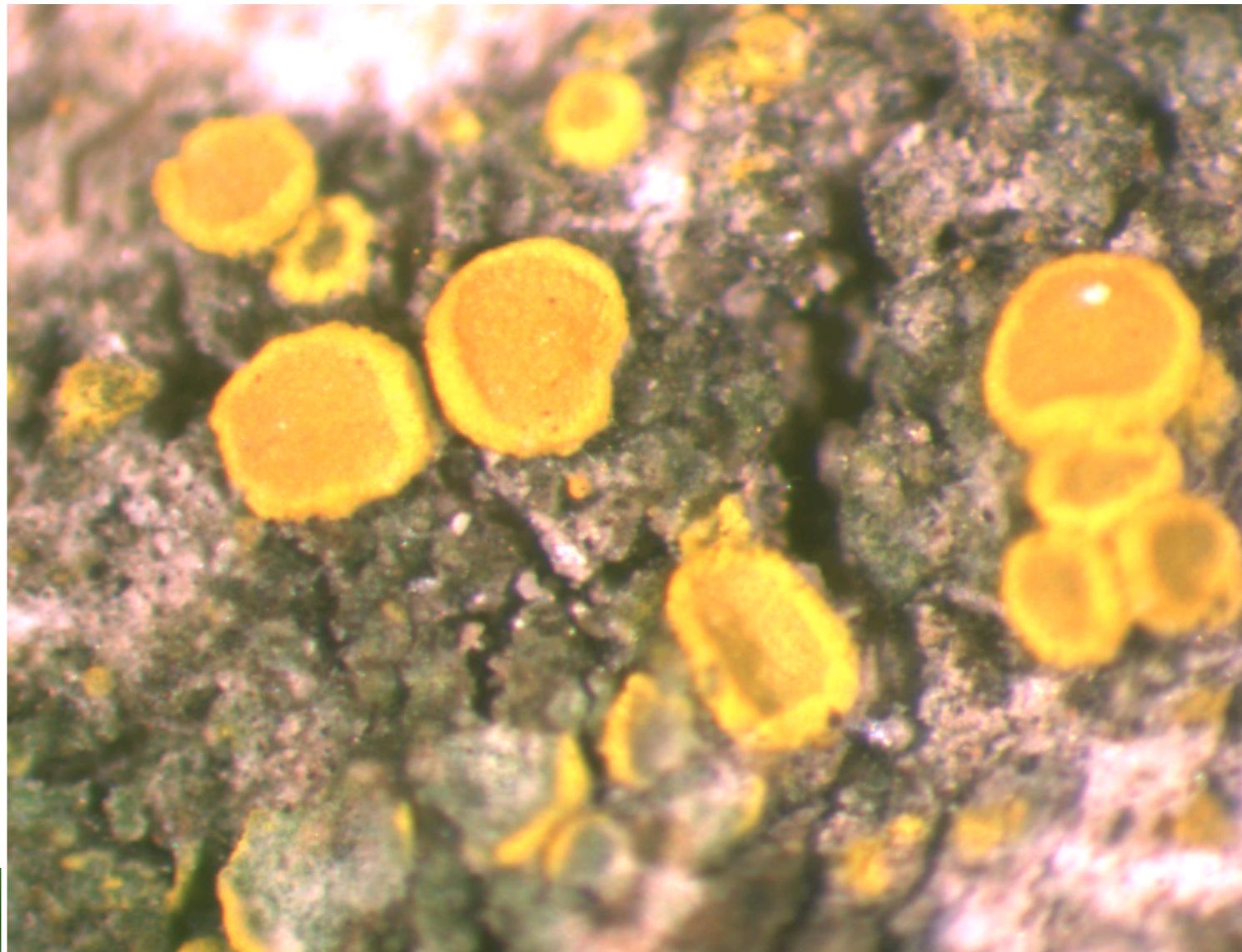
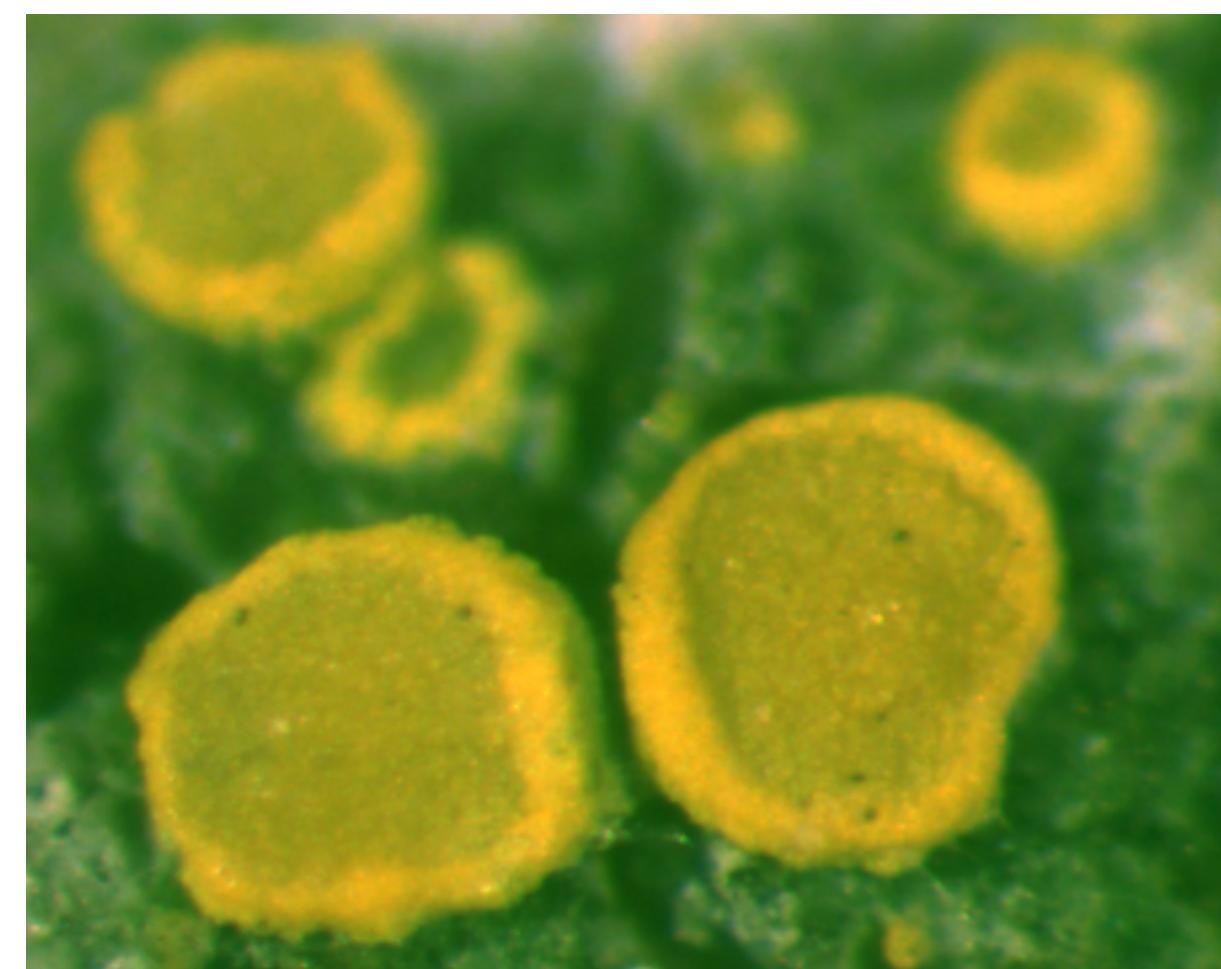


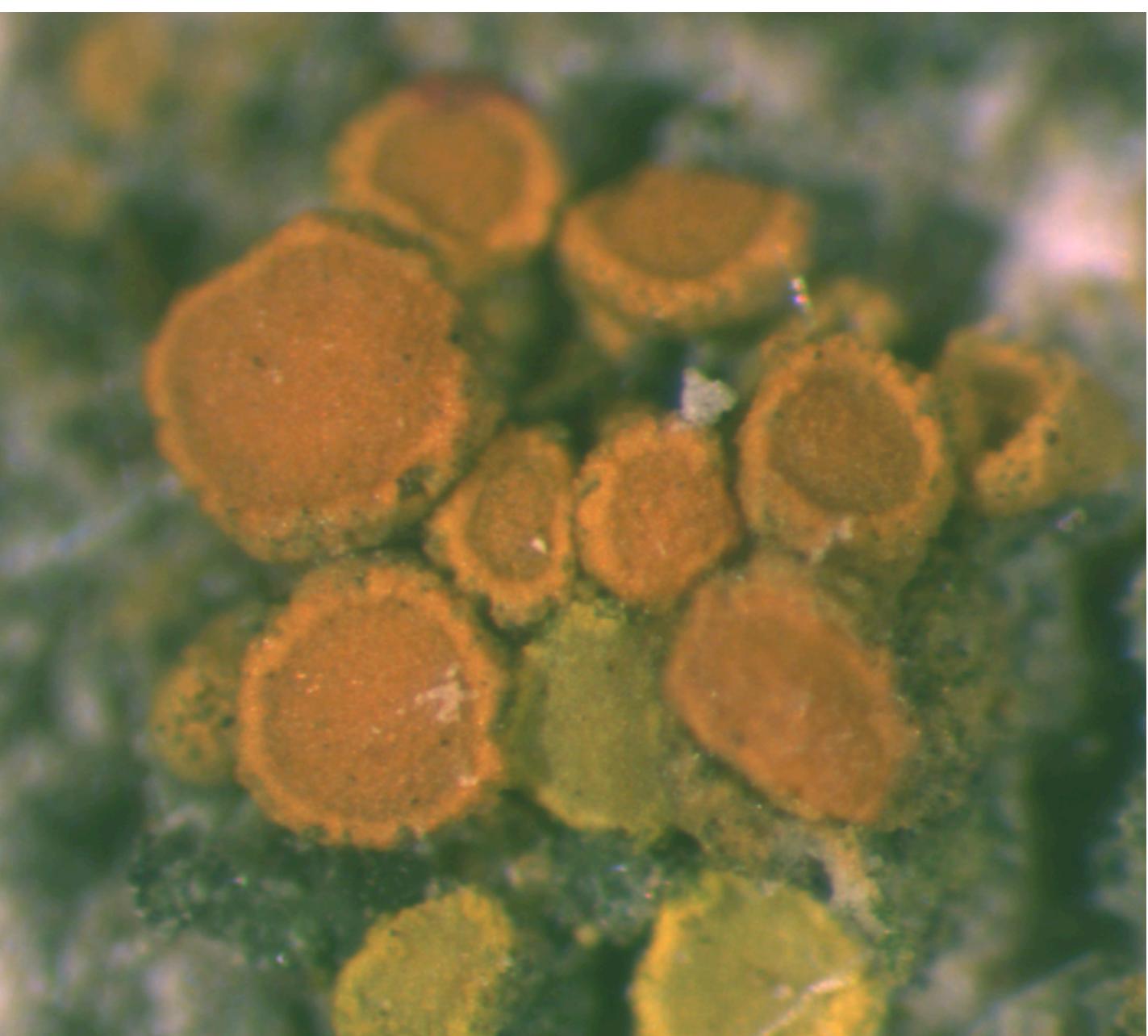
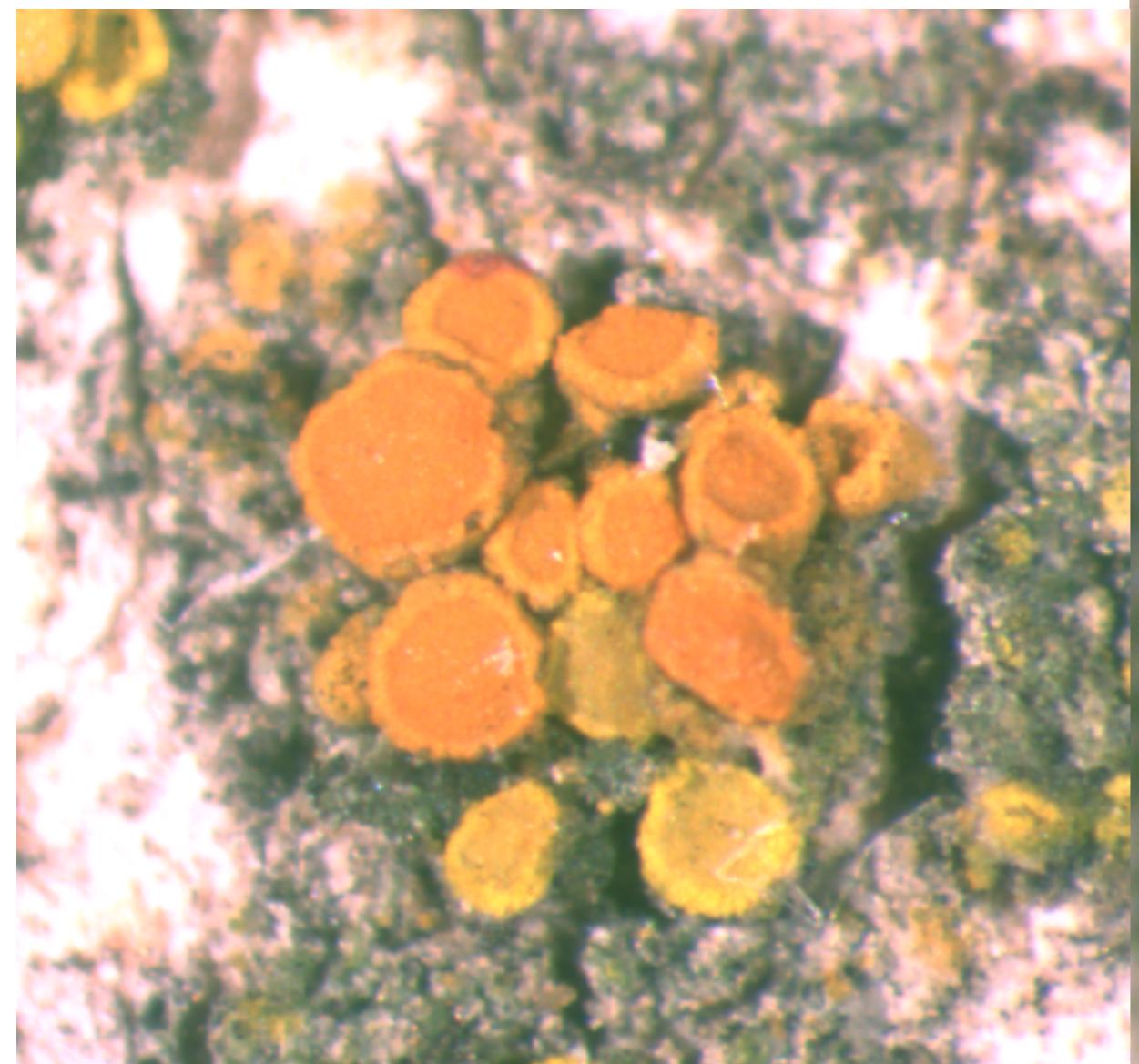
Field Guide to the Cottonwood Associated Bark Lichen of the Ogden Nature Center

(Adapted from descriptions by Rikke Naesborg)

- 1a) Crustose or Submerged (2)
- 1b) Foliose (5)
- 2a) Apothecia yellow to orange (3)
 - 2b) Apothecia brown to dark brown (4)
 - 3a) Apothecia yellow with yellow margin and K- cortex (*Candelariella subdeflexa*, p2)
 - 3b) Apothecia orange with orange margin and K+red margin (*Caloplaca holocarpa*, p3)
 - 4a) Apothecia brown to dark brown with same colored margin and K+ vaguely yellow thallus (*Lecanora "meridionalis"*, p4)
 - 4b) Apothecia dark brown to black with greenish-gray margin and K- cortex (*Rhinodina glauca*, p5)
 - 5a) Thallus gray (6)
 - 5b) Thallus yellow-orange to orange (8)
 - 6a) Thallus with cilia or frosted (7)
 - 6b) Soredia contained in laminal or submarginal soredia and exposed in cracks or fissures (*Phyciella melanchra*, p6)
 - 7a) Thallus with helmut shaped soredia under lobe tips (*Physcia adscendens*, p7)
 - 7b) Thallus frosted, margin in larger specimens undulating (*Physcia undulata*, p8)
 - 8a) Apothecia absent, conspicuous helmut-shaped lobe tips and large, granular soredia (*Xanthomendoza galericulata*, p9)
 - 8b) Orange apothecia with orange margins present, thallus typically forming small rosettes (*Xanthomendoza montana*, p10)

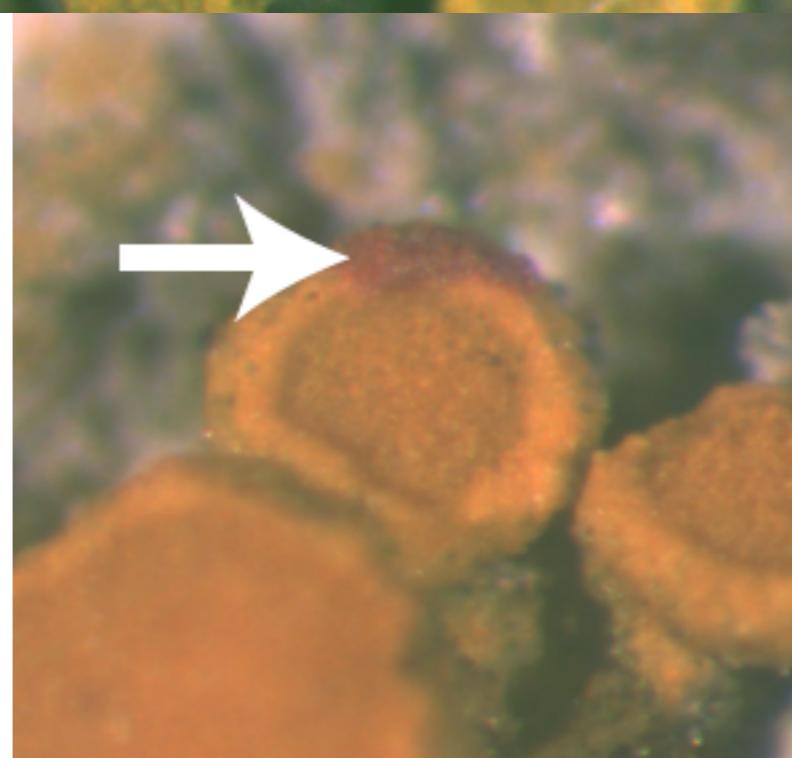


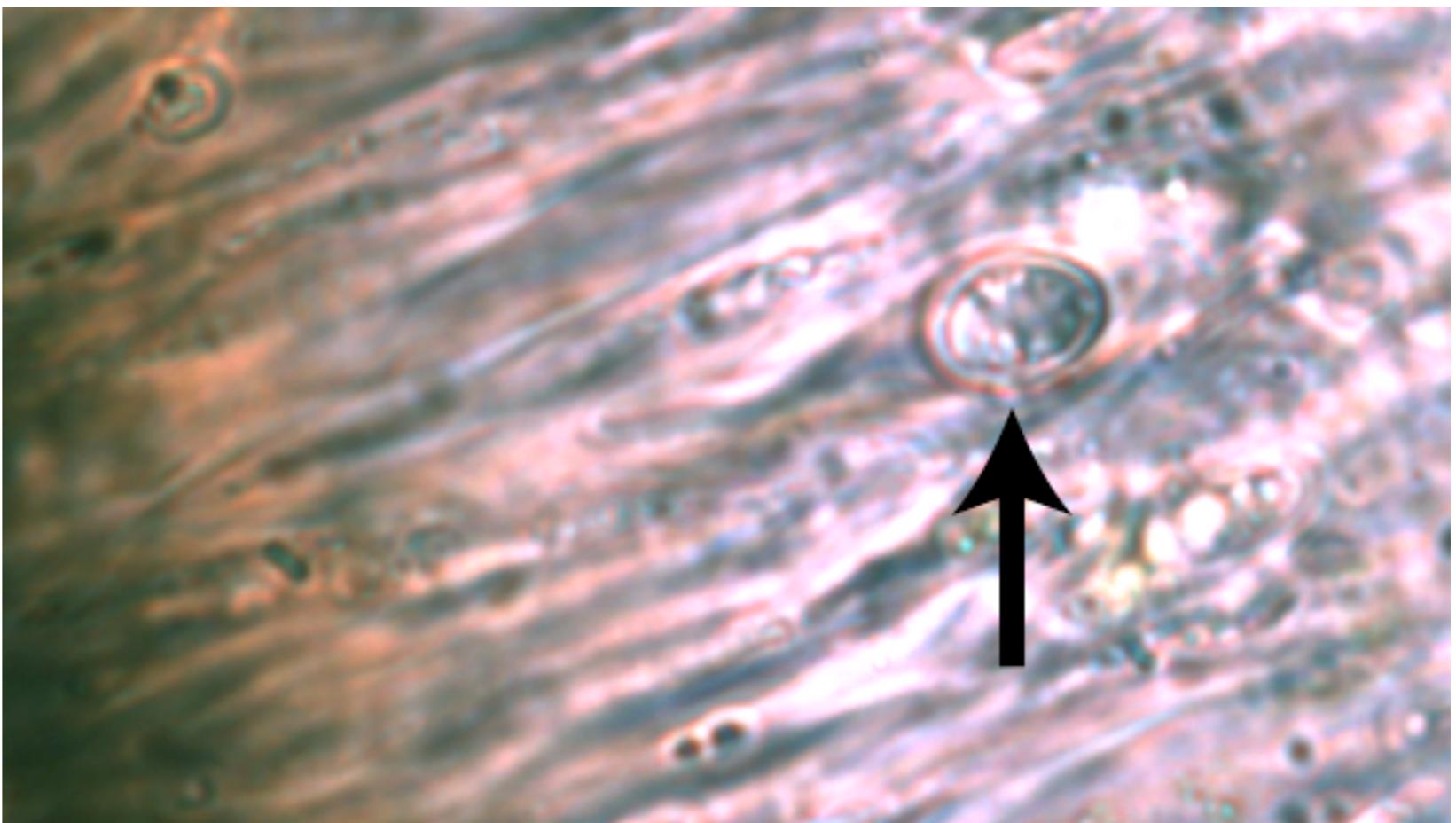
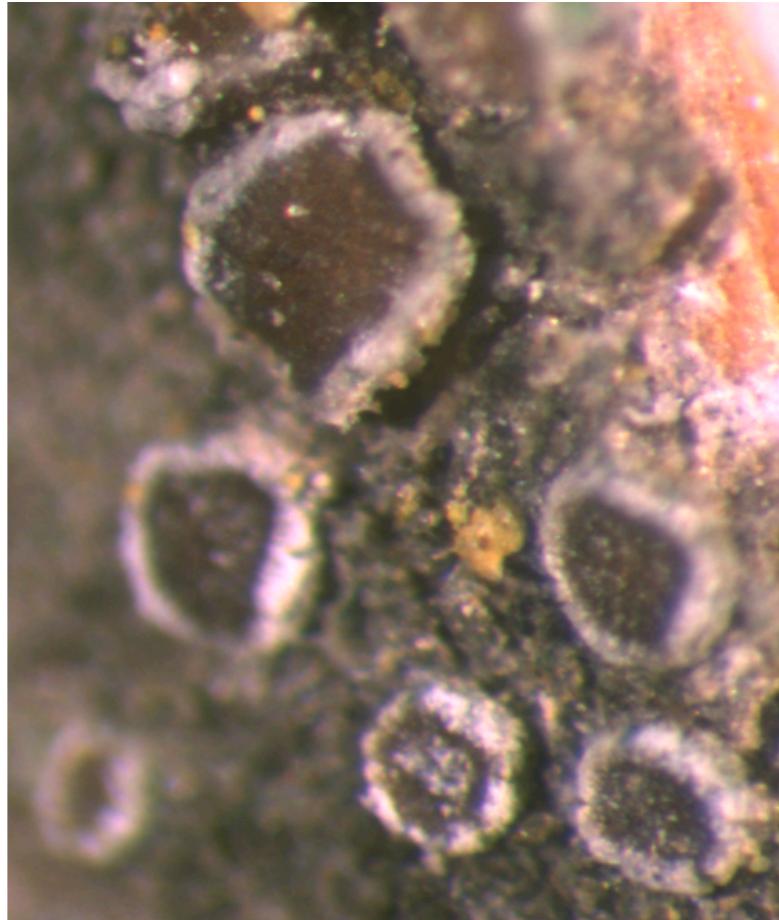
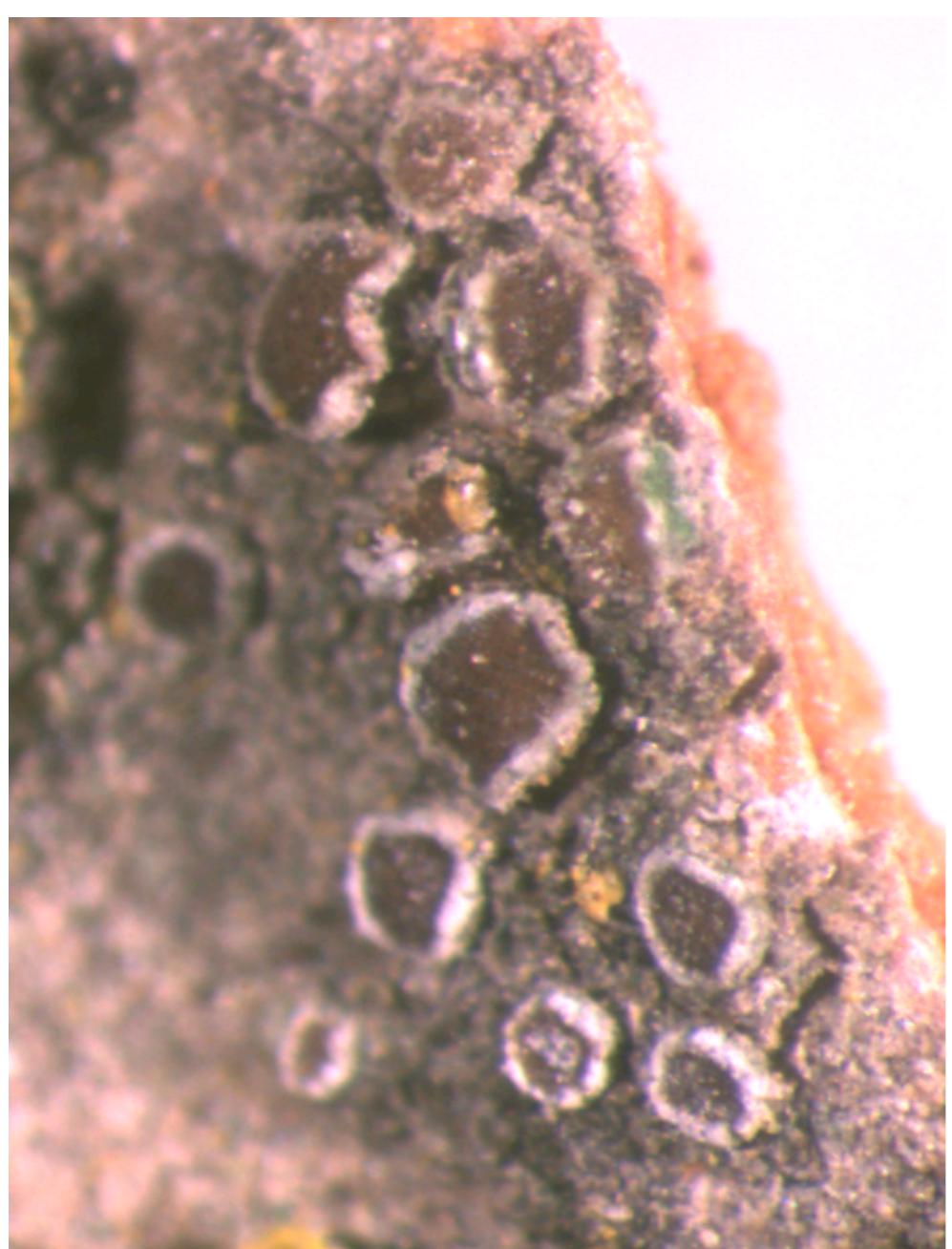
Candelariella subdeflexa (Cansub) – Crustose. Thallus gray, squamulose (picture 4). Apothecia disc pale yellow – yellow with yellow margin (picture 5). K- cortex.



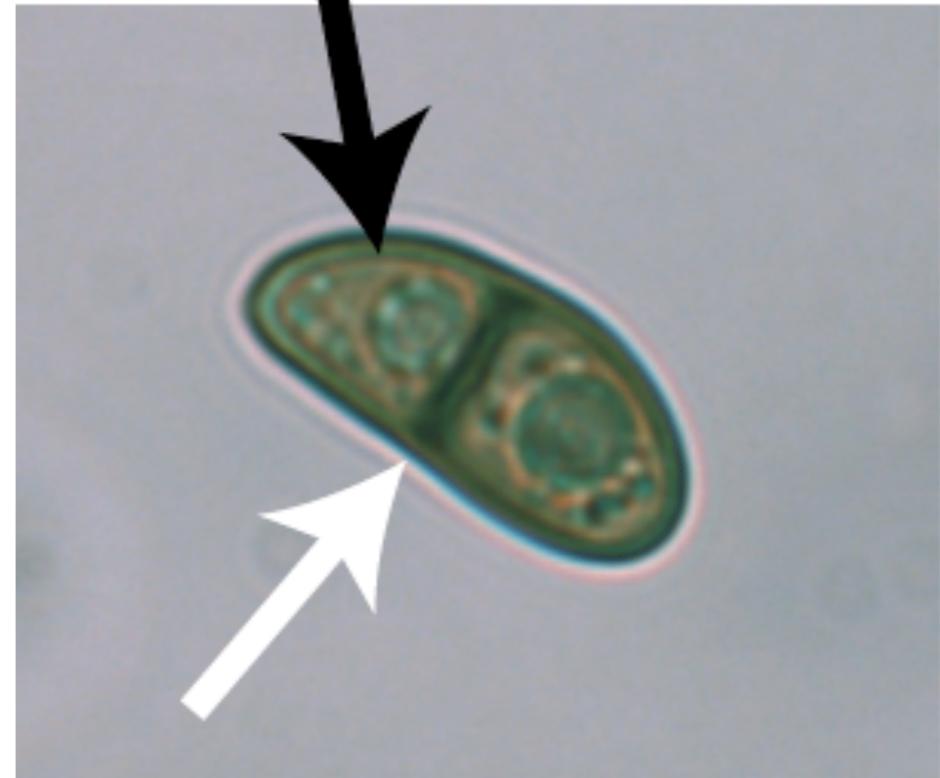
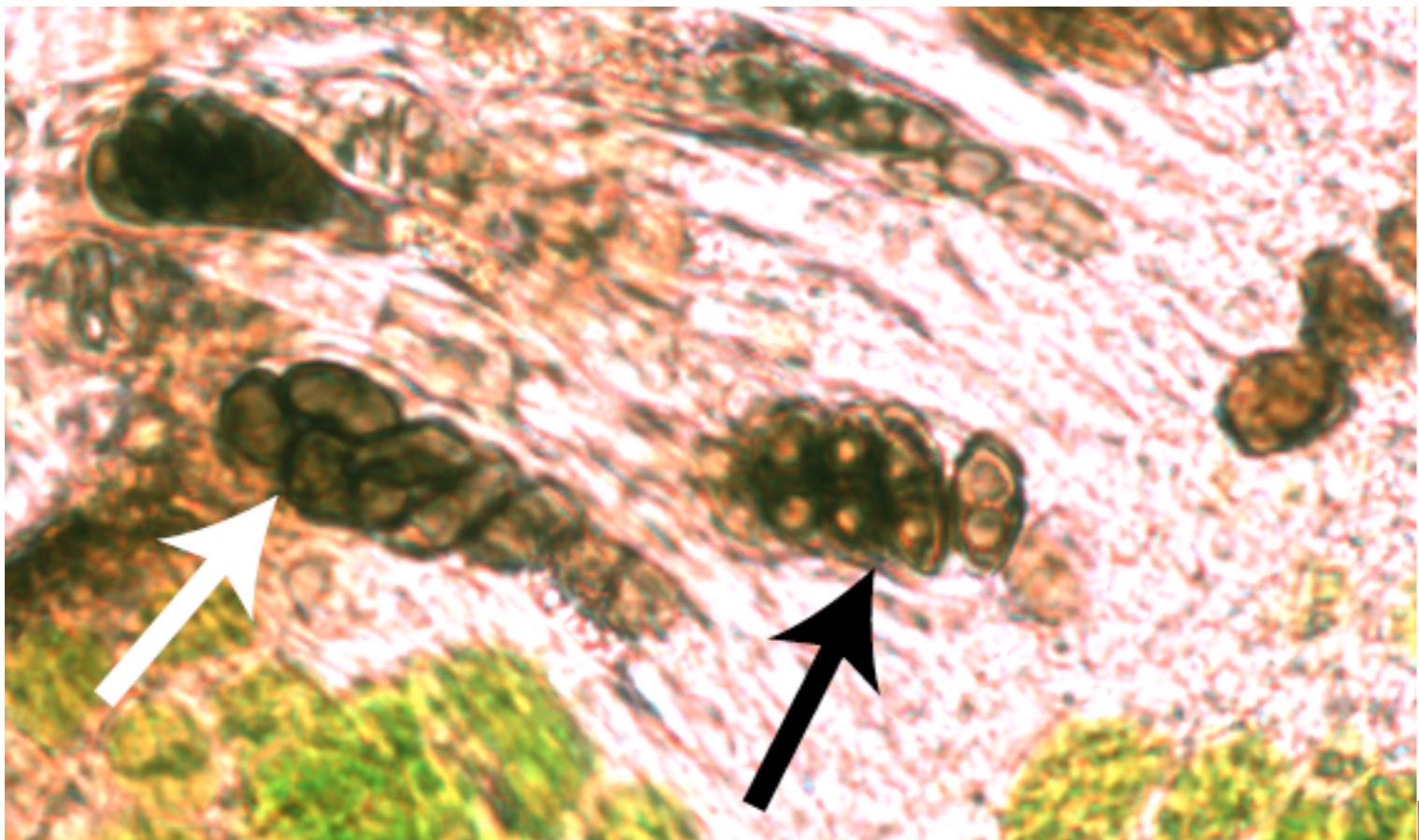
***Caloplaca holocarpa (Calhol)* – Crustose.**

Thallus orange or gray, often very sparse or missing. Apothecia disc orange with orange margin (pictures 1 & 2). K+ red apothecial margin (picture 3).

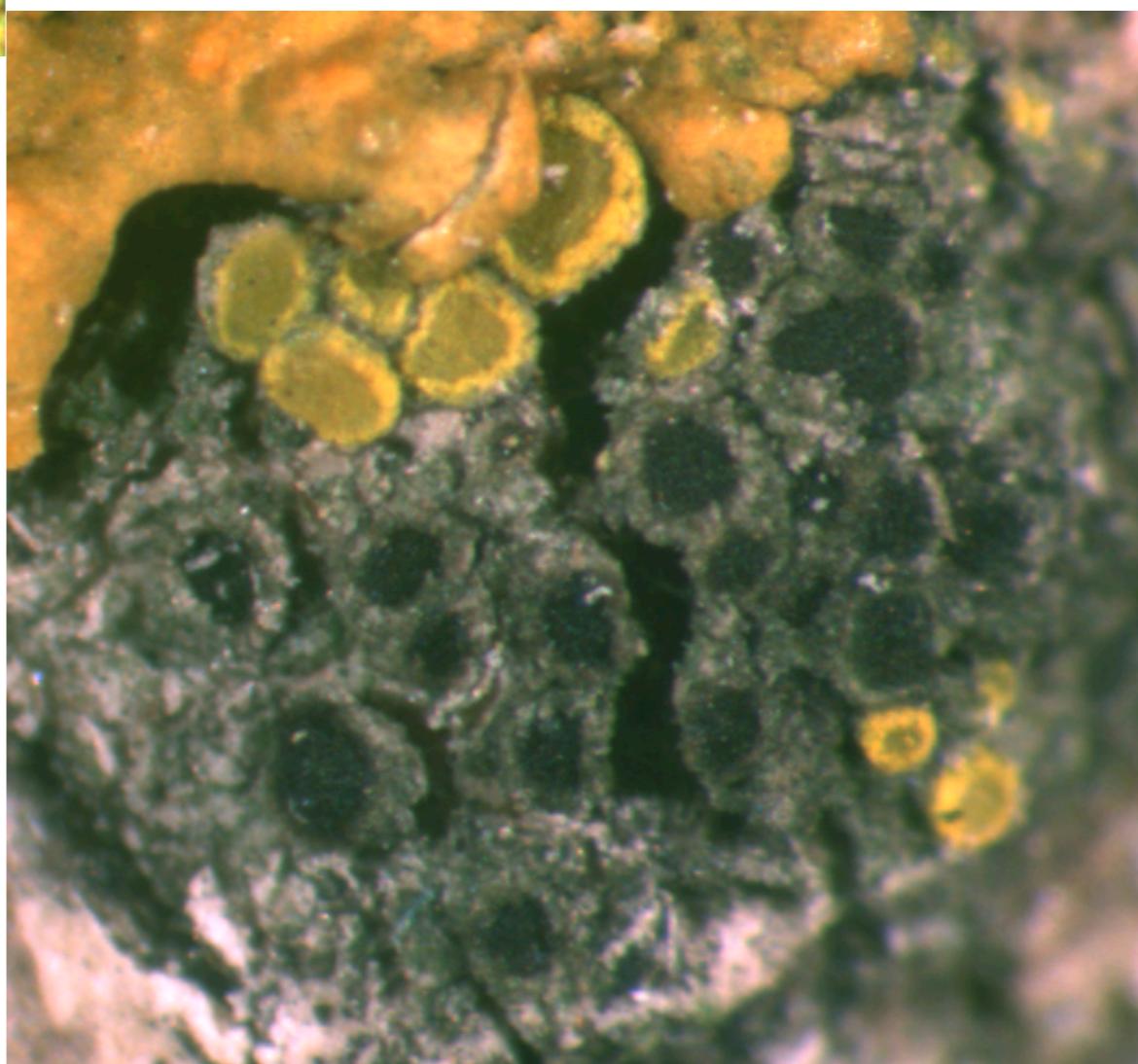


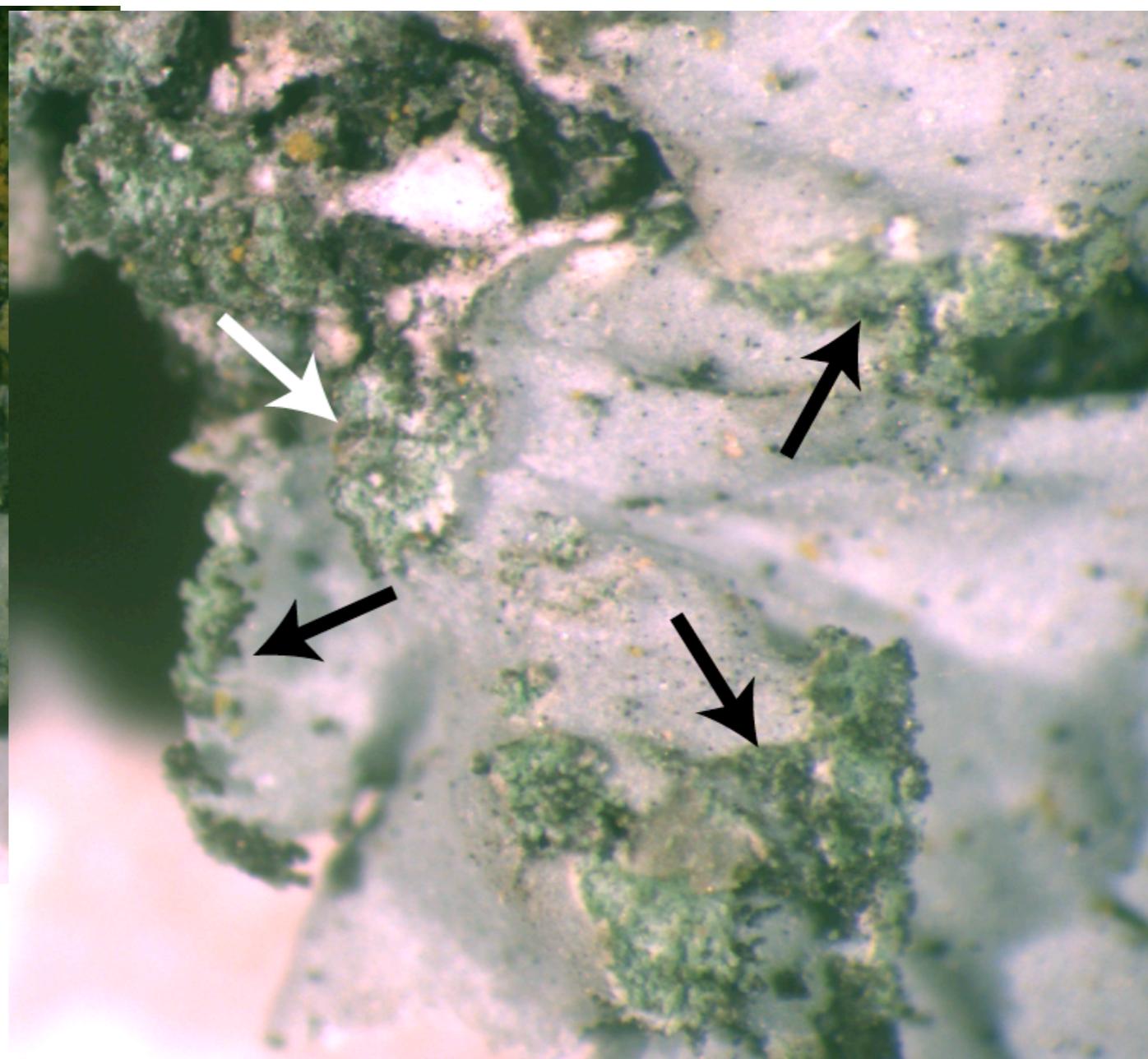
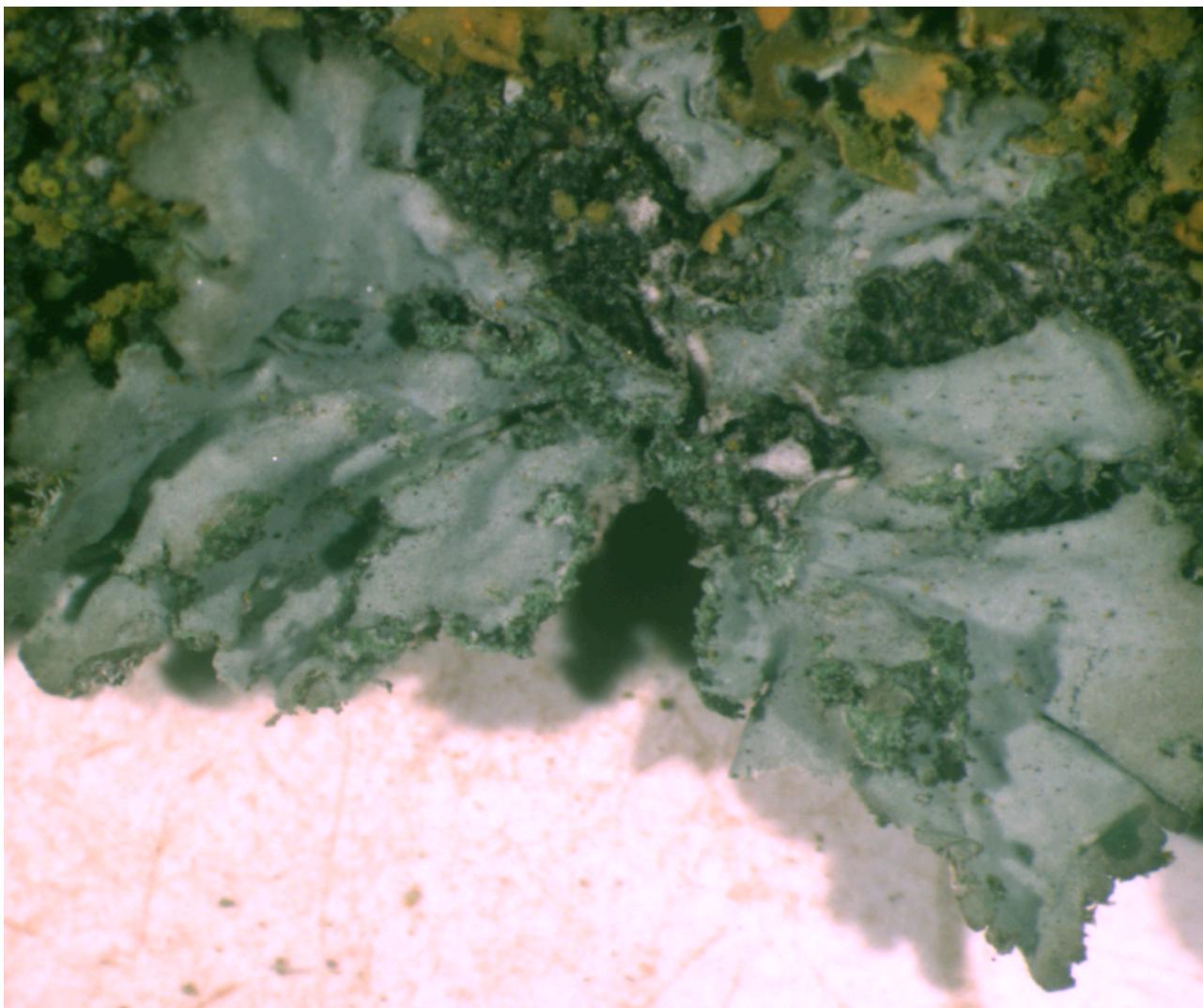


Lecanora "meridionalis" (Lecanora) -
Crustose. Thallus yellowish white –
whitish gray (picture 6). Apothecia disc
brown – dark brown with margin same
color as thallus (picture 7). Spores
hyaline, simple, broadly ellipsoid (pictures
8 & 9). K+ vaguely yellow thallus.

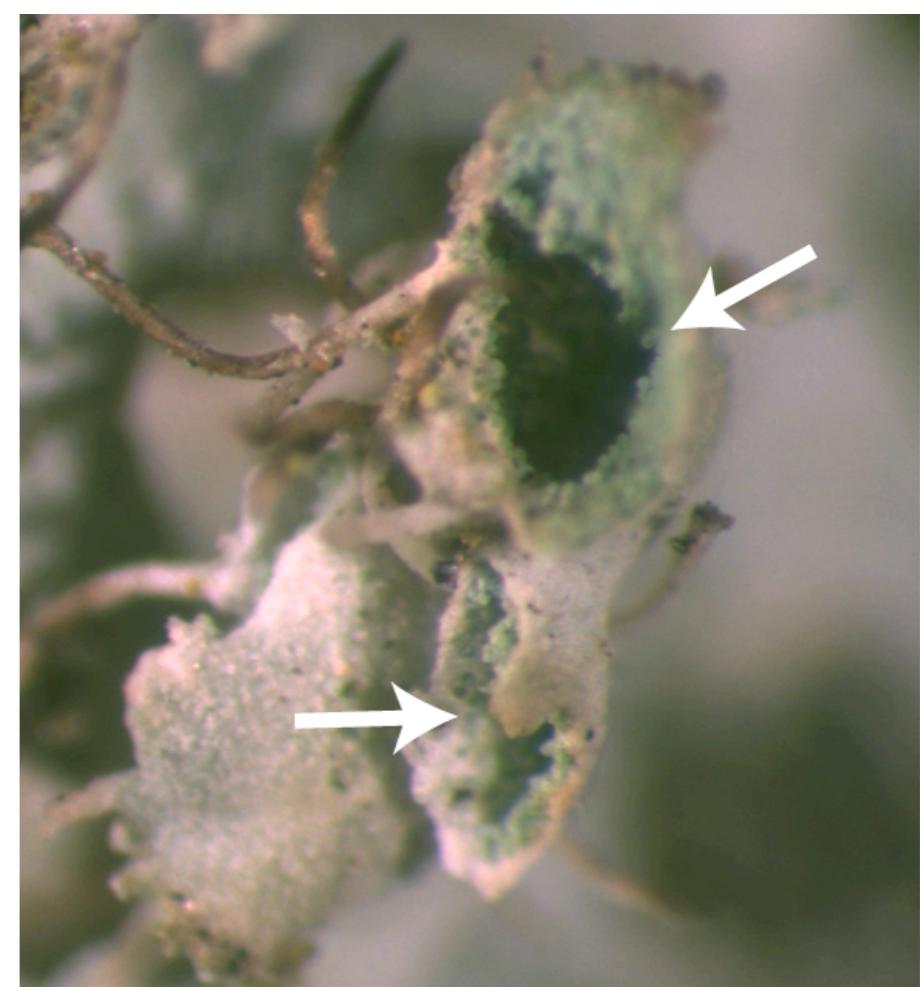
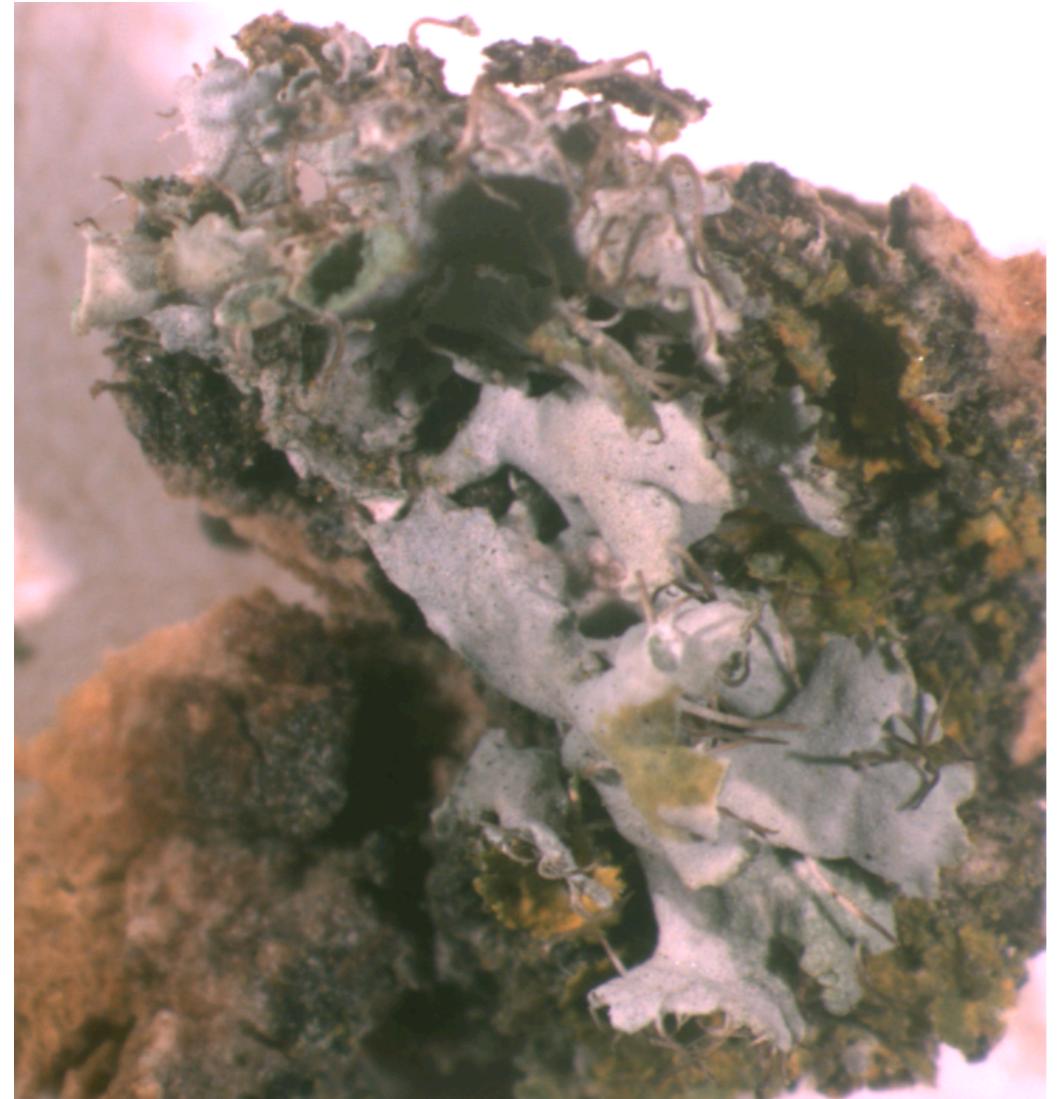


Rinodina glauca (Ringla) – Crustose. Thallus dark gray – red-brown, dull, in verrucae or thin. Apothecia disc dark brown with greenish – gray margin (picture 19). Spores brown 1-septate of Physcia-type (picture 20 dark arrow) with dark septa (picture 20 white arrow). Physcia type spores refer to the ontogeny of the spores and usually this type of spores have the inner and outer cell walls close together. K-cortex. Picture 22 shows spores inside asci and it is just for your entertainment.

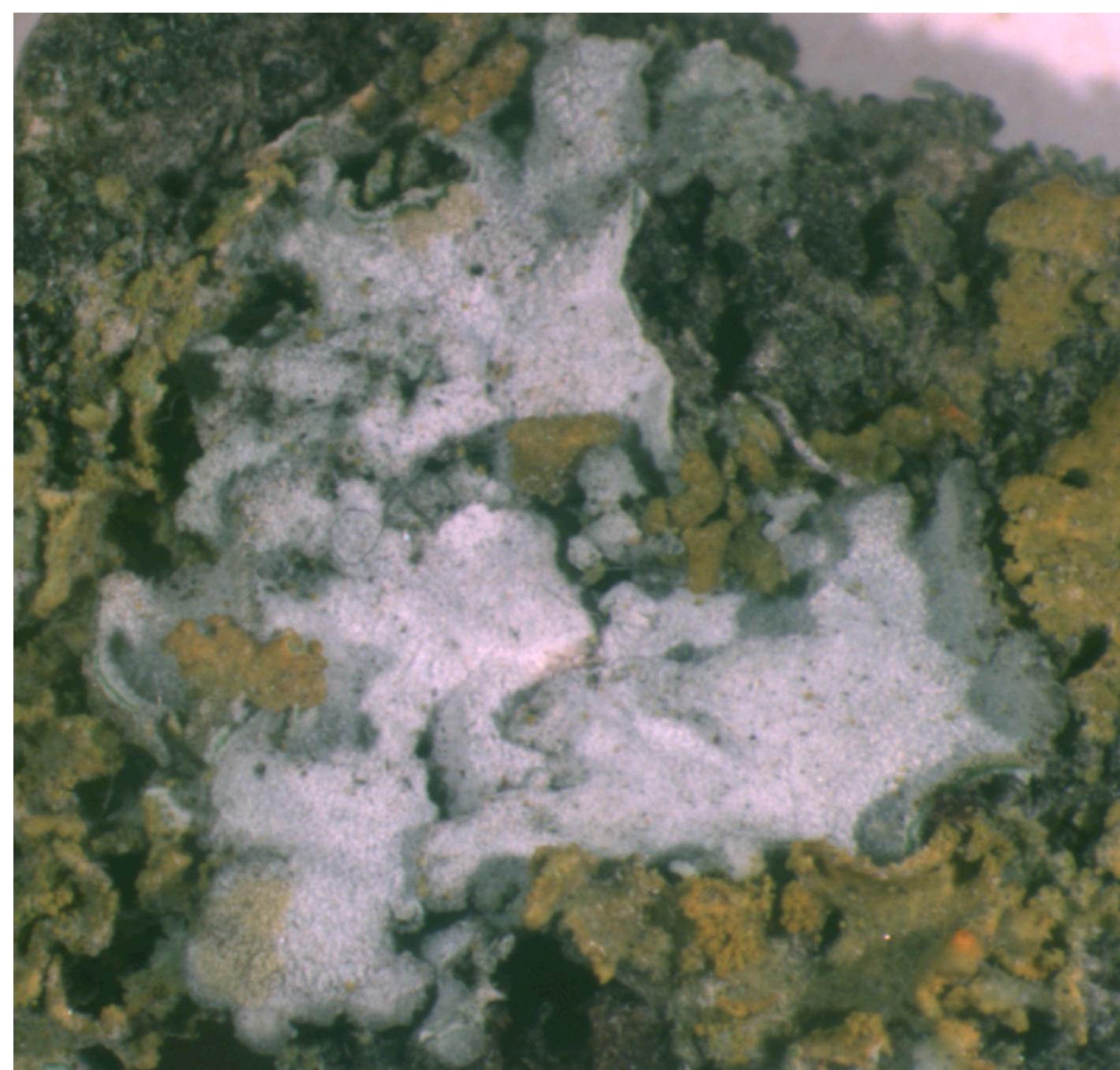




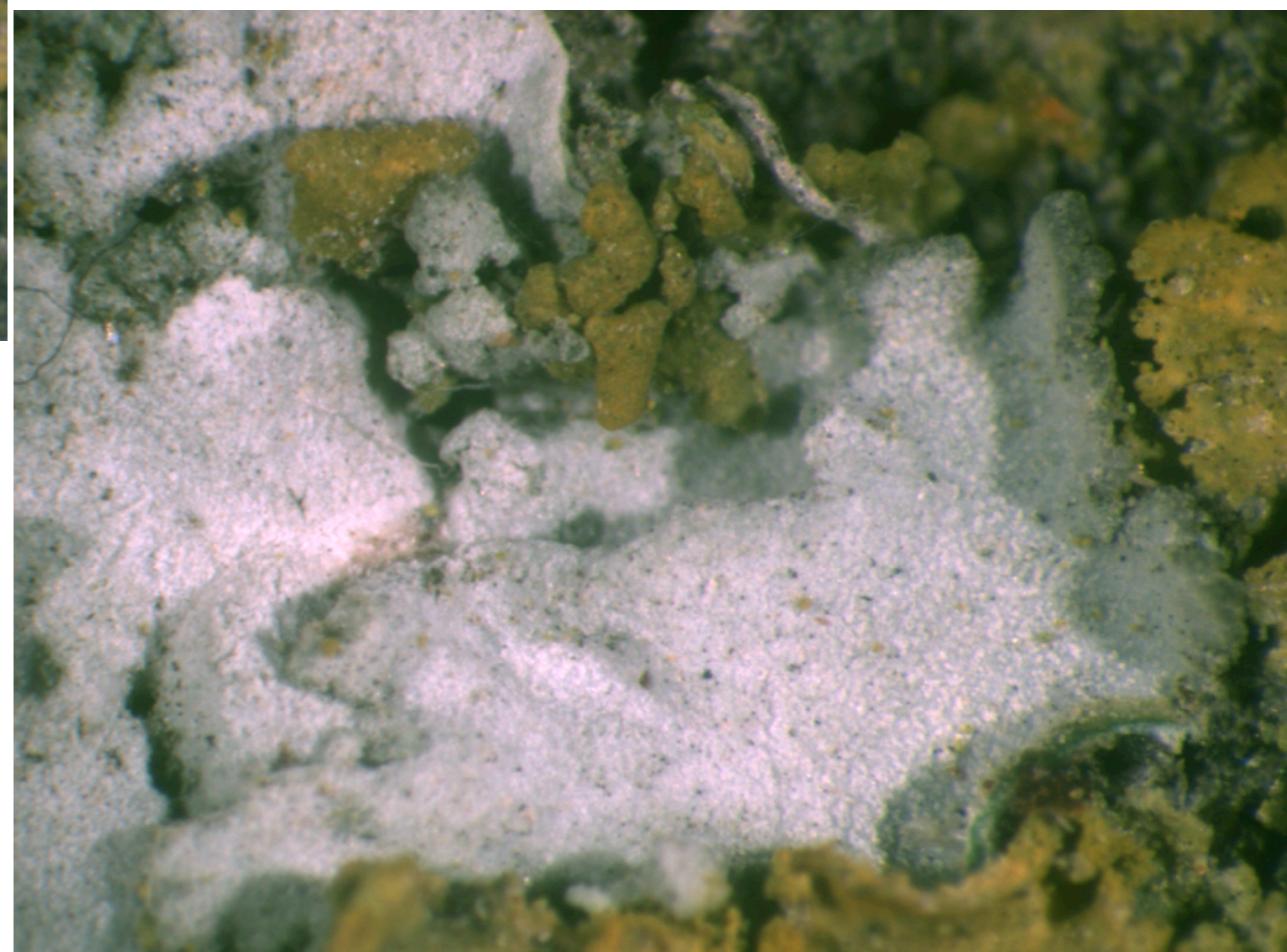
Phyciella melanchra (Phymel) – Foliose. Thallus brownish – grayish (picture 16). Lower surface white – pale tan. Soredia in laminal or submarginal soredia (pictures 17 & 18). K- cortex and medulla.

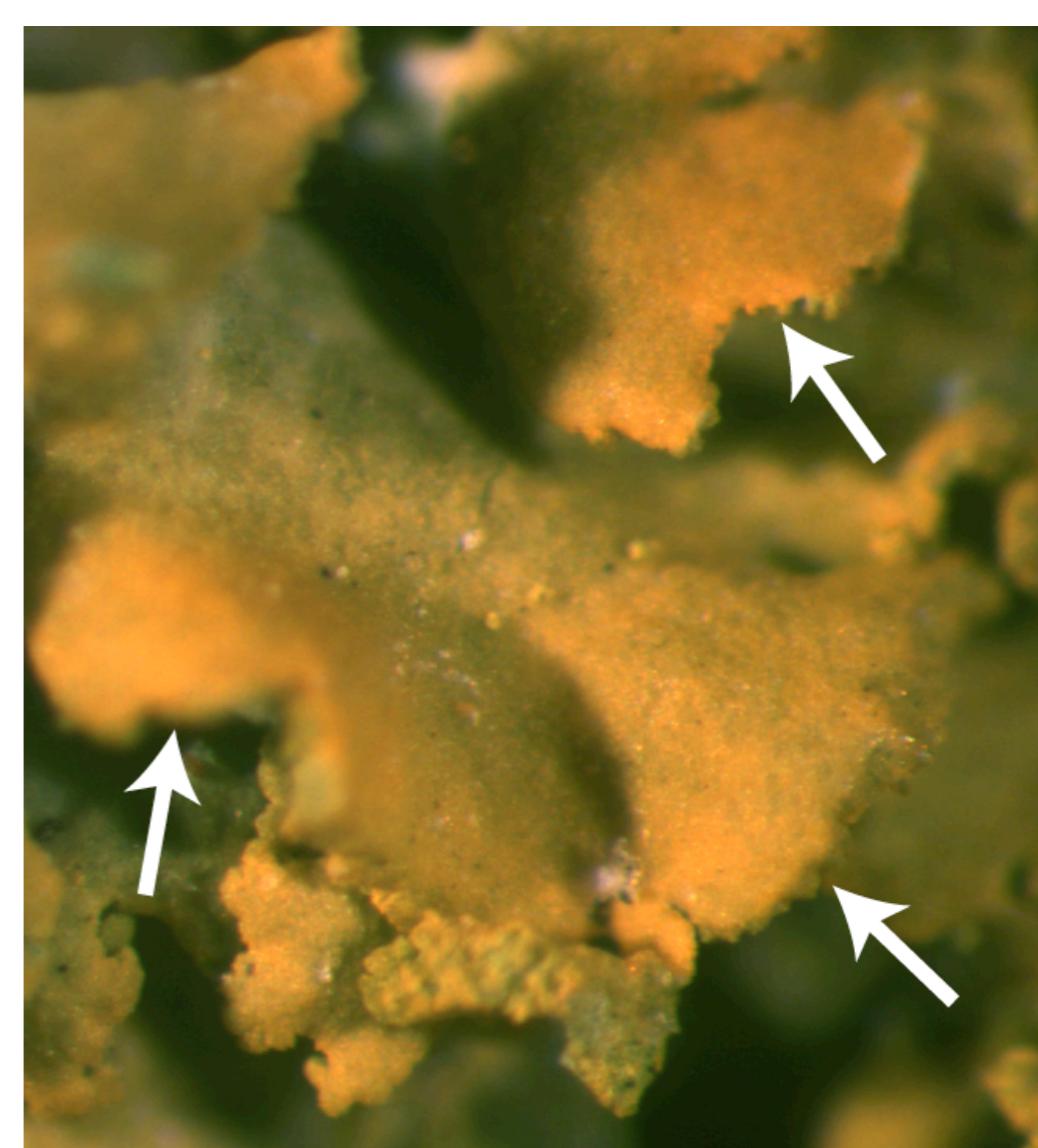
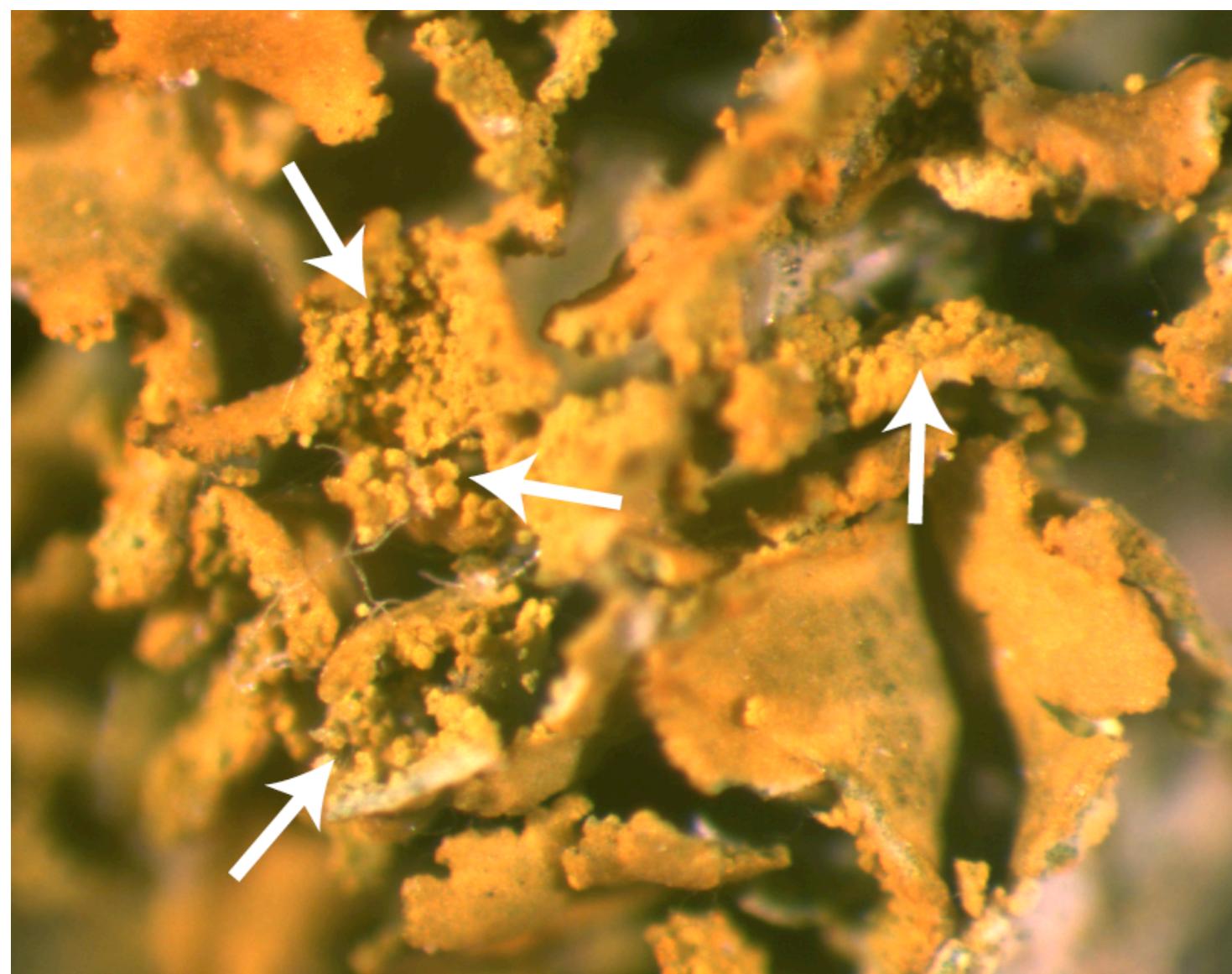


***Physcia adscendens* (*Phyads*)** – Foliose. Thallus white – pale – dark gray (picture 10). Lower surface white – pale brown. Cilia on lobe margins (picture 11). Helmet (picture 12) shaped sorelia under lobe tips (picture 13). K+ yellow cortex, K- medulla.



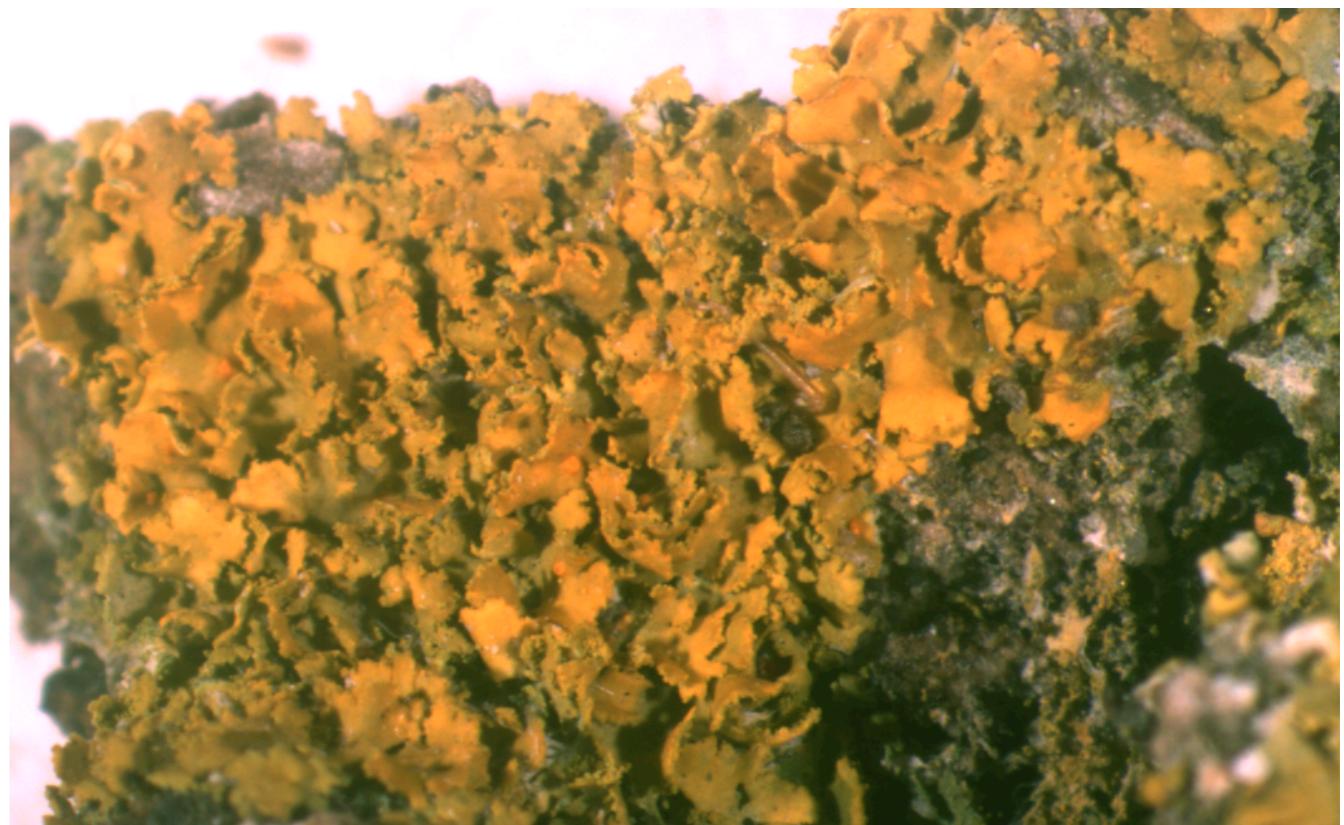
Physcia undulata (Phyund) - Foliose. Thallus gray – dark gray (picture 14) with “frosted” surface (picture 15). Lower surface whitish gray – brownish with concolorous or darker rhizines. Lobe tips more or less undulating because of marginal sorelia. K+ yellow cortex and medulla.

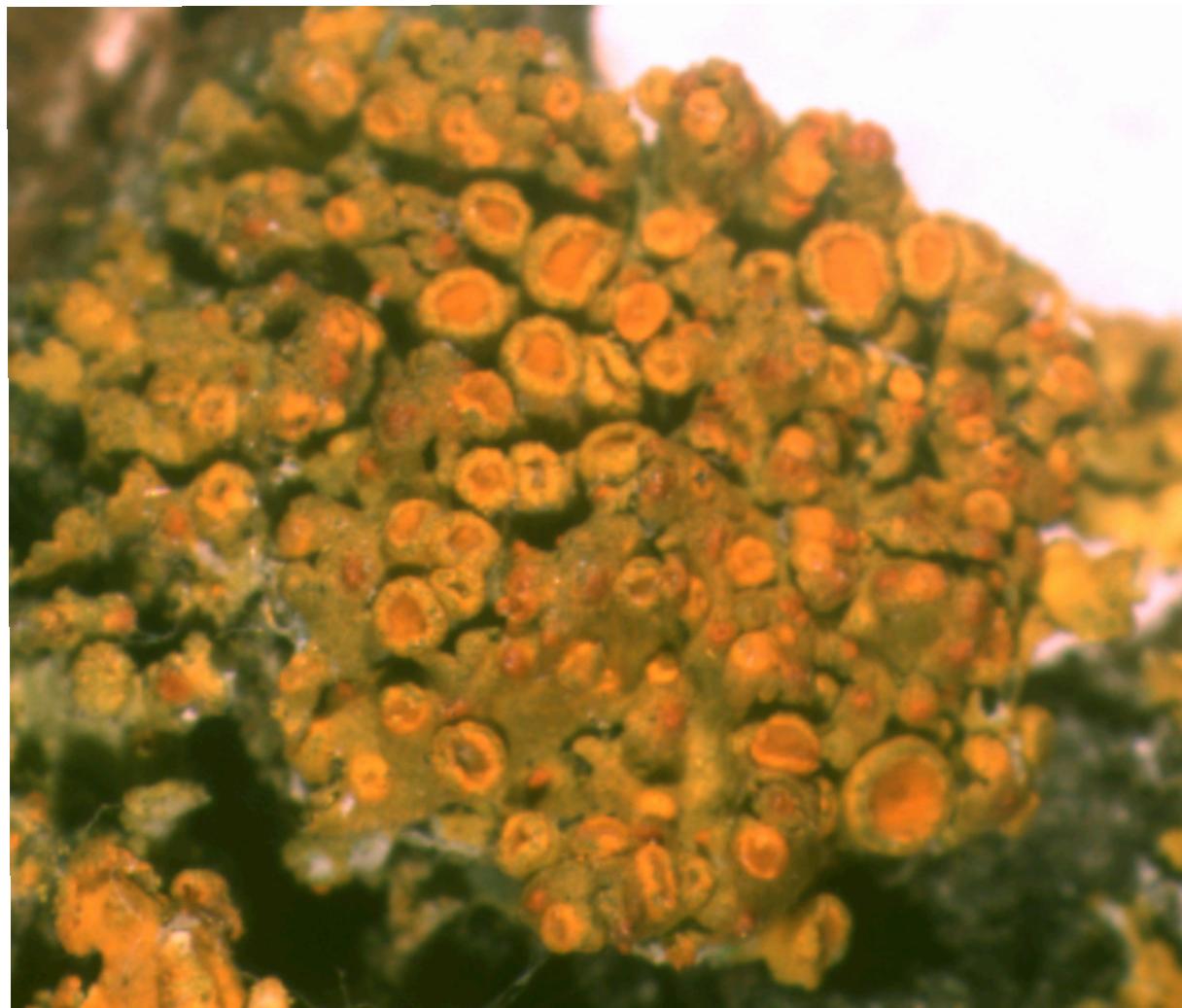
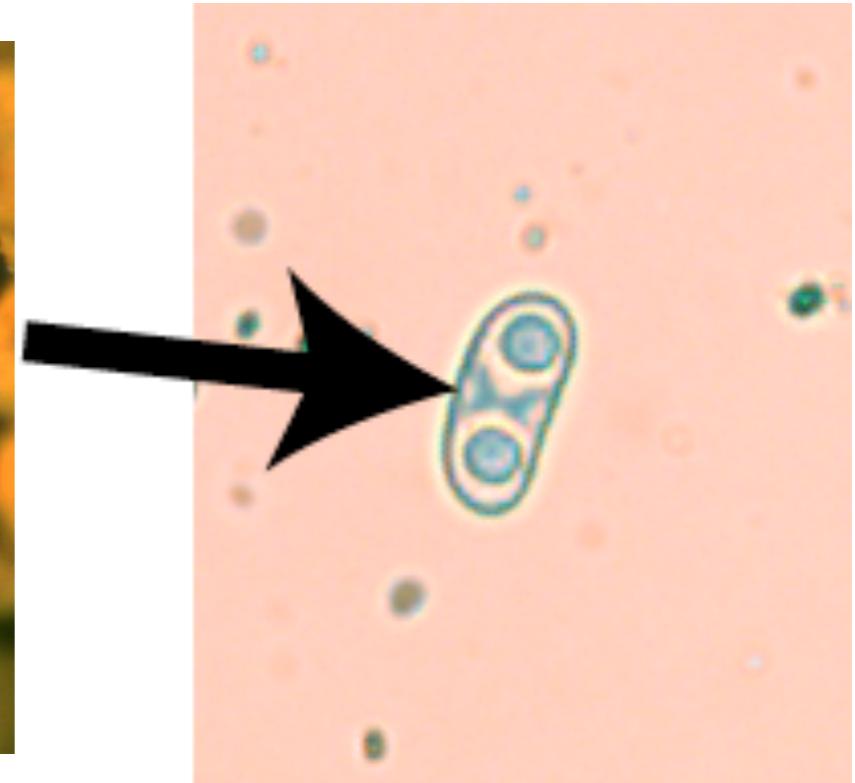
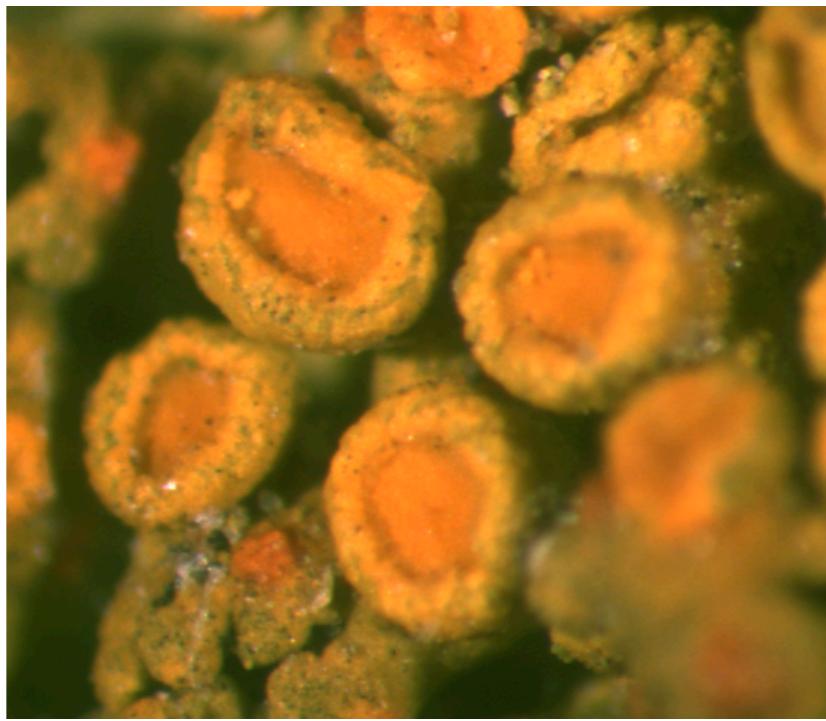
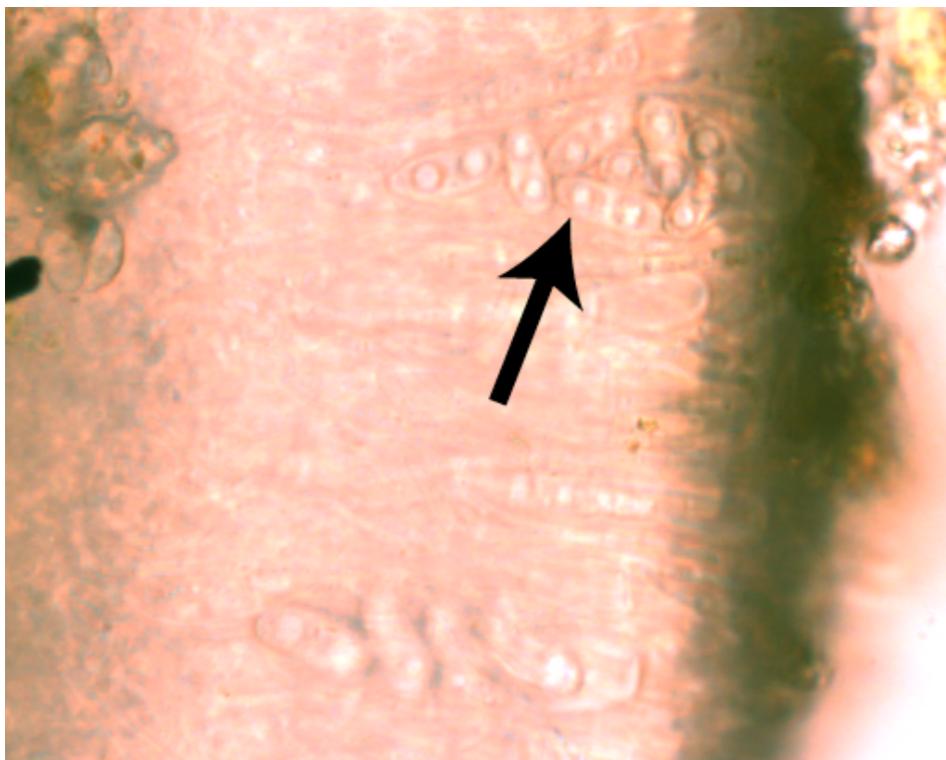




Xanthomendoza galericulata

(**Xangal**) – Foliose. Often in extensive colonies. Thallus light – dark orange (picture 22). Soredia below helmet-shaped inflated lobe tips (picture 23). Granular soredia (picture 24). K+ purple cortex.





***Xanthomendoza montana* (*Xanmon*) – Foliose.**
Small rosettes (picture 25). Thallus yellow – orange.
Apothecia disc orange with orange margin (picture 26). Spores ellipsoid – oblong with a narrow septum (picture 27) – note that the spore is polarilocular (hour-glass shaped). This is typical for Caloplaca, Xanthoria, and Xanthomendoza. K+ purple cortex.
Picture 28 shows spores inside an ascus.