

ALCUNE RACCOLTE
di
PILOBOLUS

Habitat





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ZYGOMYCOTINA



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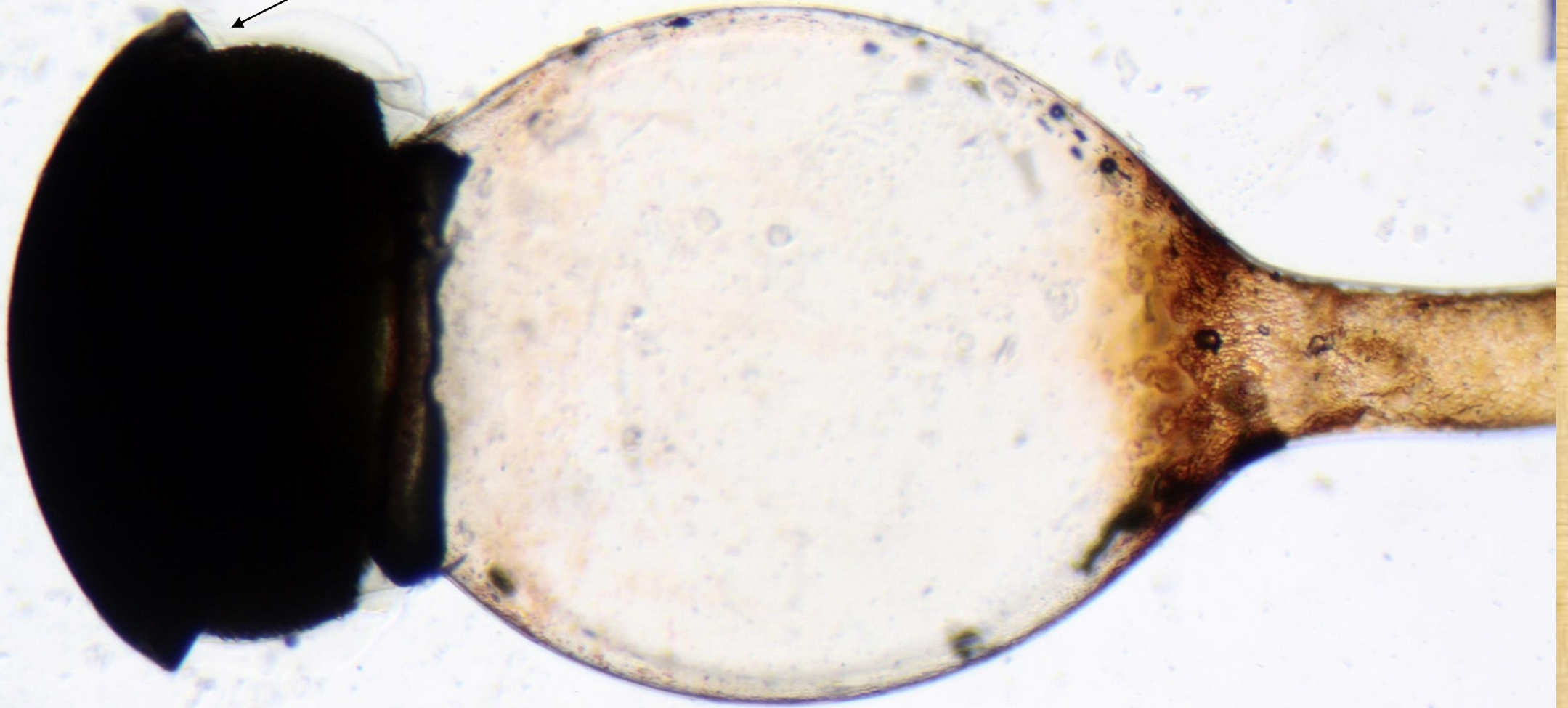
Sporangioforo di *Pilobolus crystallinus* v. *kleinii*



Obiettivo PL4/0.1-160/- : Bar = 2000 μm

0 500 μm 1000 μm

Pilobolus oedipus, sporangio



0 500 μm 1000 μm

Pilobolus oedipus, columella



Pilobolus oedipus, ampolla sottosporangiale



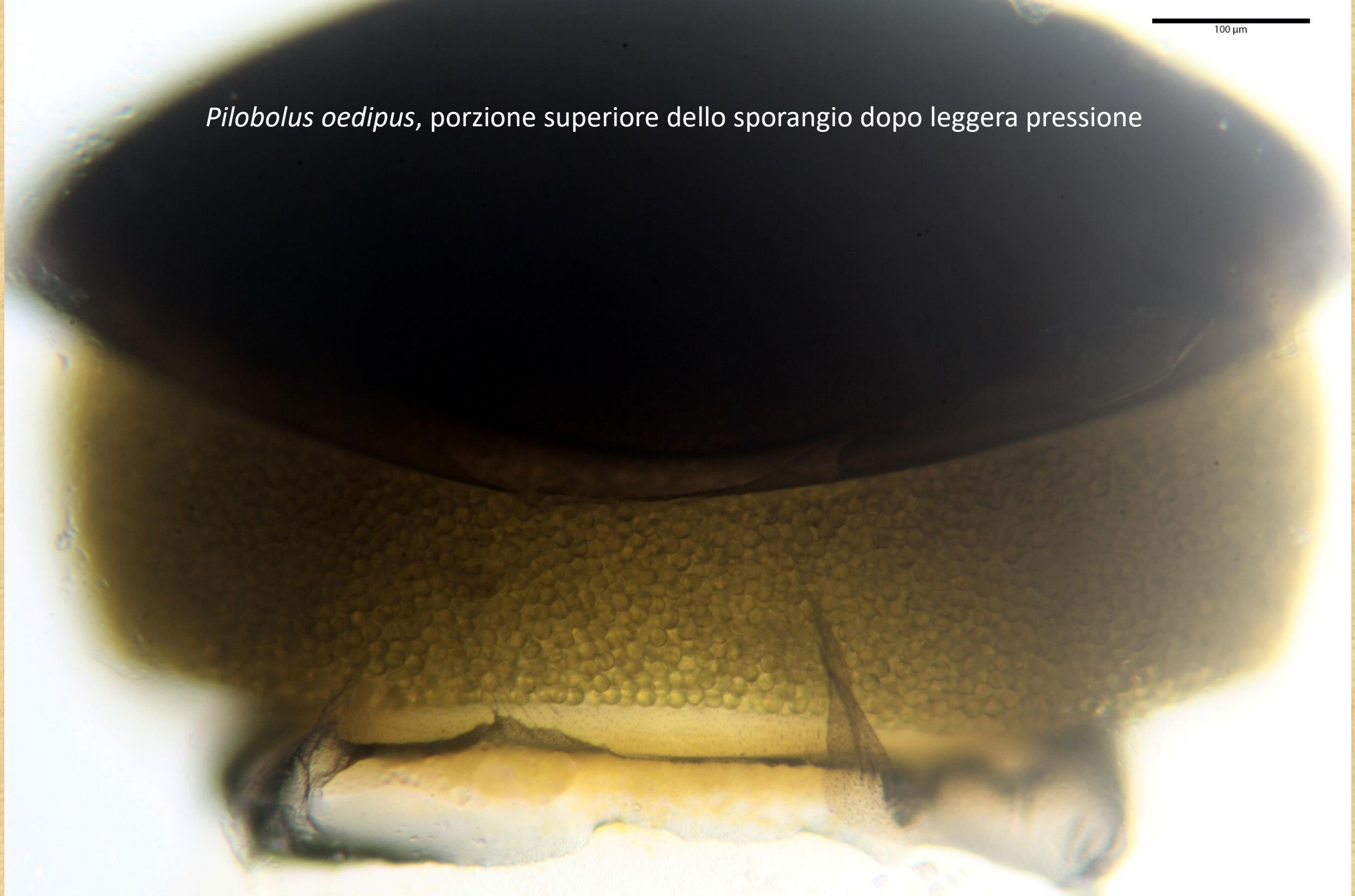
0 500 µm 1000 µm

Trofocisti di *Pilobolus crystallinus* v. *kleinii*



100 μ m

Pilobolus oedipus, porzione superiore dello sporangio dopo leggera pressione



100 µm

Pilobolus oedipus, porzione inferiore dello sporangio dopo leggera pressione

100 μ m

Sostanze carotenoidi tra il collo della columella e l'apice dell'ampolla sottosporangiale



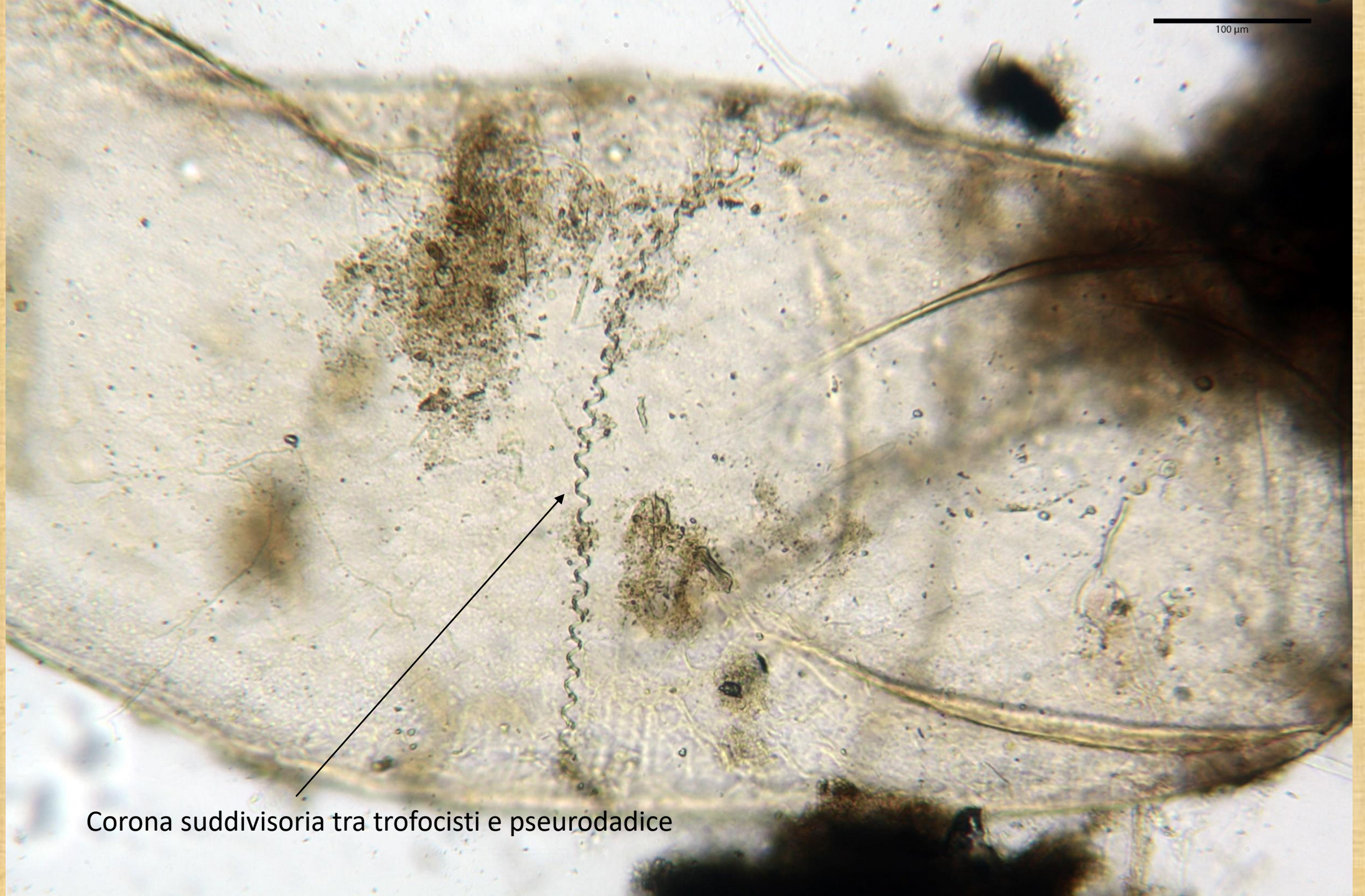
100 µm

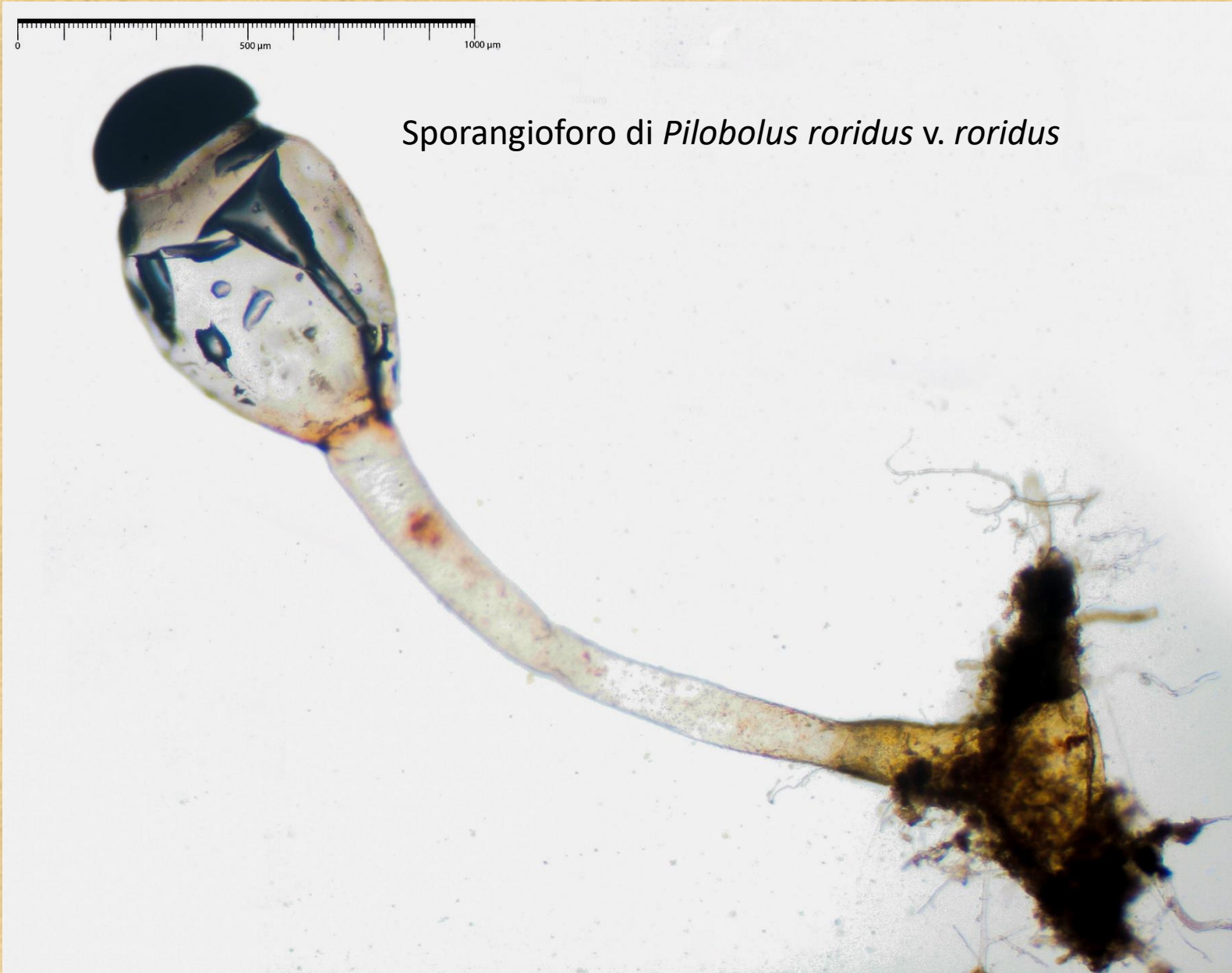
Sostanze carotenoidi alla base dell'ampolla sottosporangiale



100 µm

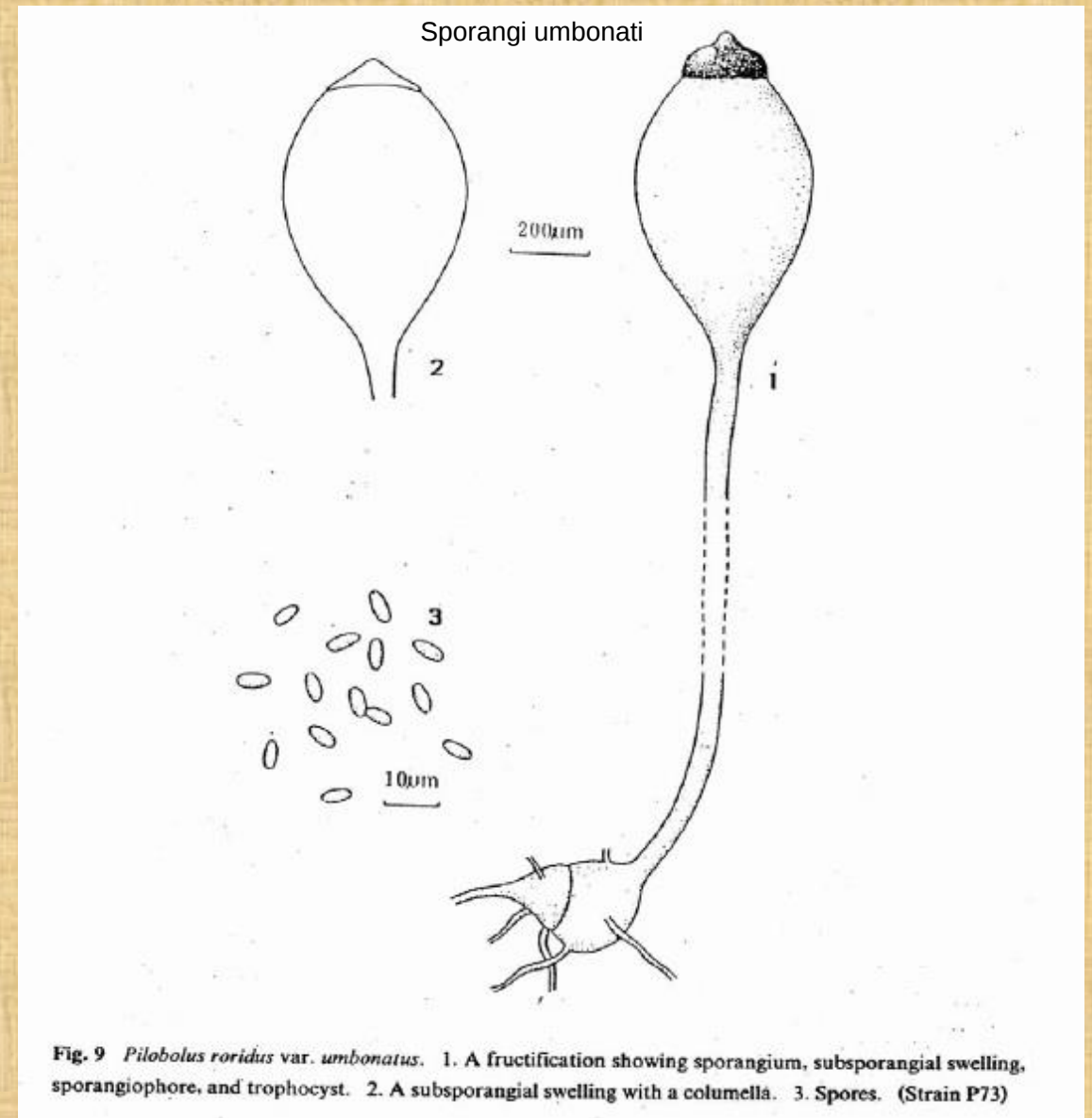
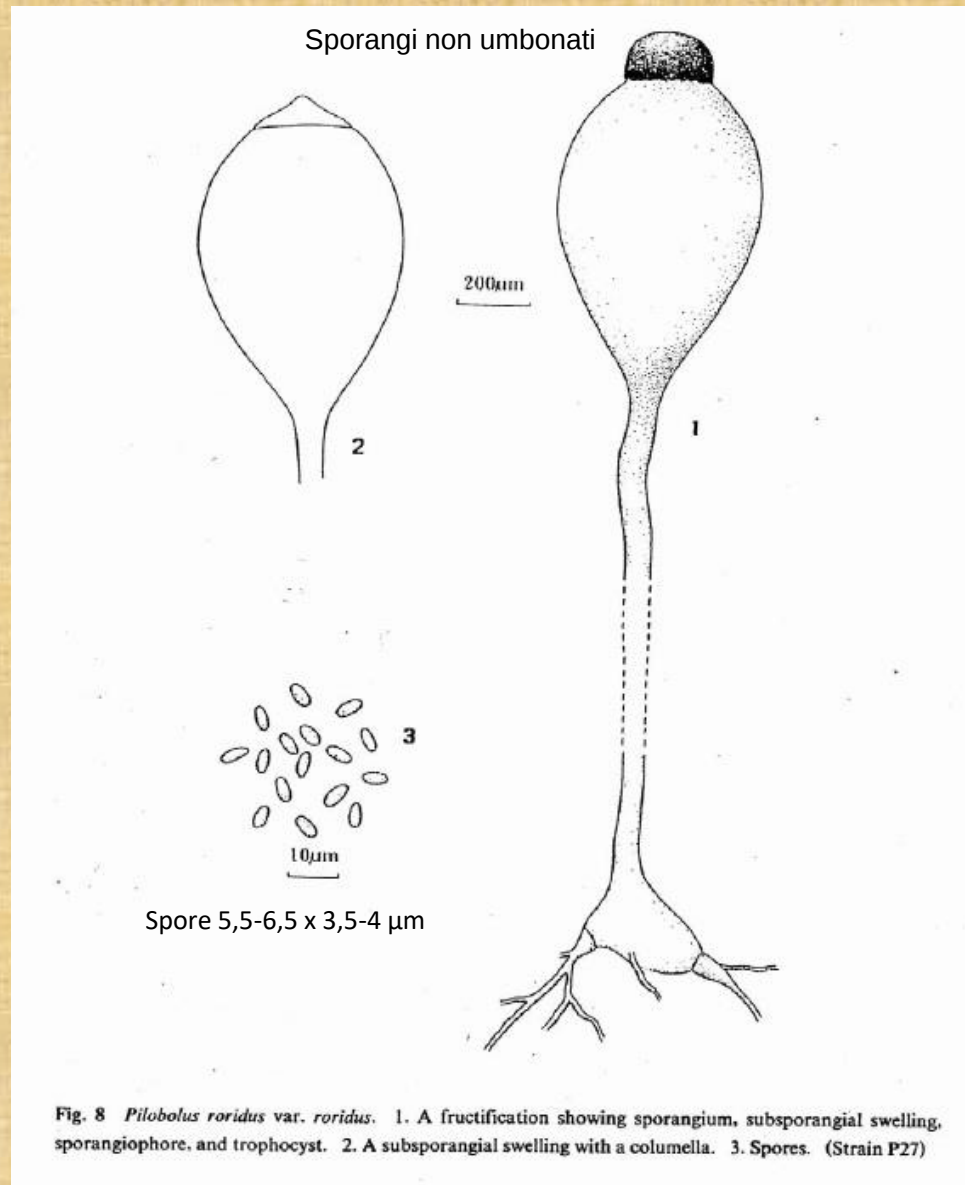
Corona suddivisoria tra trofocisti e pseudodadice





Sporangioforo di *Pilobolus roridus* v. *roridus*

Spore ellissoidi, $< 7 \mu\text{m}$ di lunghezza; columella piano-convessa, alta $< 110 \mu\text{m}$



Spore non ellissoidi, se ellissoidi allora $> 7 \mu\text{m}$ di lunghezza: columella non piano-convessa e di solito alta $> 110 \mu\text{m}$

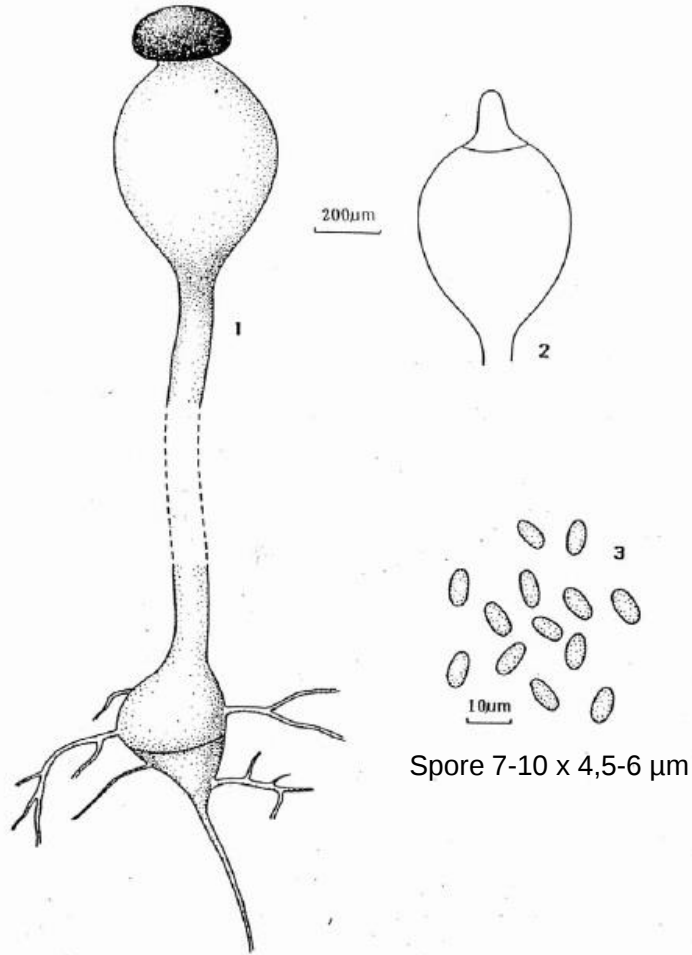


Fig. 1 *Pilobolus crystallinus* var. *crystallinus*. 1. A fructification showing sporangium, subsporangial swelling, sporangiophore, and trophocyst. 2. A subsporangial swelling with a columella. 3. Spores. (Strain P13)

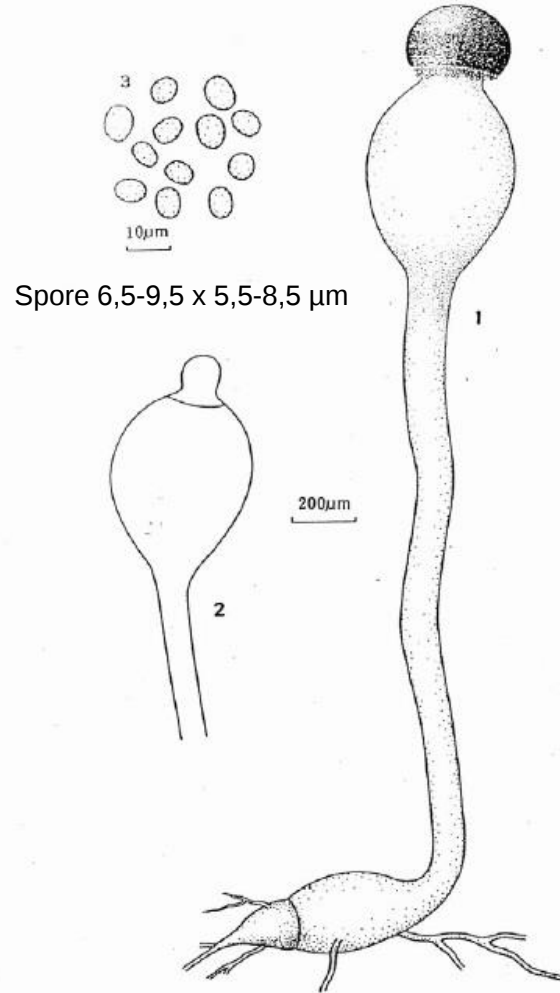


Fig. 2 *Pilobolus crystallinus* var. *hyalosporus*. 1. A fructification showing sporangium, subsporangial swelling, sporangiophore, and trophocyst. 2. A subsporangial swelling with a columella. 3. Spores. (Strain P21)

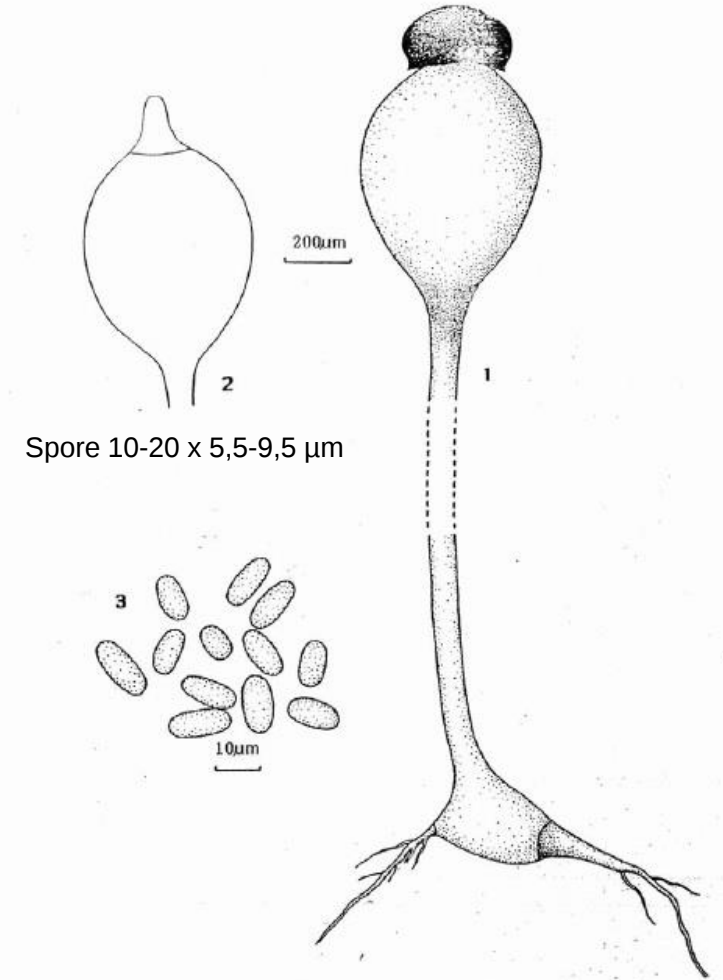
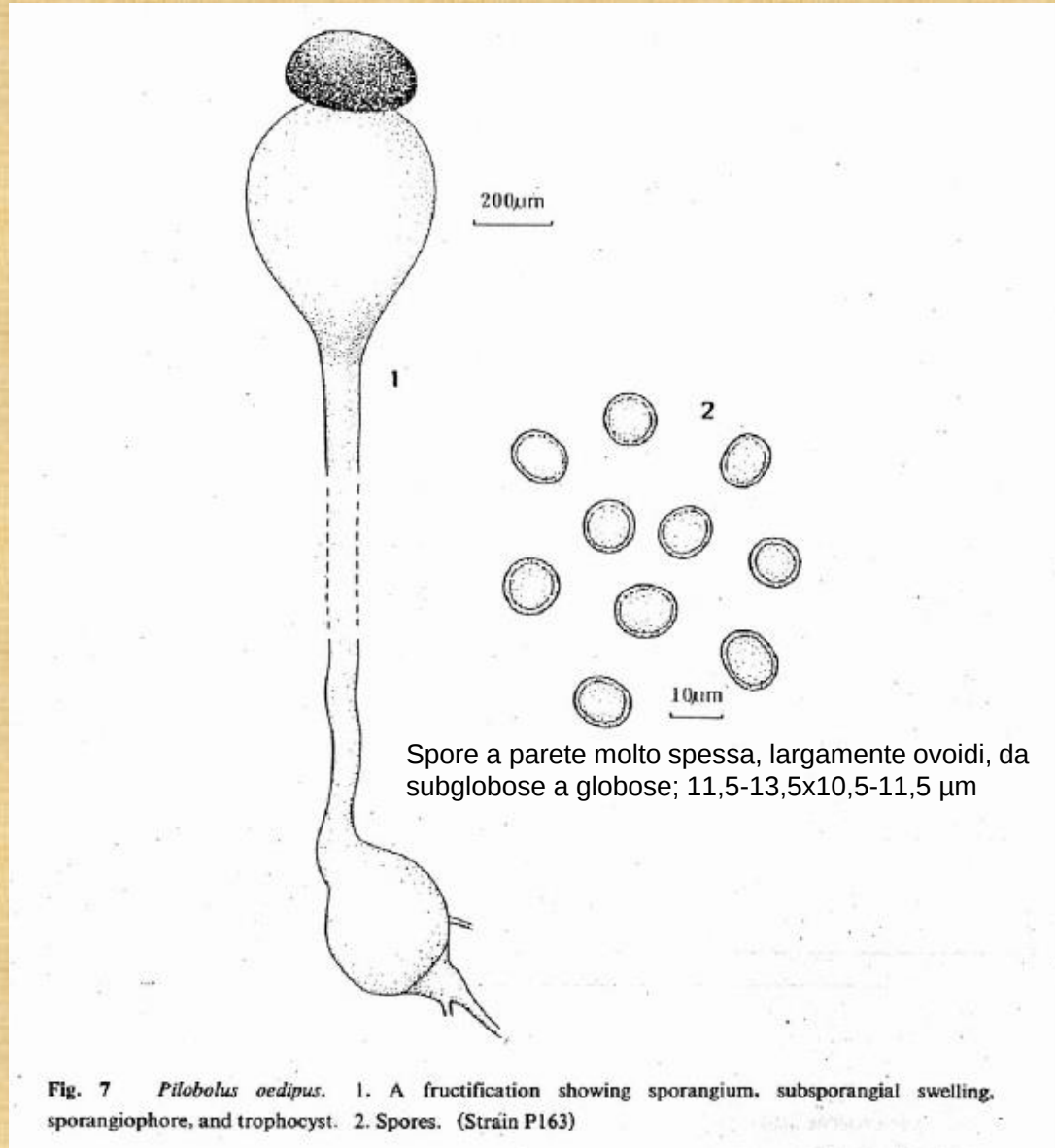
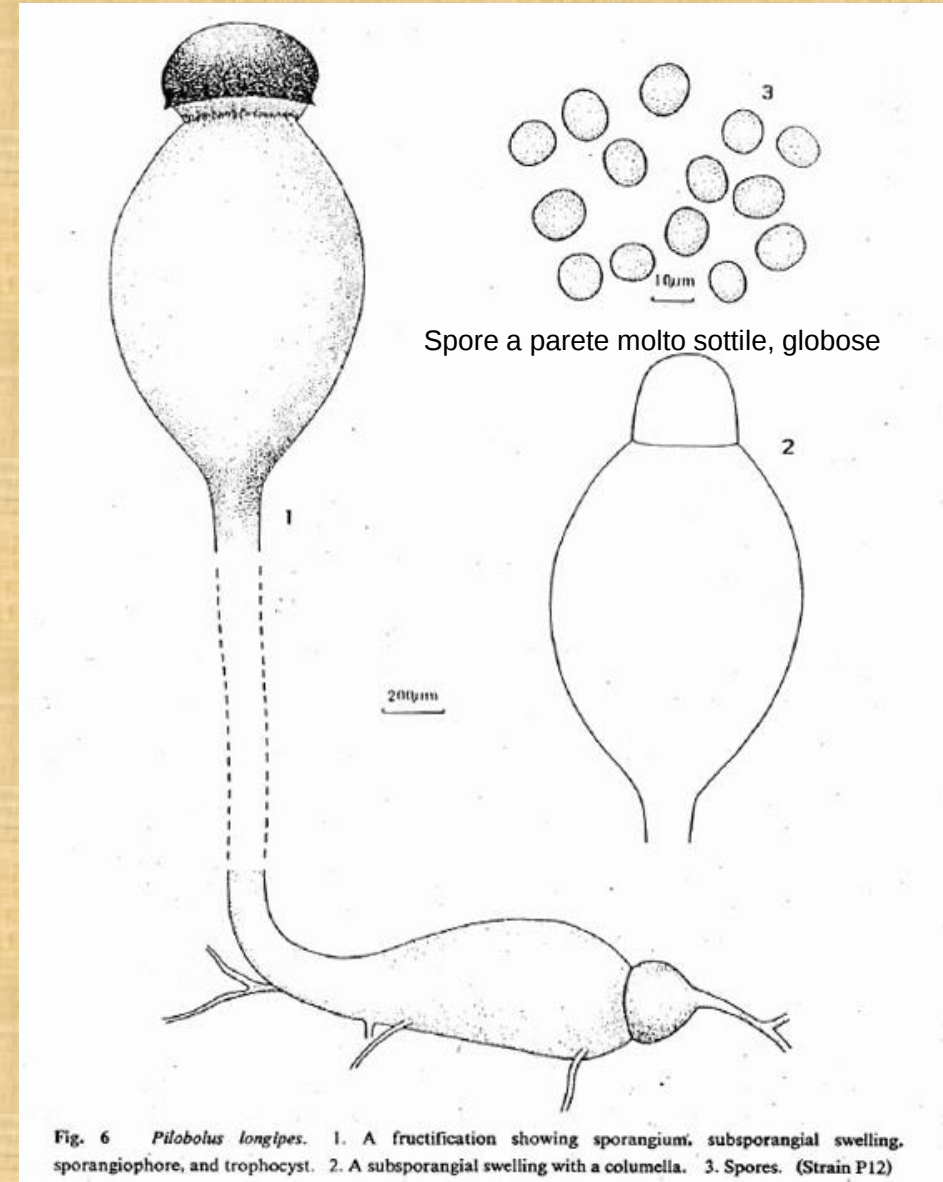


Fig. 3 *Pilobolus crystallinus* var. *kleinii*. 1. A fructification showing sporangium, subsporangial swelling, sporangiophore, and trophocyst. 2. A subsporangial swelling with a columella. 3. Spores. (Strain P2)

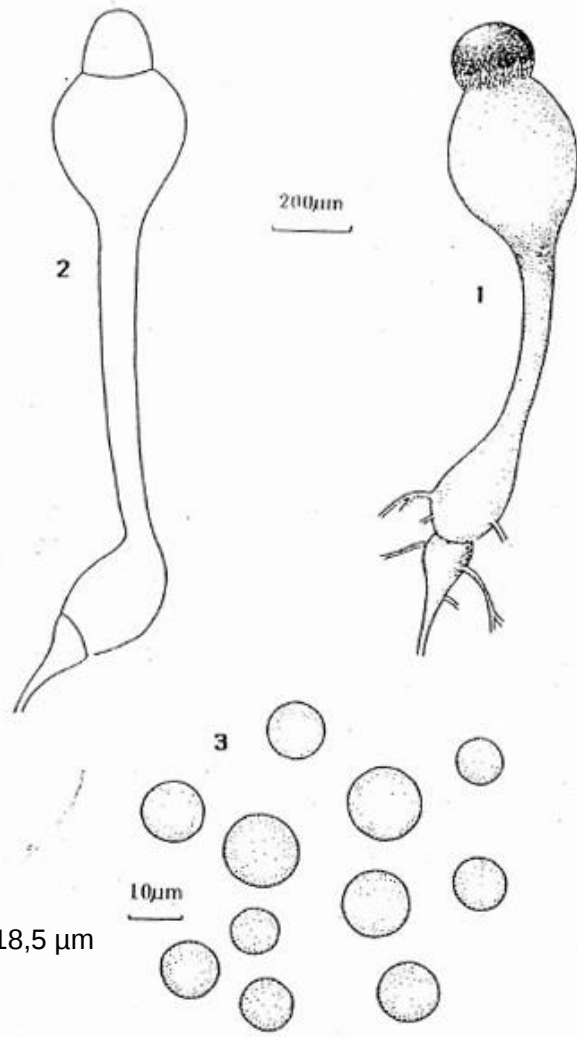
Fruttificazioni di taglia piccola, alte 1-5 mm;
trofocisti sviluppate dentro il substrato, non lunghe,
di solito non eccedenti 500 μm ***P. OEDIPUS***



Fruttificazioni di taglia grande, alte 11-35 mm; trofocisti
sviluppate al di sopra del substrato, molto lunghe,
raggiungenti 1730 μm ***P. LONGIPES***.

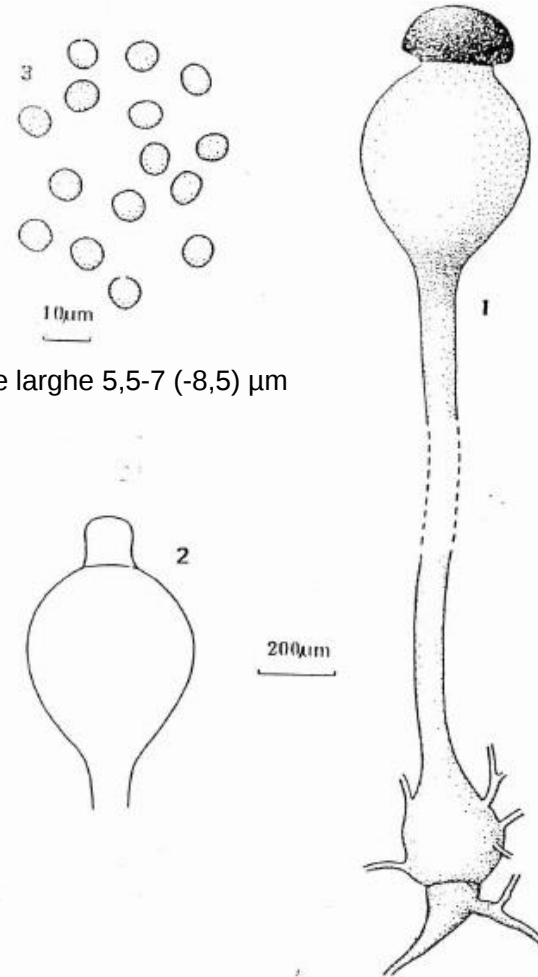


Spore a parete molto sottile, globose



Spore larghe 8-18,5 µm

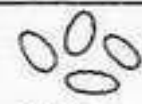
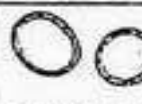
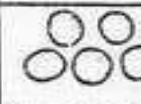
Fig. 4 *Pilobolus lentiger* var. *lentiger*. 1. A fructification showing sporangium, subsporangial swelling, sporangiophore, and trophocyst. 2. A subsporangial swelling with a columella. 3. Spores. (Strain P1)



Spore larghe 5,5-7 (-8,5) µm

Fig. 5 *Pilobolus lentiger* var. *minutus*. 1. A fructification showing sporangium, subsporangial swelling, sporangiophore, and trophocyst. 2. A subsporangial swelling with a columella. 3. Spores. (Strain P26)

Table 1. Redelimitation of species in the genus *Pilobolus*

Size of Fru- tifications	medium 2-12(14) mm					large 11-35 mm	small 1-5 mm			
Columellae			 			 				
Spore Shape	ellipsoid					broad ovoid	broad ovoid to subglobose or globose		globose	
Other Char- acteristics of spores	 4.5-7.5 x 3-4.5 μ m		 7-10 x 4.5-6 μ m	 10-20 x 5.5-9.5 μ m	 6.5-9.5 x 5.5-8.5 μ m	 8.5-13.5 x 7.5-12.5 μ m	 11-13.5 x 10-12 μ m	 (4.5-)5.5 x 7(-8.5) μ m	 8-16.5 μ m	
Other Char- acteristics	 					 				
Names Univer- sally Used	<i>P. roridus</i>	<i>P. umbonatus</i>	<i>P. crystal- linus</i>	<i>P. kleinii</i>	<i>P. hyalo- sporus</i>	<i>P. longipes</i>	<i>P. oedipus</i>	<i>P. minutus</i> (= <i>P. mo- rinii</i>)	<i>P. lentiger</i> (= <i>P. sphae- rosporus</i>)	
Names Proposed	<i>P. roridus</i> var. <i>roridus</i>	<i>P. roridus</i> var. <i>umbonatus</i>	<i>P. crystal- linus</i> var. <i>crystallinus</i>	<i>P. crystal- linus</i> var. <i>kleinii</i>	<i>P. crystal- linus</i> var. <i>hyalosporus</i>	<i>P. longipes</i>	<i>P. oedipus</i>	<i>P. lentiger</i> var. <i>minutus</i>	<i>P. lentiger</i> var. <i>lentiger</i>	
Species Recognized	<i>P. roridus</i>		<i>P. crystallinus</i>			<i>P. longipes</i>	<i>P. oedipus</i>	<i>P. lentiger</i>		

CHIAVE DEI PILOBOLUS

1 Spore ellissoidi, < 7 µm di lunghezza; columella piano-convessa, alta < 110 µm **2**

1b) Spore non ellissoidi, se ellissoidi allora > 7 µm di lunghezza: columella non piano-convessa e di solito alta > 110 µm **3**

2 Sporangî non umbonati ***P. RORIDUS VAR. RORIDUS*** (Bolton) Pers., (1801)

2b) Sporangî umbonati ***P. RORIDUS VAR. UMBONATUS*** (Buller) F.M. Hu & R.Y. Zheng, (1989)

3 Spore ellissoidi e lunghe > 7 µm o largamente ovoidali; columella strettamente campanulata: taglia media delle fruttificazioni 2-12 (-14) mm di altezza **4**

3b) Spore da subglobose a globose; columella conica, non ristretta al centro; fruttificazioni alte sia 11-35 mm che 1-5 mm **6**

4 Spore 7-10 x 4,5-6 µm ***P. CRYSTALLINUS V. CRYSTALLINUS*** (F.H. Wigg.) Tode, (1784)

4b) Spore più lunghe o più larghe **5**

5 Spore 6,5-9,5 x 5,5-8,5 µm, ialine, tutt'al più giallastre pallide ***P. CRYSTALLINUS V. HYALOSPORUS*** (Boedijn) F.M. Hu & R.Y. Zheng, (1989)

5b) Spore 10-20 x 5,5-9,5 µ, gialle scure ***P. CRYSTALLINUS V. KLEINII*** (Tiegh.) R.Y. Zheng & G.Q. Chen, (1989)

6 Fruttificazioni di taglia grande, alte 11-35 mm; trofocisti sviluppate al di sopra del substrato, molto lunghe, raggiungenti 1730 µm

P. LONGIPES Tiegh., (1878) [1876]

6b) Fruttificazioni di taglia piccola, alte 1-5 mm; trofocisti sviluppate dentro il substrato, non lunghe, di solito non eccedenti 500 µm **7**

7 Spore a parete molto spessa, largamente ovoidi, da subglobose a globose ***P. OEDIPUS*** Mont., (1826)

7b) Spore a parete molto sottile, globose **8**

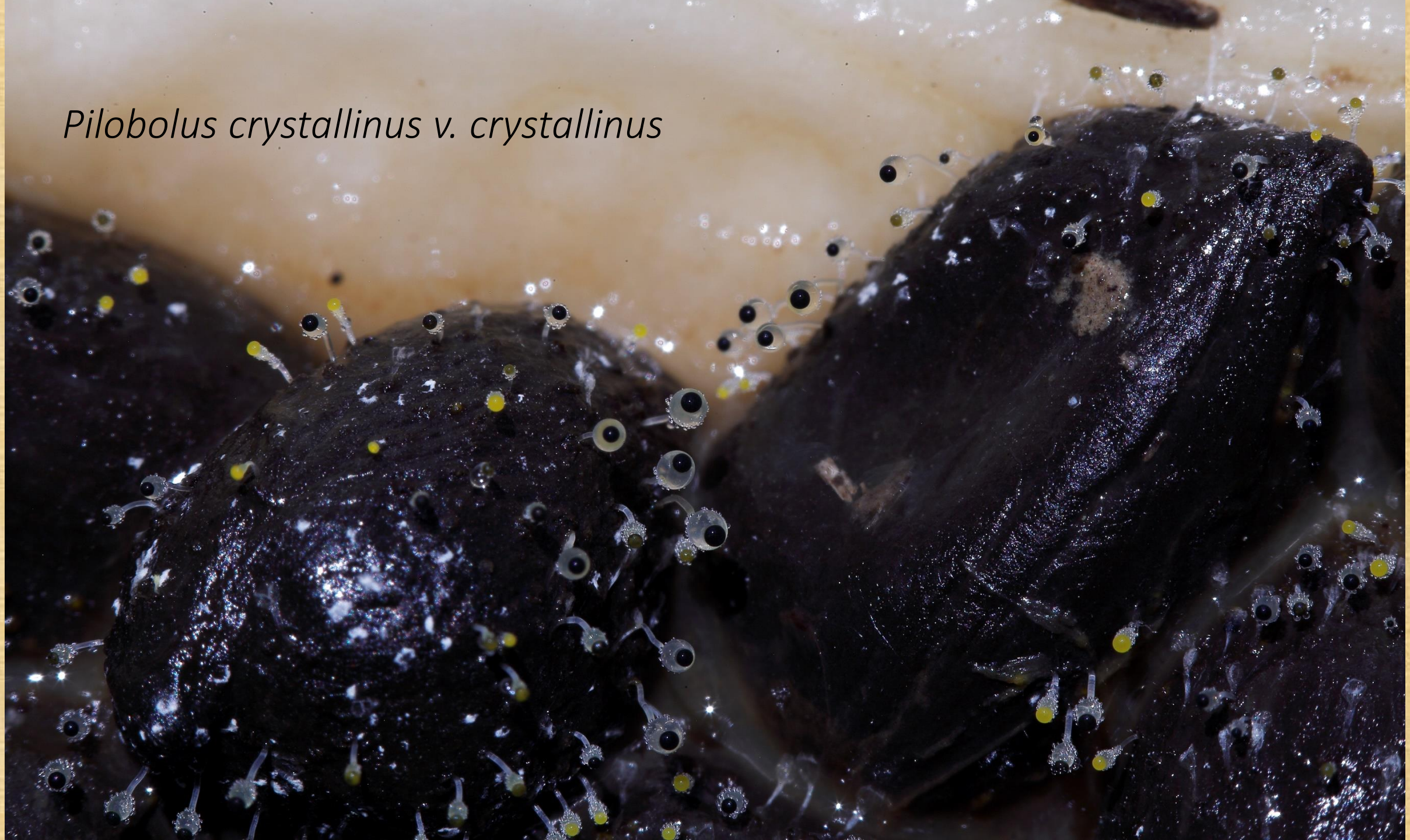
8 Spore larghe 8-18,5 µm ***P. LENTIGER V. LENTIGER*** Corda, (1837)

8b) Spore larghe 5,5-7 (-8,5) µm ***P. LENTIGER V. MINUTUS*** (Speg.) R.Y. Zheng & G.Q. Chen, (1989)



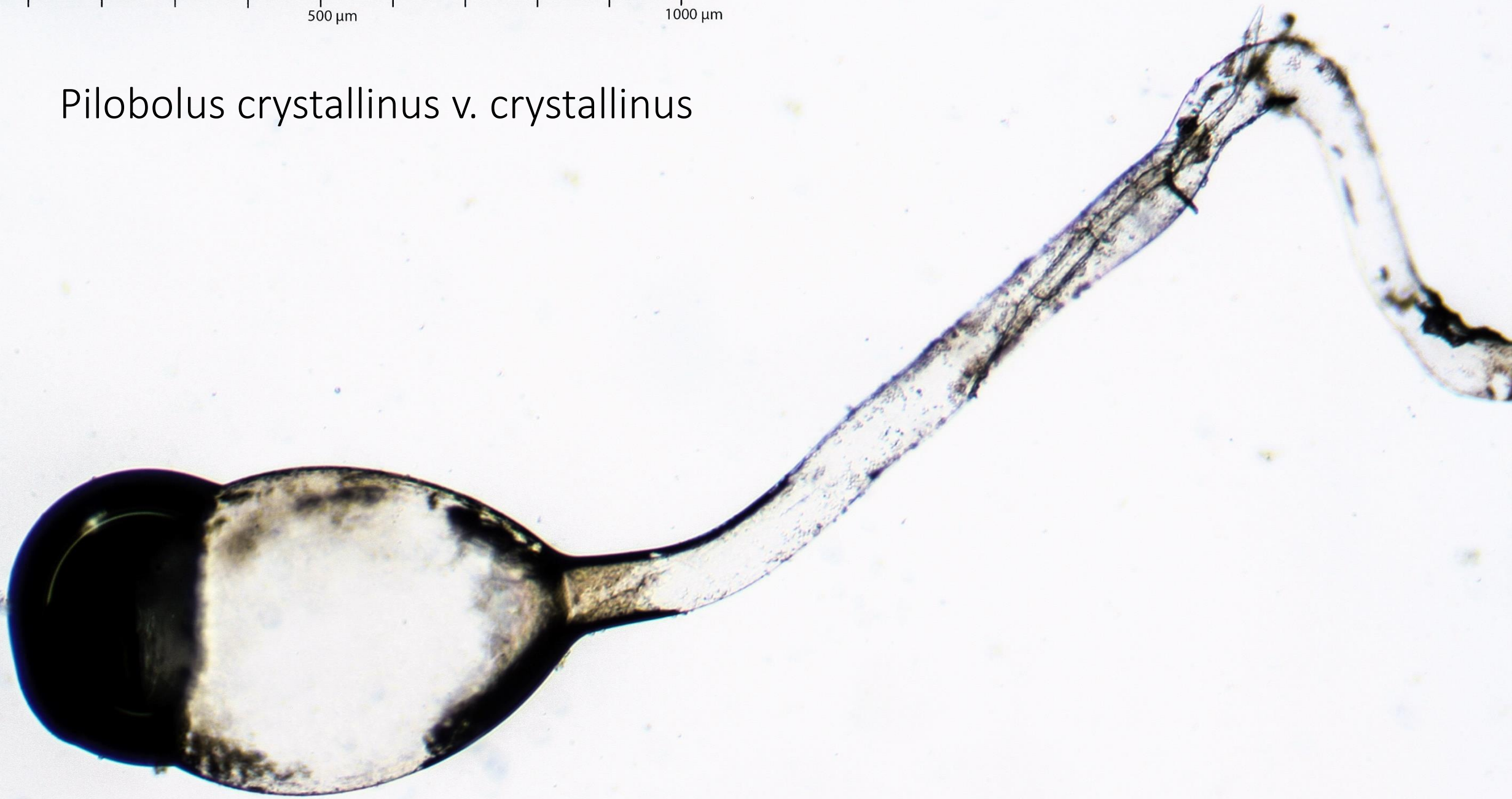
Pilobolus crystallinus v. *crystallinus*

Pilobolus crystallinus v. *crystallinus*



0 500 μm 1000 μm

Pilobolus crystallinus v. *crystallinus*



Pilobolus crystallinus v. *crystallinus*



20 μm

Pilobolus crystallinus v. *kleinii*



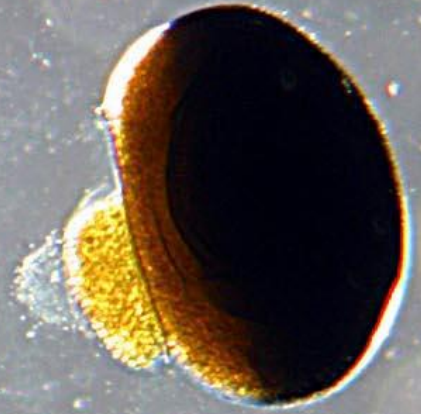
Pilobolus crystallinus v. *kleinii*



Pilobolus crystallinus v. *kleinii*
sporangio

Obiettivo PL 4/ 0.1-160/- : Bar = 2000 μm

Pilobolus crystallinus v. *kleinii*
lancio dello sporangio



Obiettivo PL4/ 0.1-160/- : Bar = 2000 μ m

Pilobolus crystallinus v. *kleinii*
liberazione delle spore



Pilobolus crystallinus v. *kleinii*

Obiettivo PL 100/1.25oil-160/0.17 - multi 4x - Bar = 50 µm

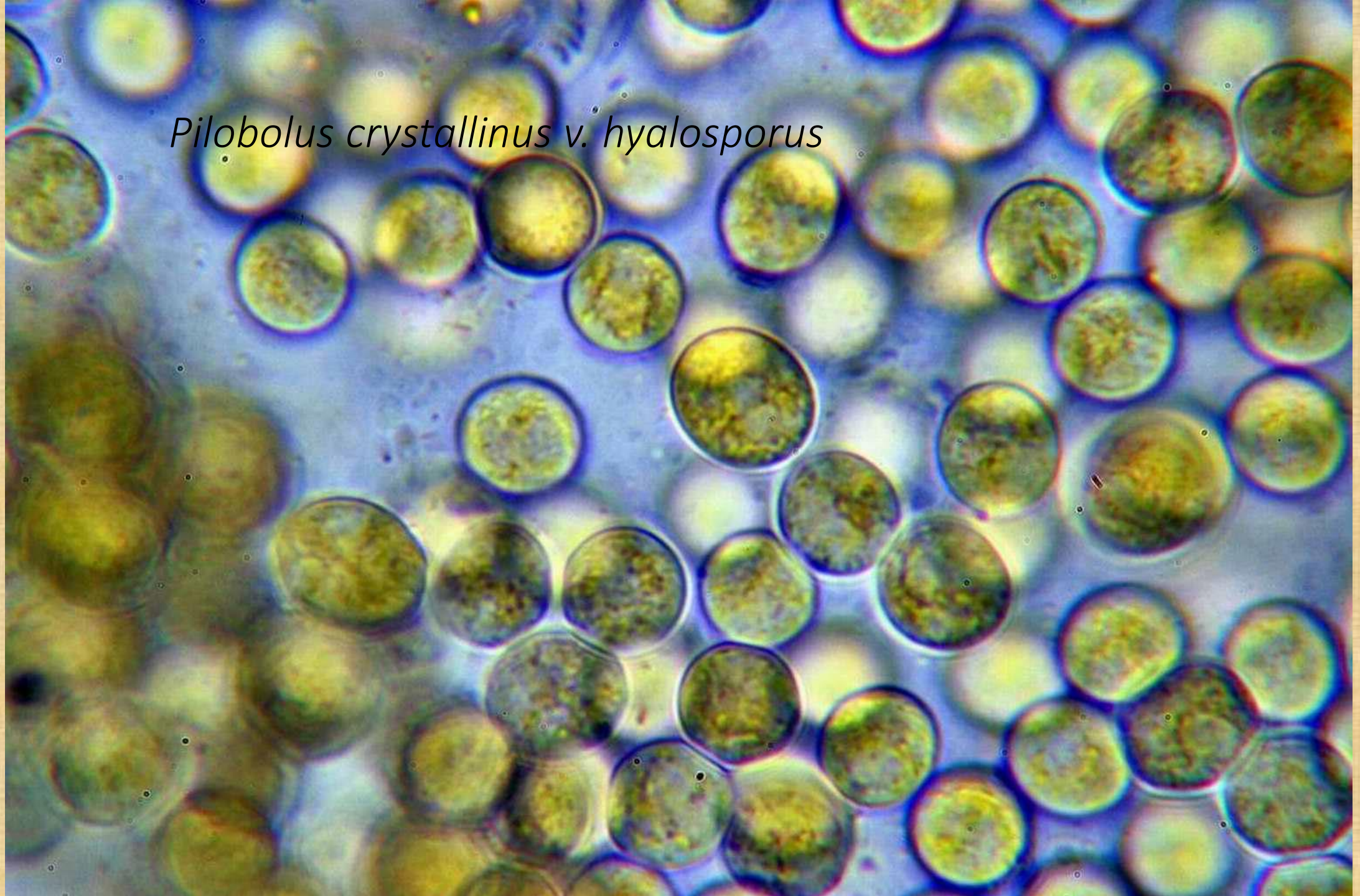
Pilobolus crystallinus var *hyalosporus*



Pilobolus crystallinus v. *hyalosporus*



Pilobolus crystallinus v. *hyalosporus*



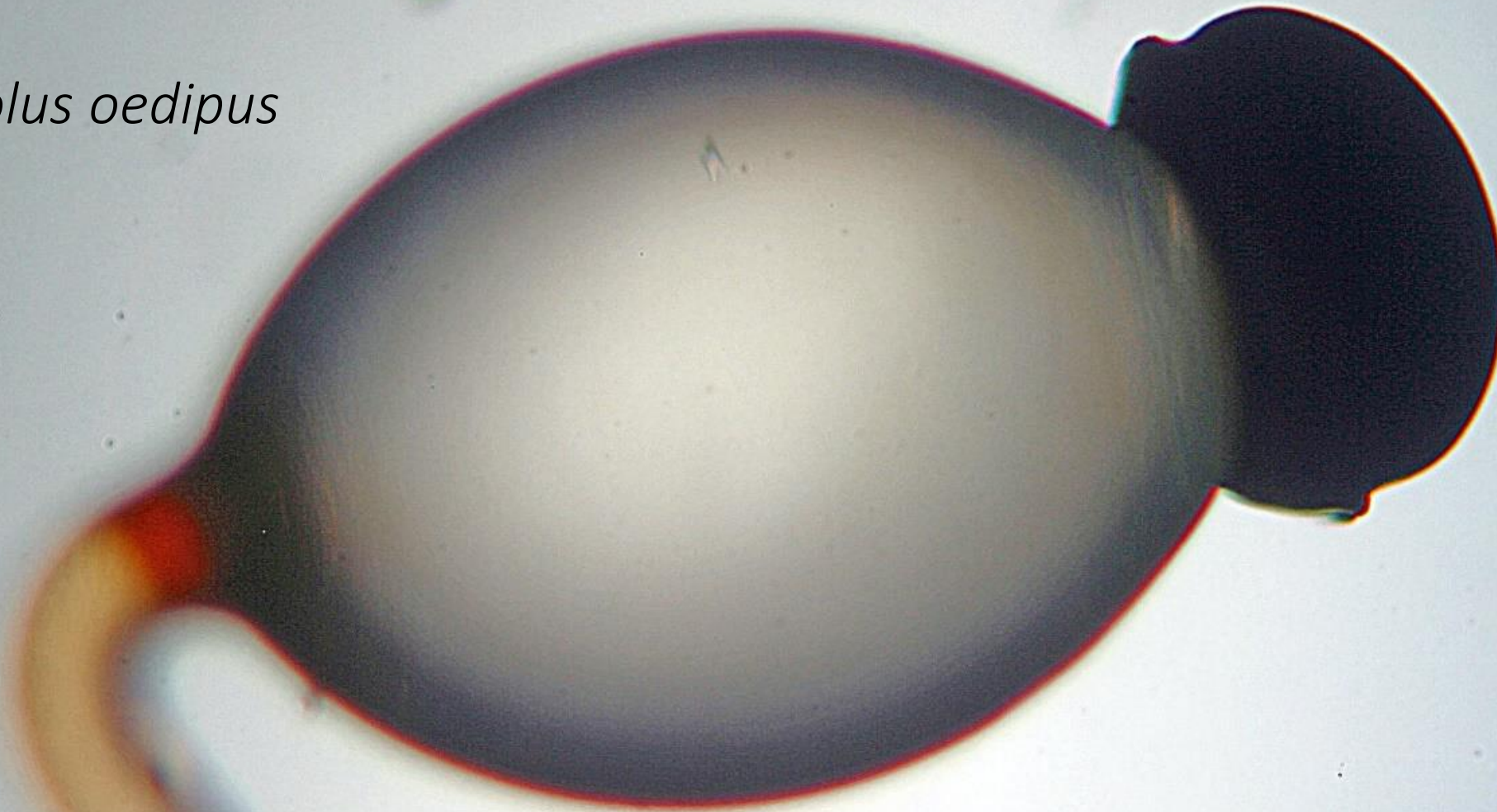


Pilobolus oedipus

Pilobolus oedipus



Pilobolus oedipus

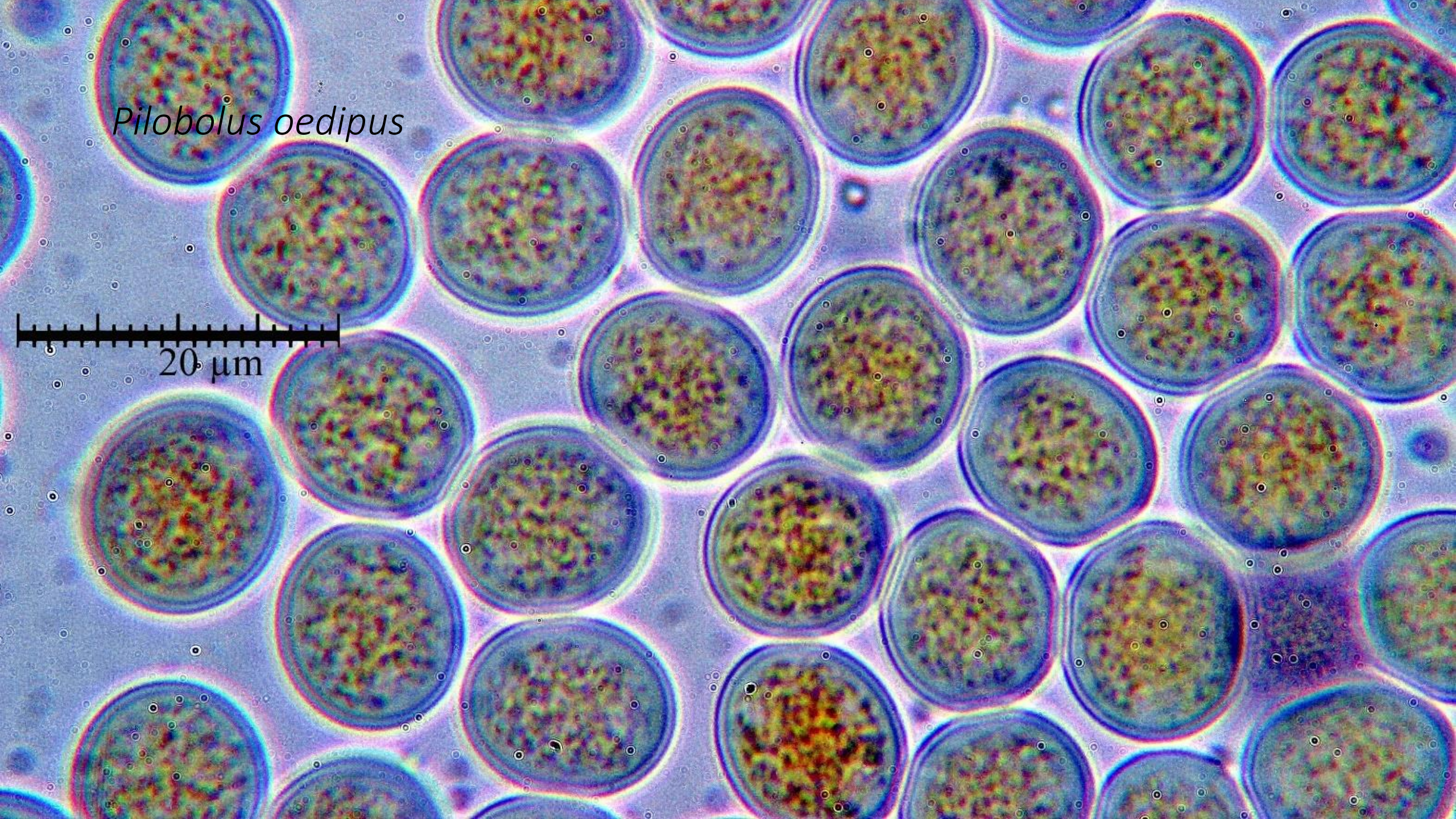


Obiettivo PL 4/0.1-160/- : Bar = 1000 μm

100 μm

Pilobolus oedipus

20 μm



Pilobolus roridus v. *roridus*

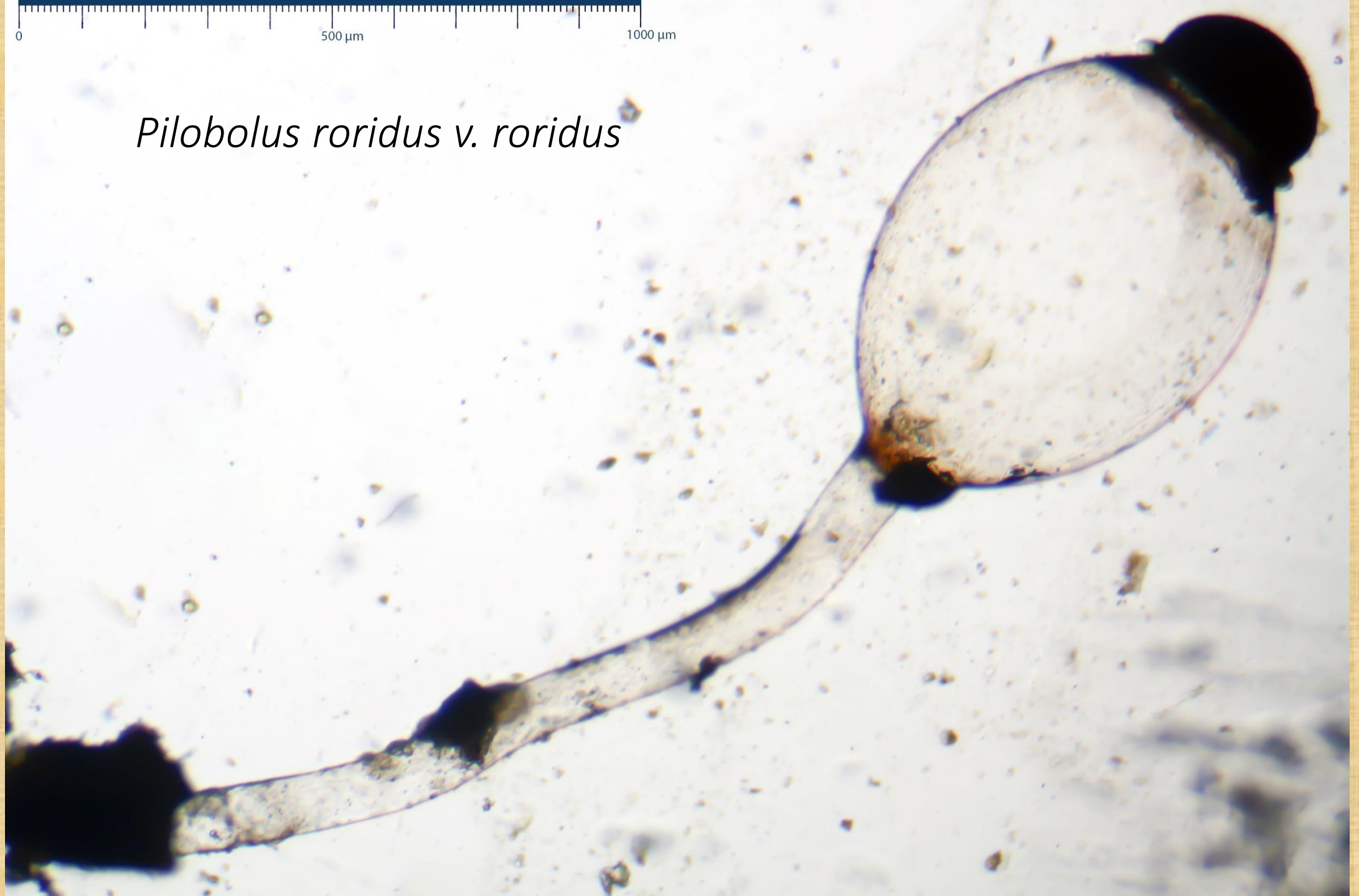




Pilobolus roridus v. *roridus*

0 500 µm 1000 µm

Pilobolus roridus v. *roridus*



Pilobolus roridus v. *roridus*

