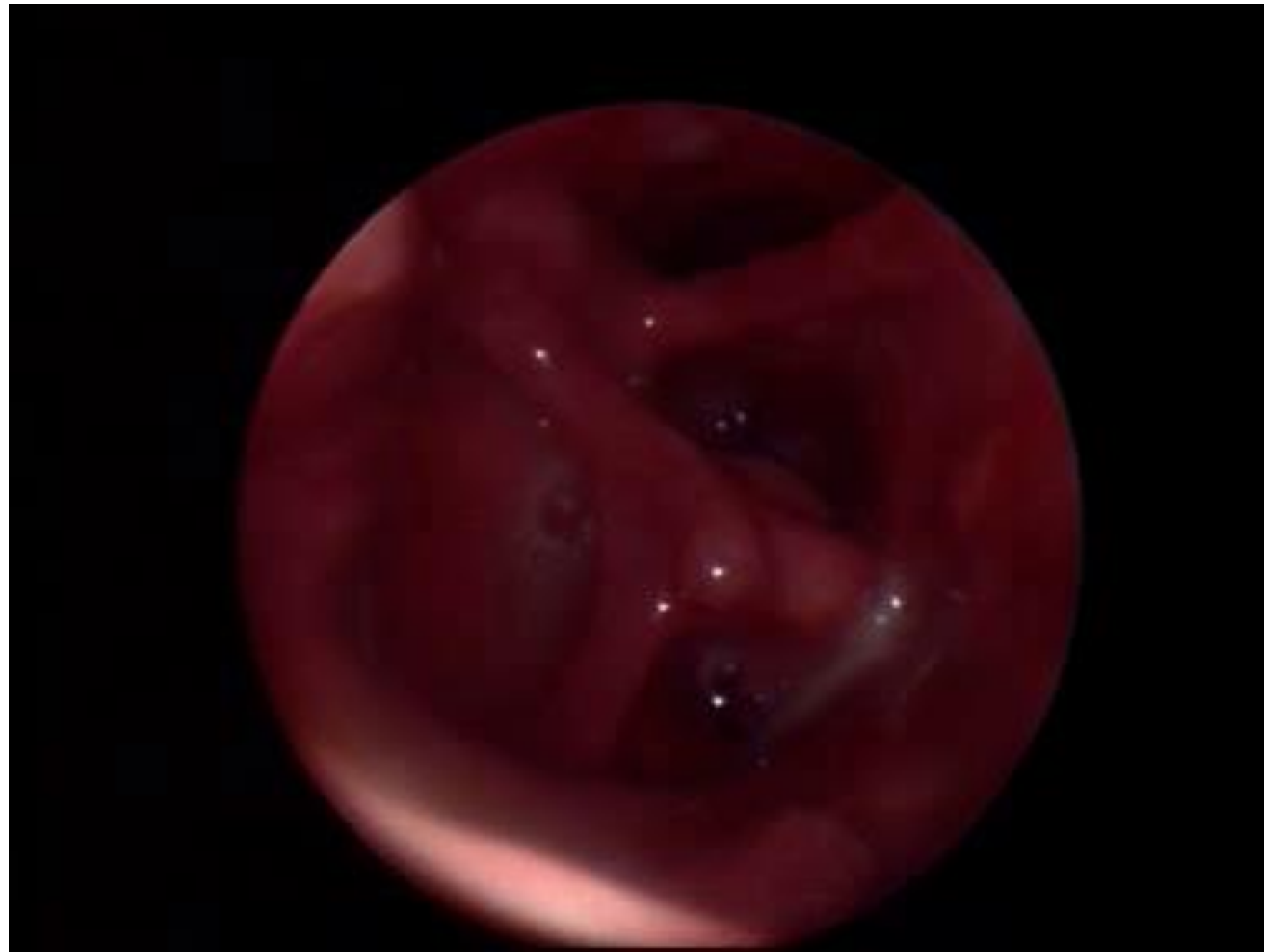
...(80-86% di successo)

Sharp et al (1993) J.Vet. Int. Med. 7:40-43)

Davidson et al., 1992 Proc. Am coll. Vet. Intern. Med. forum., 807



Infusione intranasale



Mathews KG et al. 1996. Computed tomographic assessment of noninvasive intranasal infusions in dogs with fungal rhinitis, *Vet Surg* 25:309–319, 1996.

Aspergillosi canina

Aspergillosi disseminata

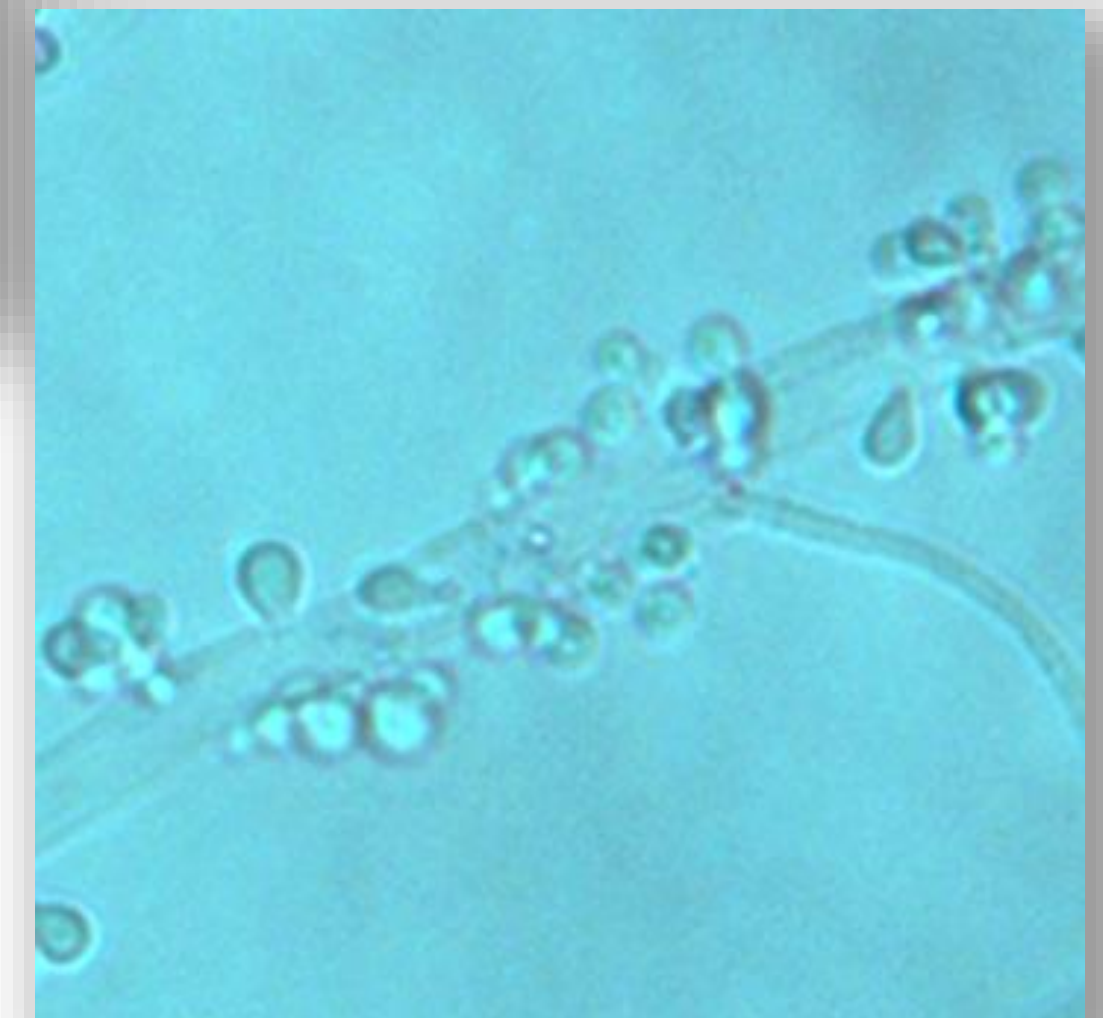
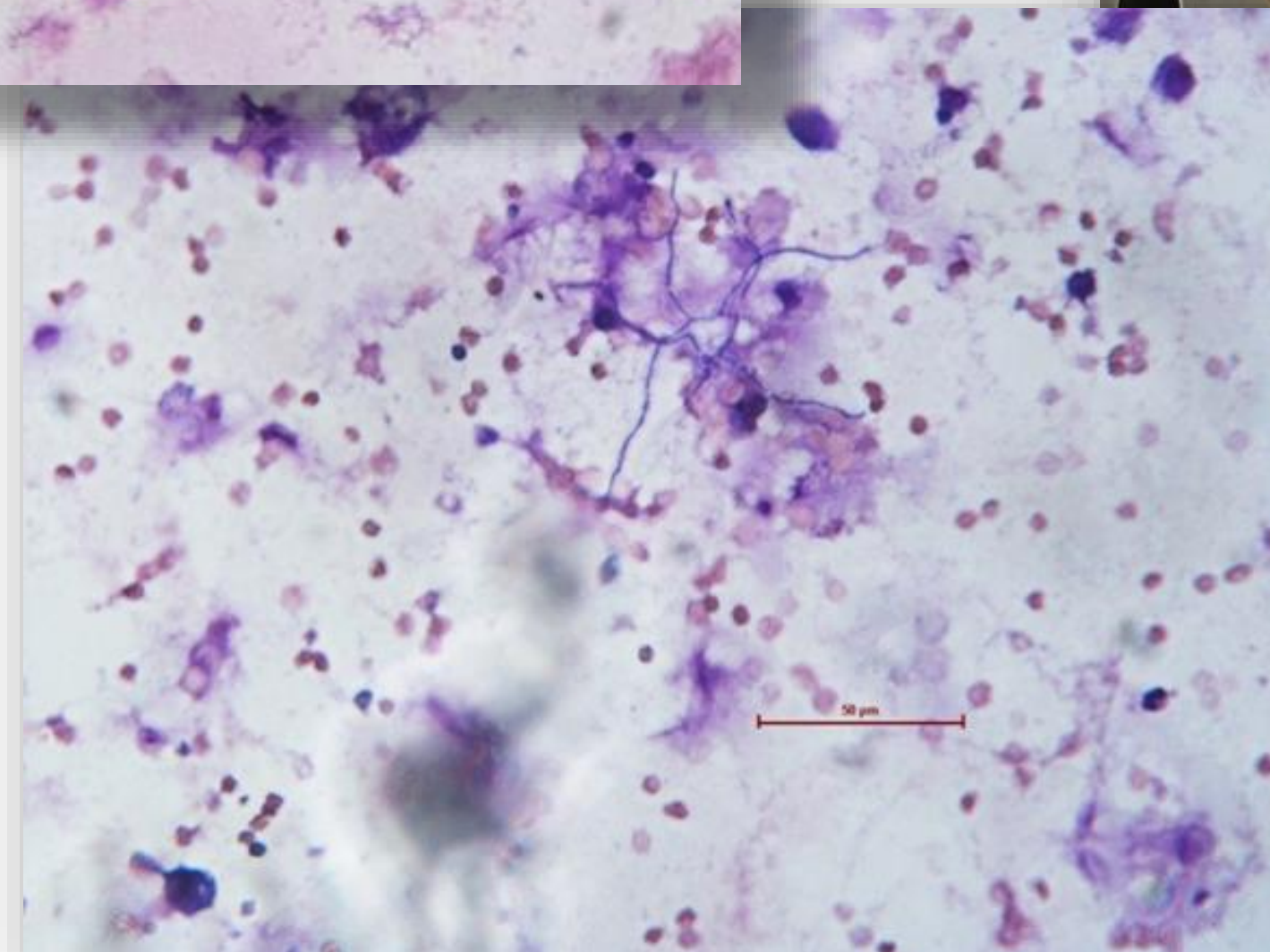
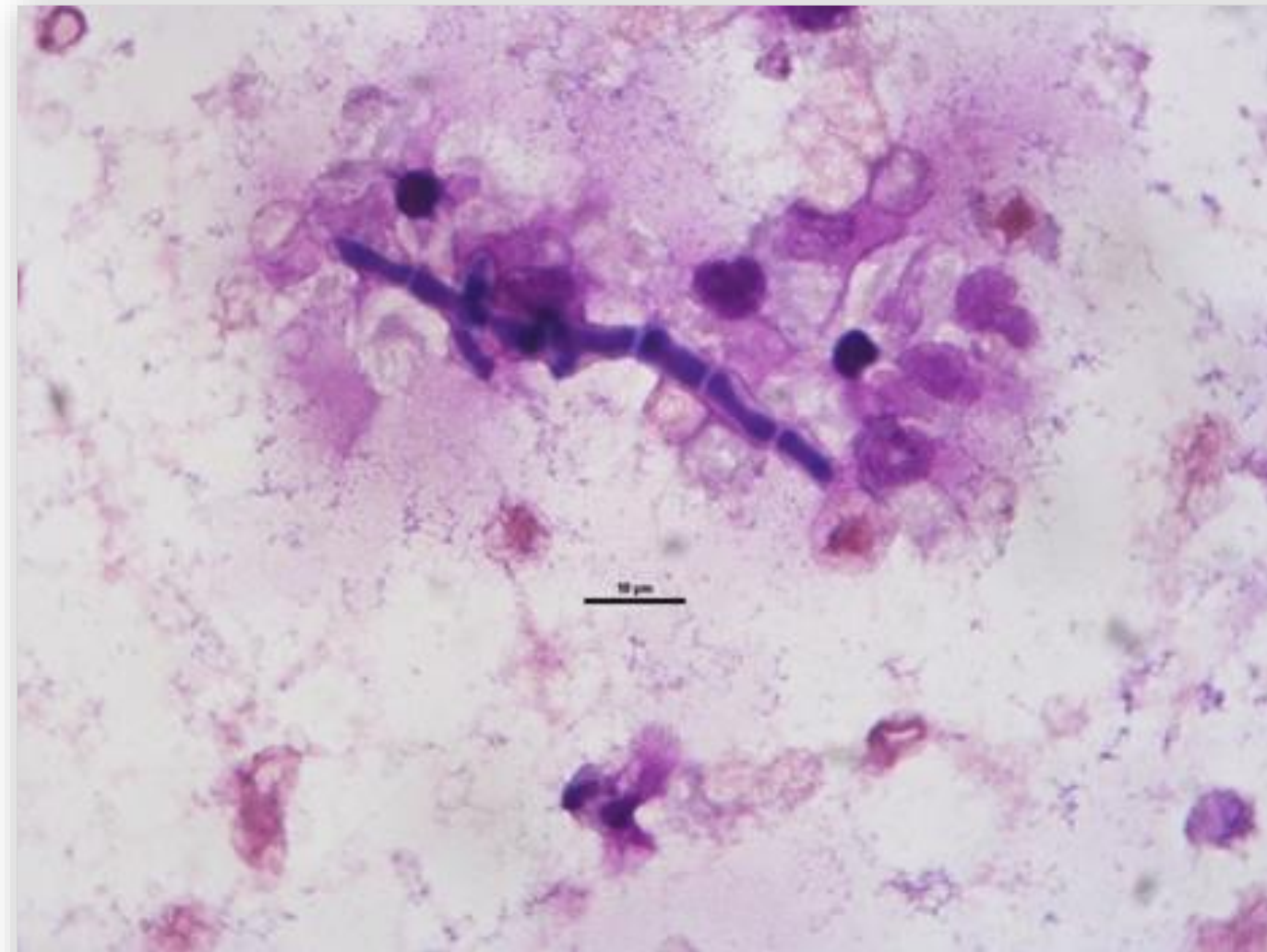
A. terreus, *A. flavipes*, *A. fumigatus*

Disseminazione ematogena

Localizzazioni:

Dischi intervertebrali,
Glomeruli renali
Occhio

Ma anche ossa lunghe,
muscoli, organi
parenchimatosi, SNC



Aspergillosi delle api

Aspergillus flavus

Covata pietrificata



SHORT COMMUNICATION

Annals of Agricultural and Environmental Medicine 2016, Vol 23, No 1, 103–105
www.aem.pl

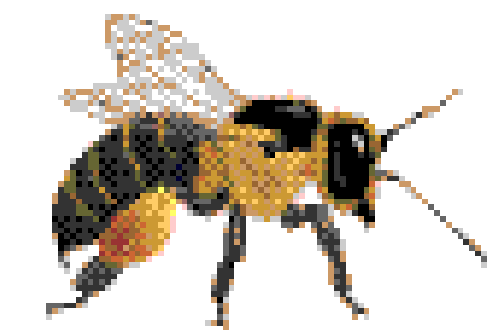
Occurrence of moulds from bee pollen in Central Italy – A preliminary study

Simona Nardoni¹, Carlo D'Ascenzi¹, Guido Rocchigiani¹, Valentina Moretti¹, Francesca Mancianti¹

Dipartimento di Scienze Veterinarie, Università di Pisa, Pisa, Italy

Nardoni S, D'Ascenzi C, Rocchigiani G, Moretti V, Mancianti F. Occurrence of moulds from bee pollen in Central Italy – A preliminary study. Ann Agric Environ Med. 2016; 23(1): 103–105. doi: 10.5604/12321966.1196862

Abstract





Grazie per l'attenzione

roberta.galuppi@unibo.it