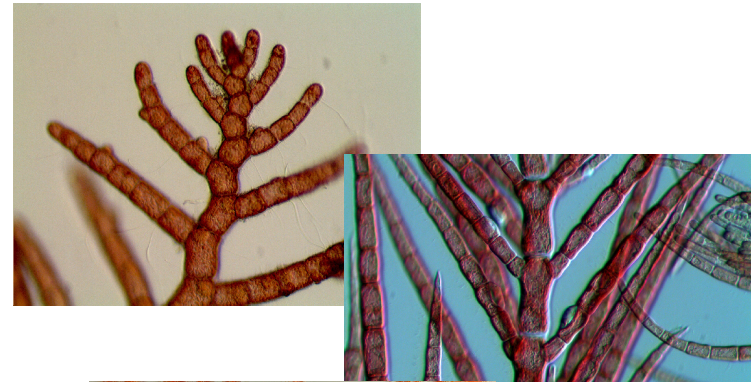


# *Rhodophyta* – Rotalgen der Hochseeinsel Helgoland

*O Callithamnion sp.*



*O Antithamnion (?)*



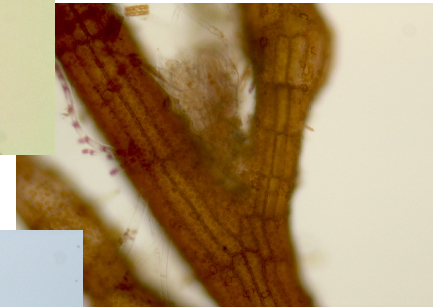
*O Brongniartella byssoides*



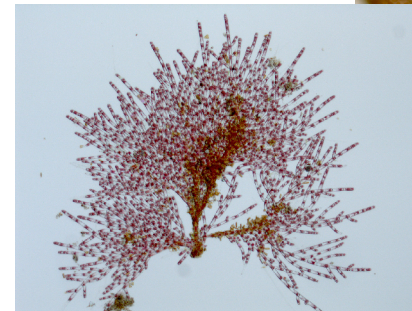
*O Polysiphonia urceolata*



*O Polysiphonia elongata*



*O Polysiphonia nigrescens*

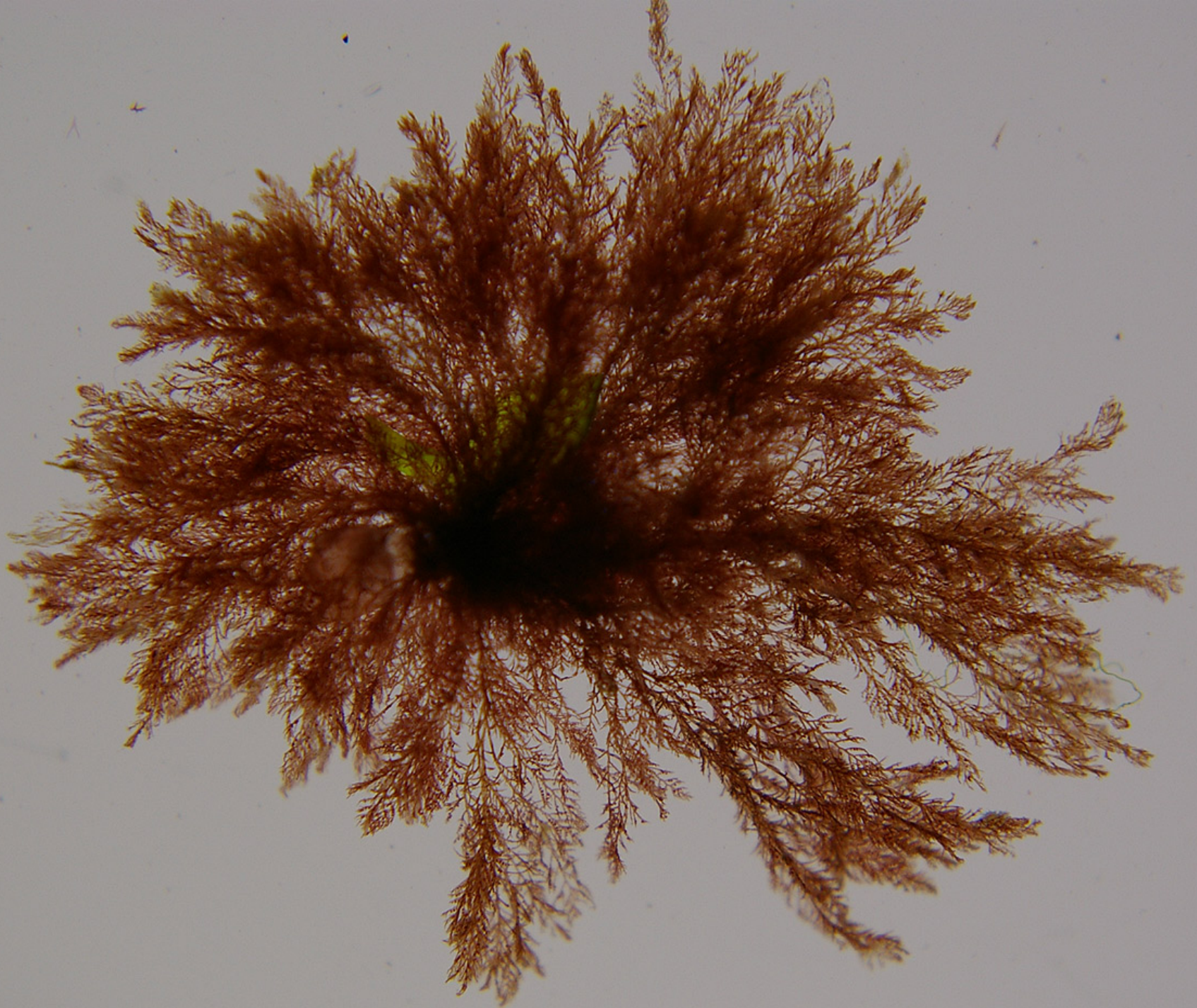


*O Acrochaetium sp.*



***Callithamnion sp.***  
**Habitus**





***Callithamnion* sp.**  
**Habitus**

*Callithamnion* sp.  
wechselständige Seitenfäden

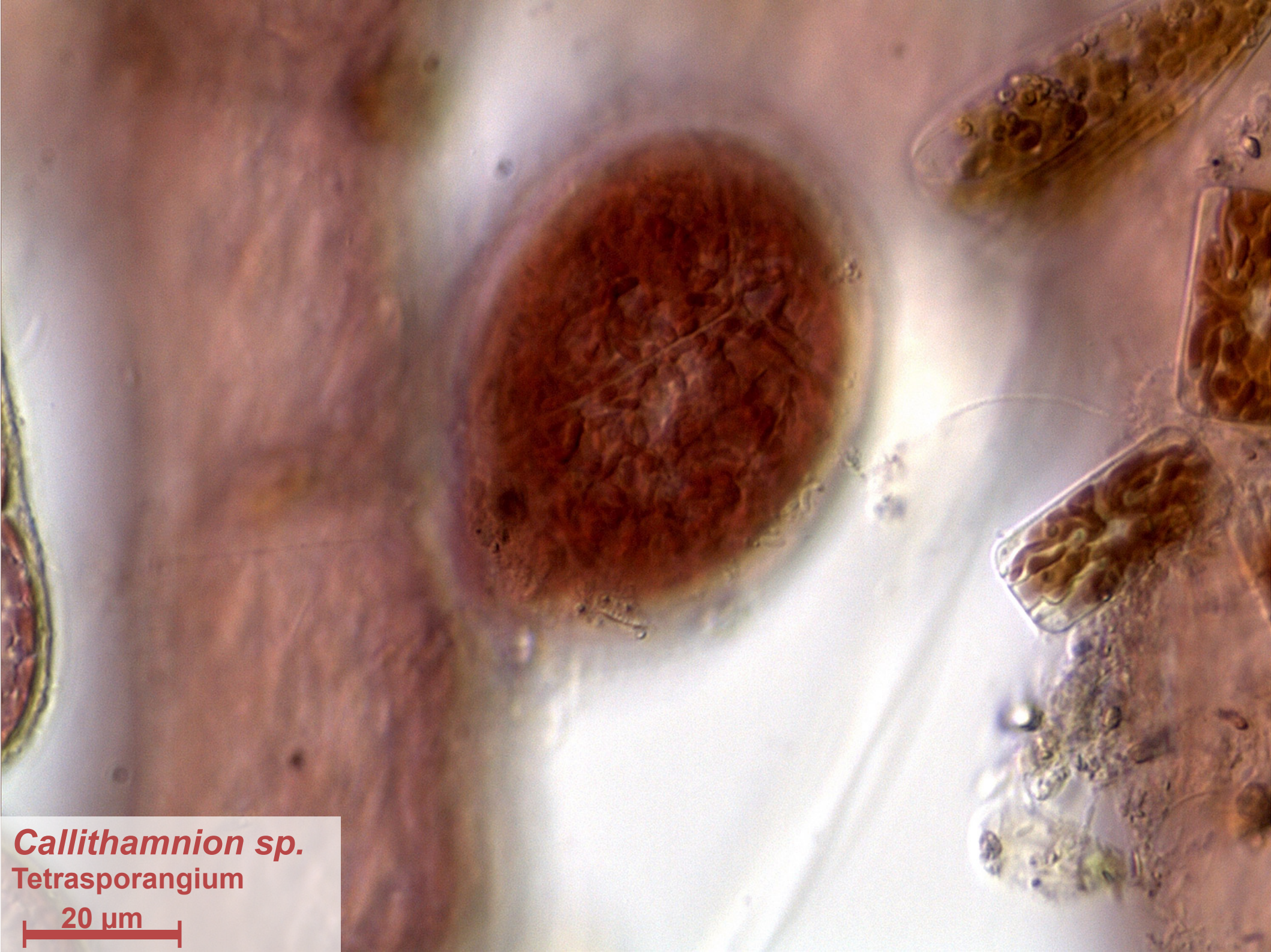
80  $\mu\text{m}$



*Callithamnion* sp.  
junge Tetrasporangien

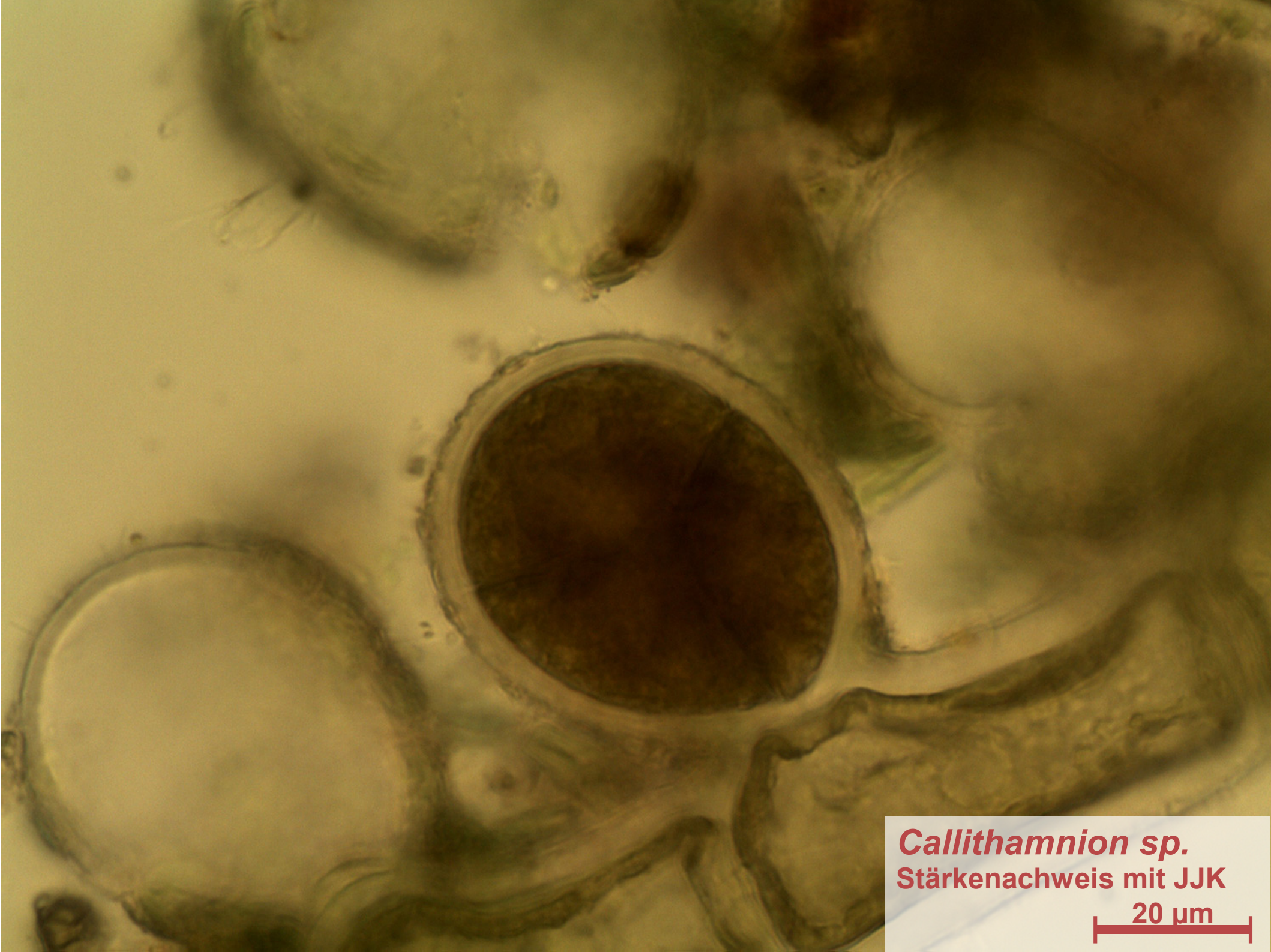
80  $\mu\text{m}$





*Callithamnion* sp.  
Tetrasporangium

20  $\mu$ m



*Callithamnion* sp.  
Stärkenachweis mit JJK

20  $\mu$ m



*Callithamnion* sp.  
leeres Tetrasporangium

40  $\mu$ m



**Drei Phasen im  
Generationswechsel**

**Diplohaplonte Zyklen**

**heteromorph  
oder  
isomorph**

**Spermatangien**  
(Gametangium mit  
geißellosen Gameten)

**Spermatien**  
(Geißellose Gameten)

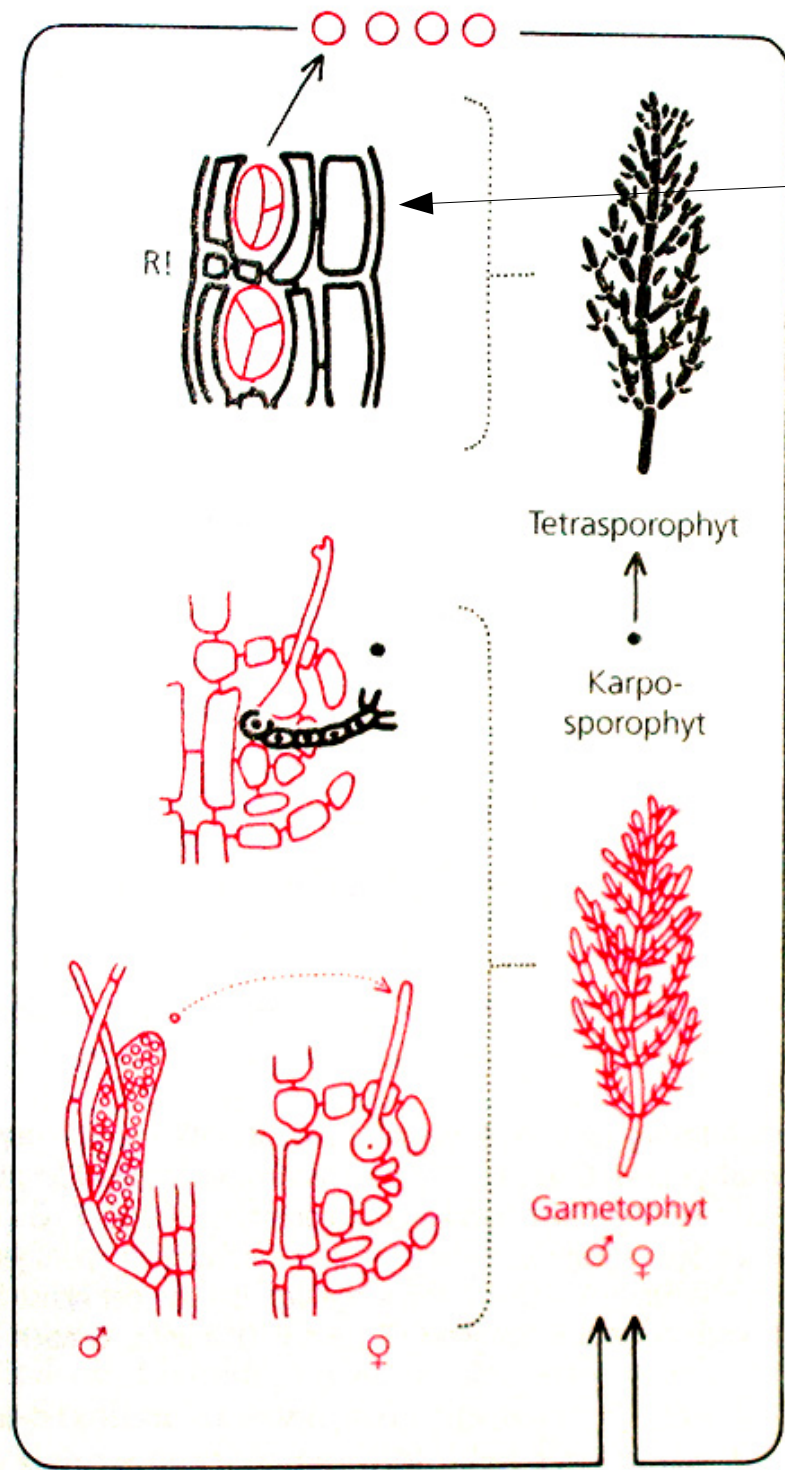
**Karpogon**  
(weibliches Game-  
tangium)

**Gametophyt**  
V

**Karposporophyt**  
(= Goniomokarp)

V

**Tetrasporophyt**



**A** *Polysiphonia* diplobiontisch



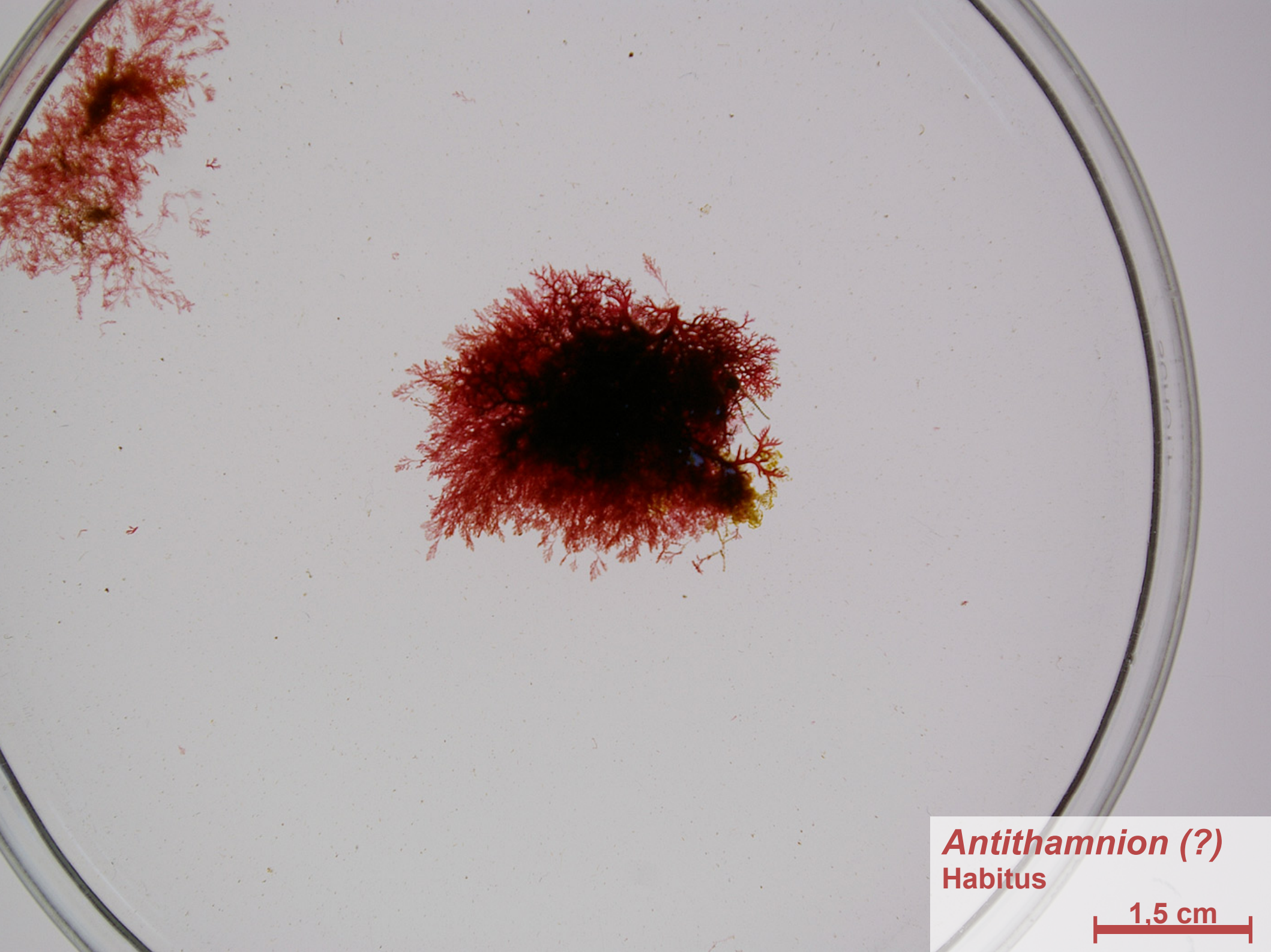
*Callithamnion sp.*  
Rhodoplasten

20  $\mu\text{m}$



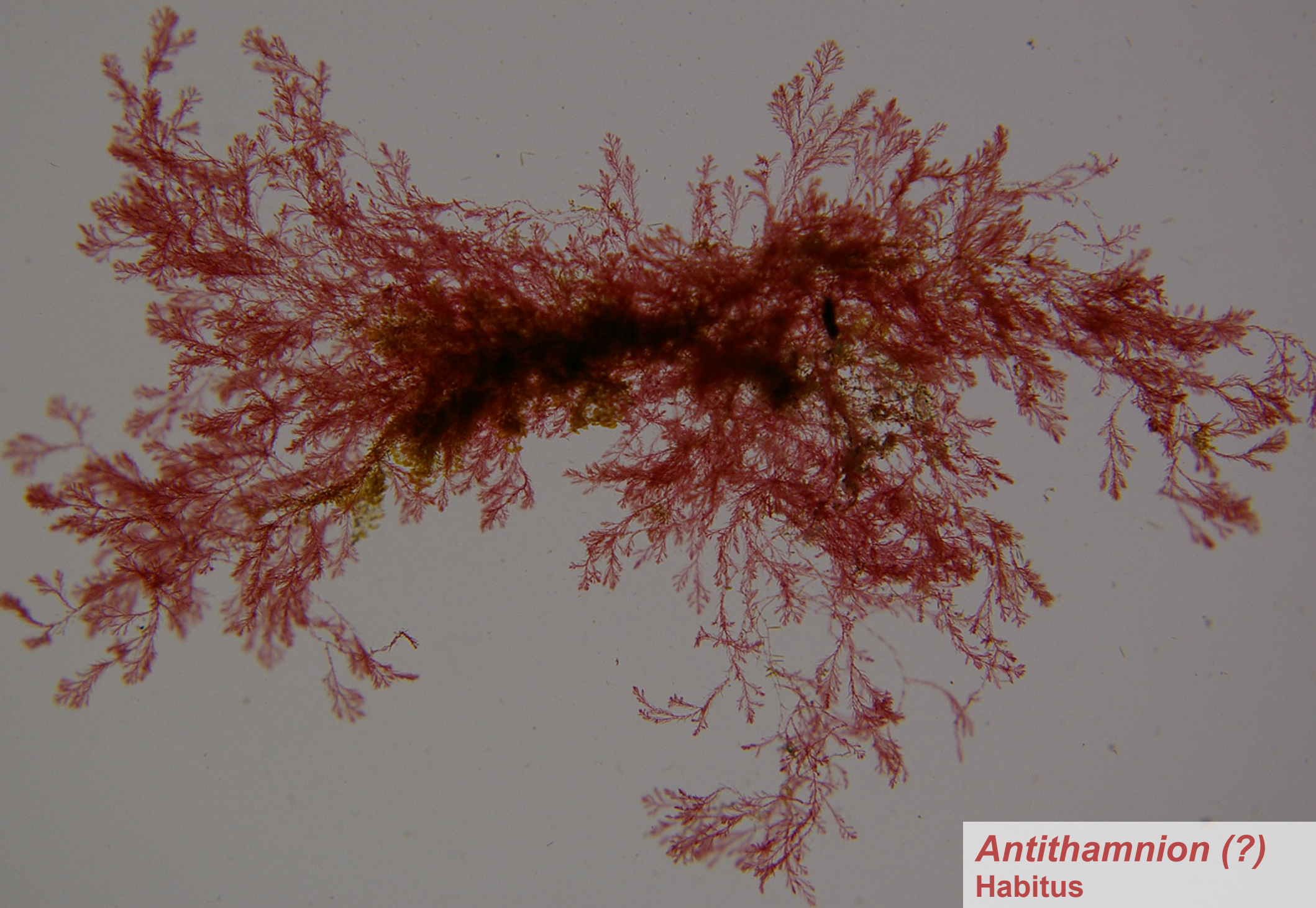
***Callithamnion* sp.**  
Lokalisation von Rhodoplasten  
und Zellkernen

20 µm

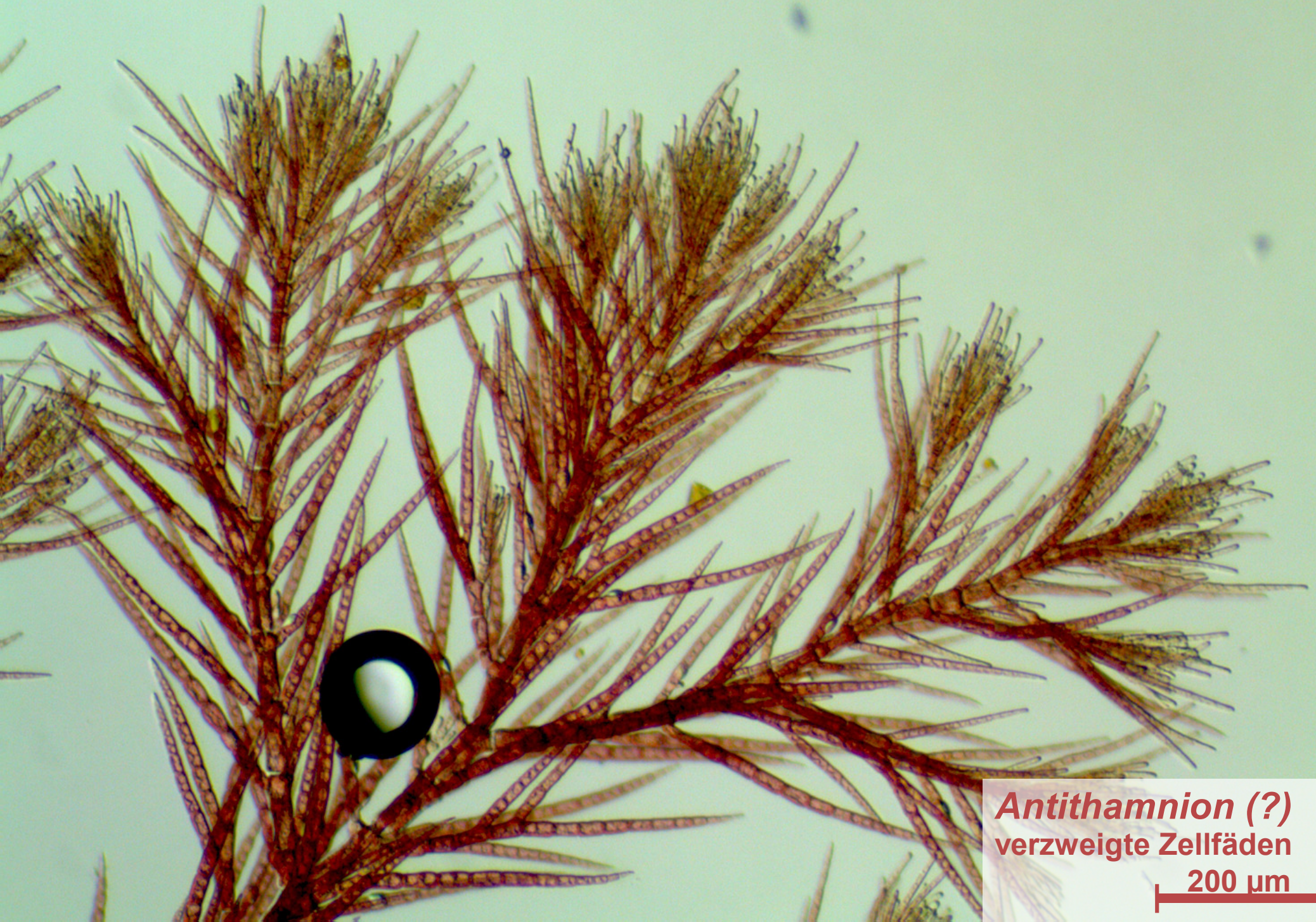


***Antithamnion* (?)**  
**Habitus**

**1,5 cm**

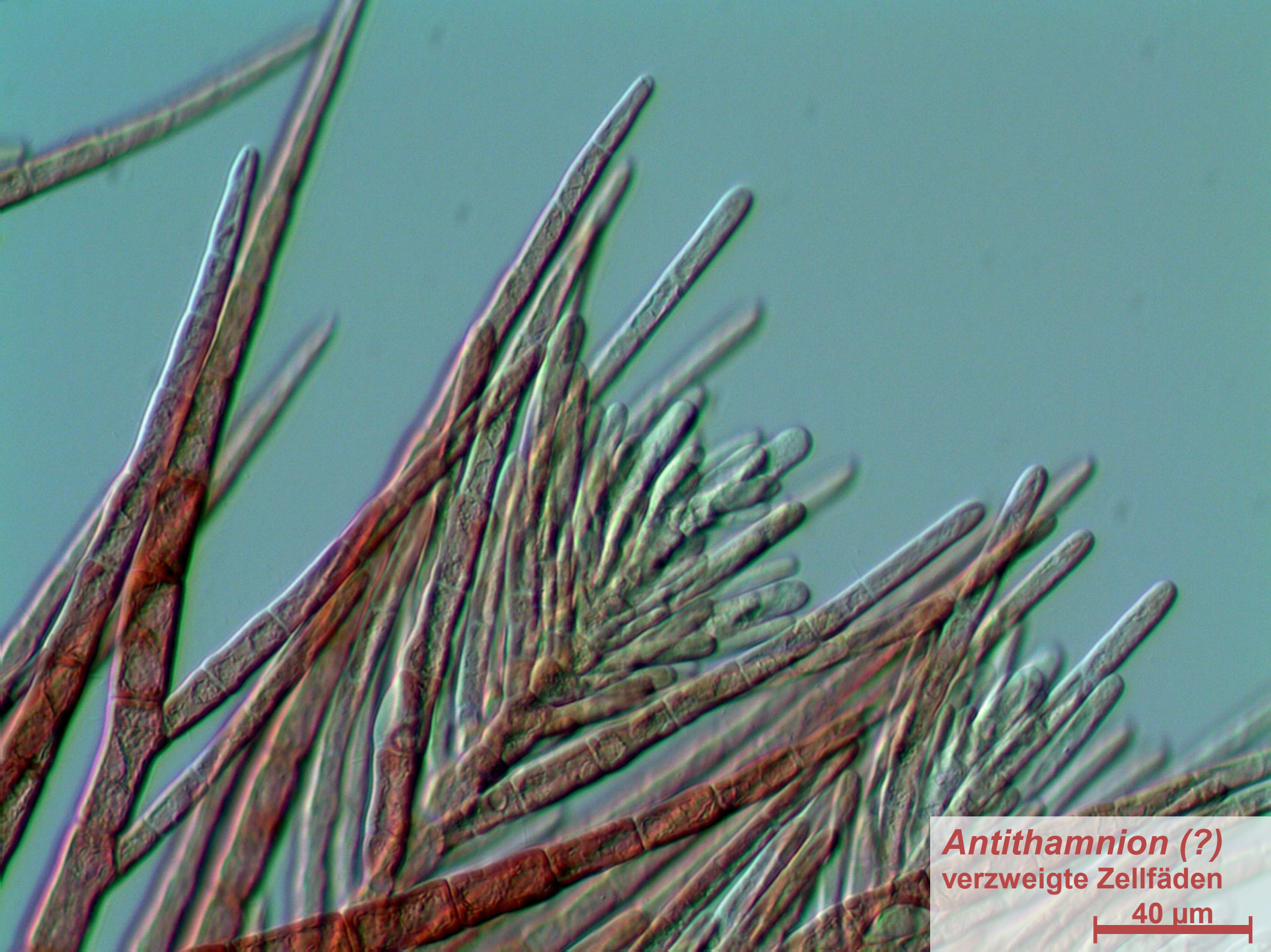


*Antithamnion* (?)  
Habitus



*Antithamnion* (?)  
verzweigte Zellfäden

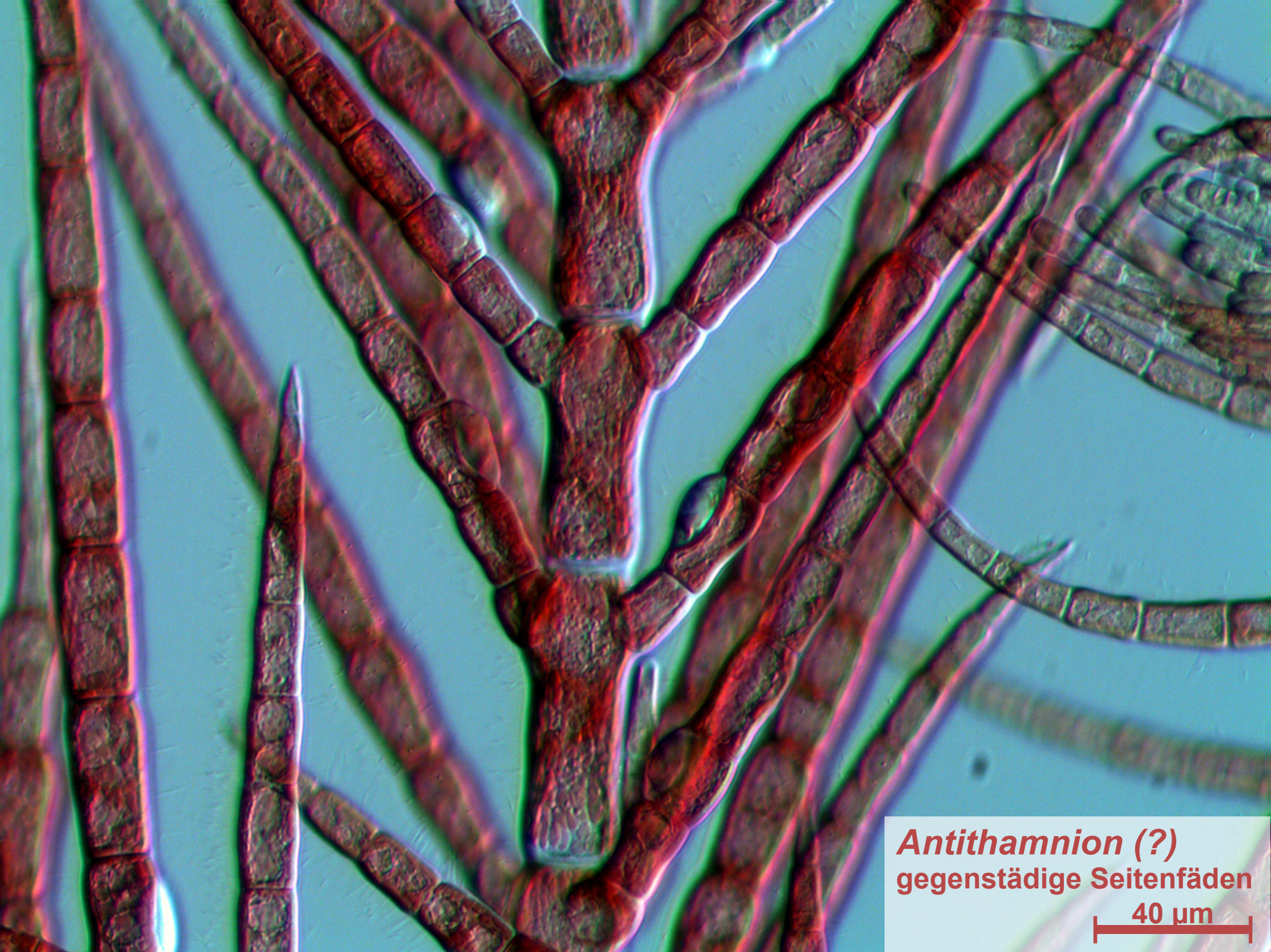
200  $\mu$ m



*Antithamnion* (?)  
verzweigte Zellfäden

40  $\mu\text{m}$





*Antithamnion* (?)  
gegenständige Seitenfäden

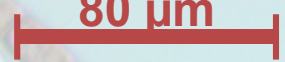
40  $\mu\text{m}$





*Antithamnion* (?)  
rhizoidartige Zellen

80  $\mu$ m





*Antithamnion* (?)  
Blasenzellen

20  $\mu\text{m}$