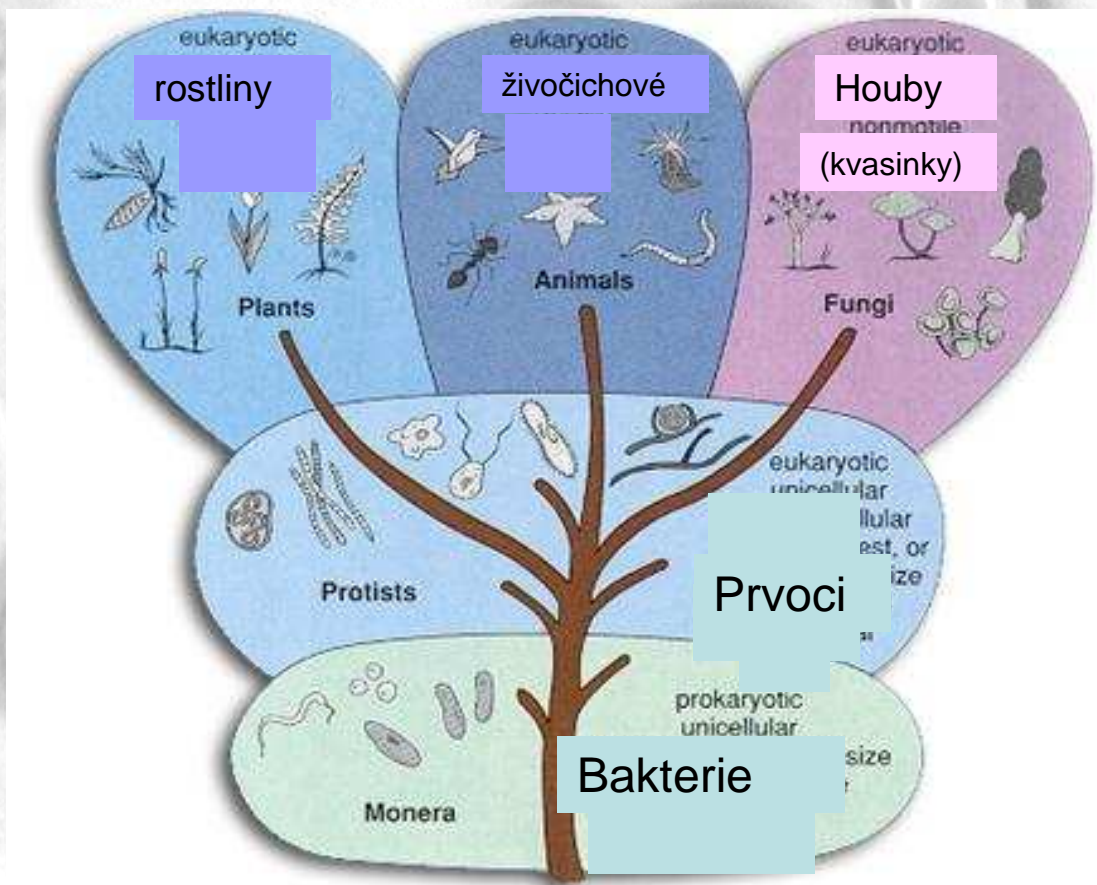


Kvasinková buňka
ve světelném a elektronovém
mikroskopu

Kvasinky patří mezi houby – Mycota

Kvasinky jsou jednobuněčné houby s podobnou organizací jako buňky živočichů a rostlin



Historie poznávání kvasinek

van Leeuwenhoek 1680

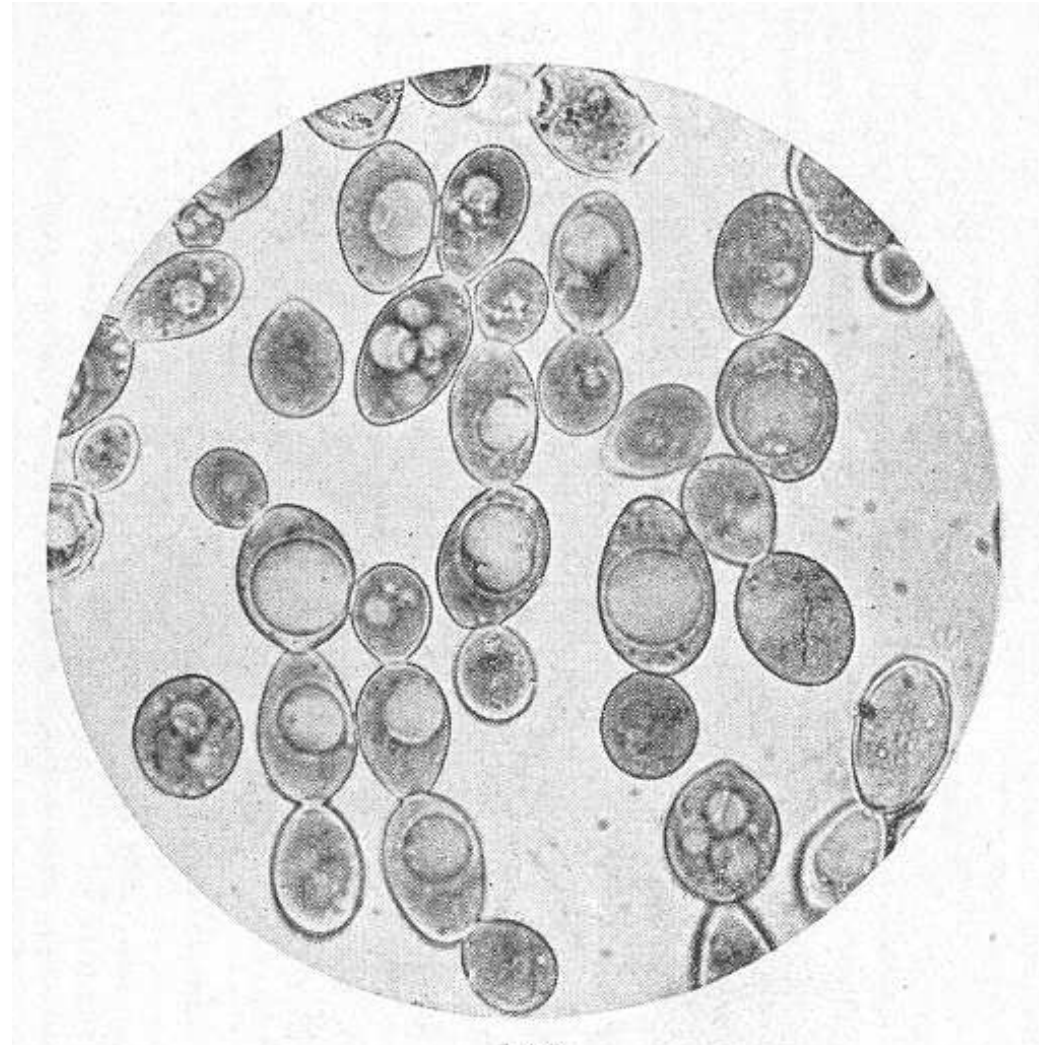
Cagniard-Latour 1830

Schwann 1836

Pasteur 1863

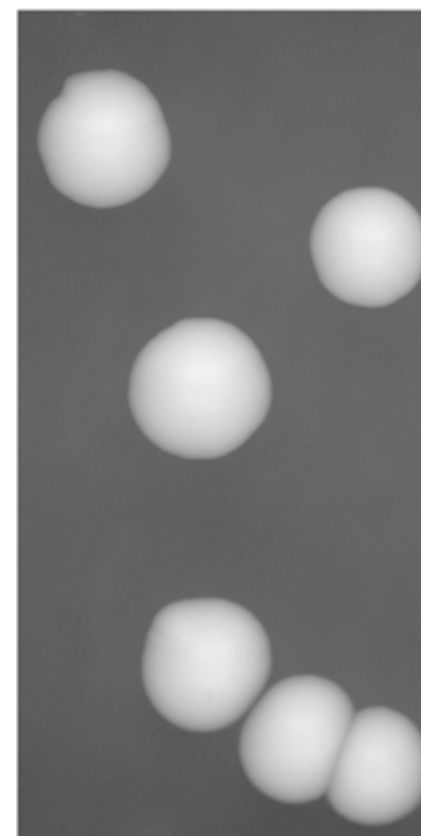
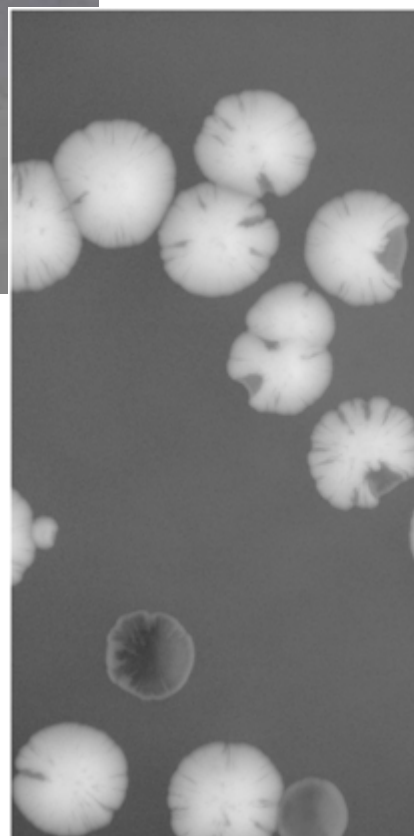
Müller-Thurgau 1890

Kruis a Šatava 1918



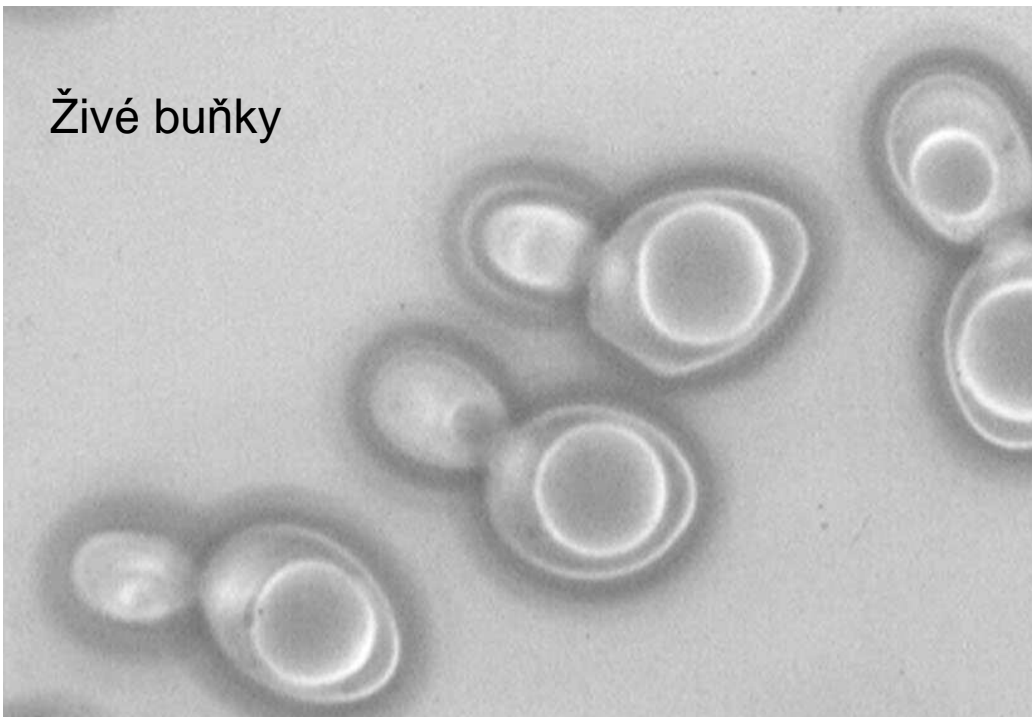


Kmeny kvasinek se uchovávají na agarových živných půdách, kde rostou ve formě kolonií





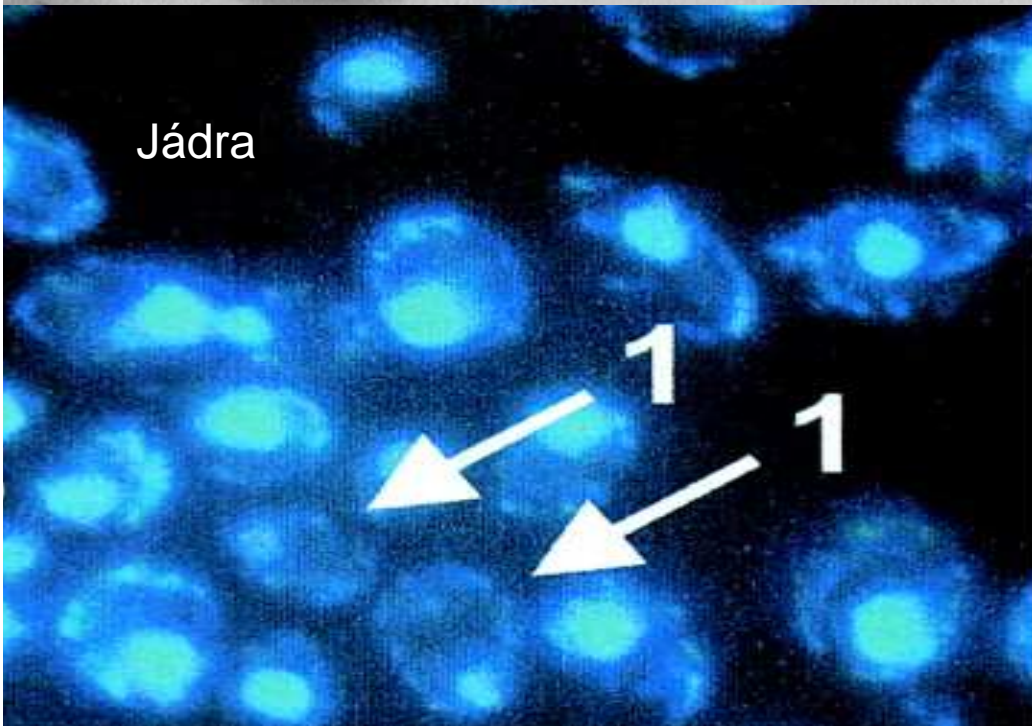
Živé buňky



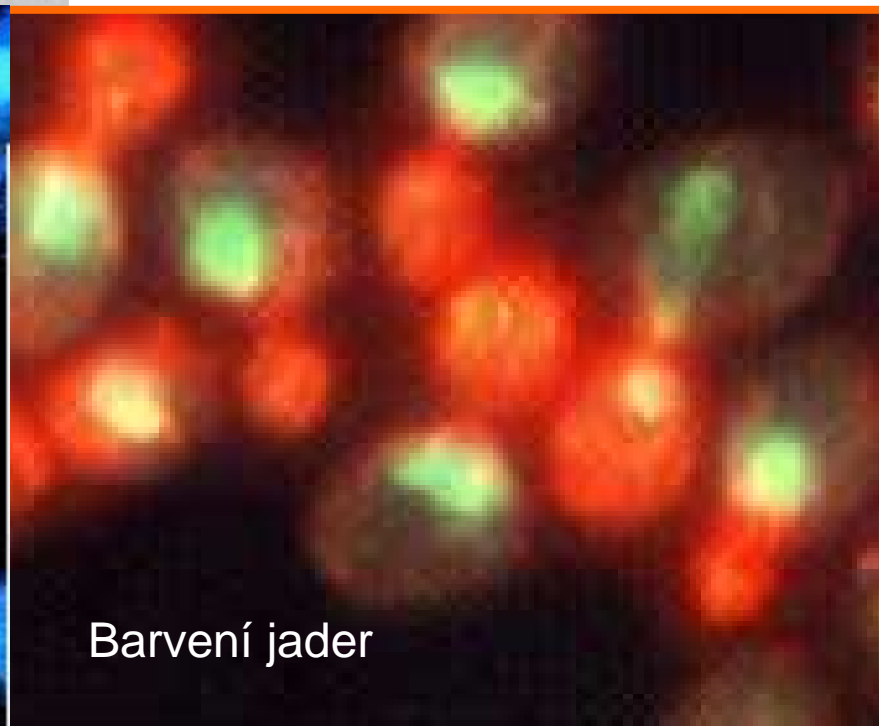
Buněčná stěna



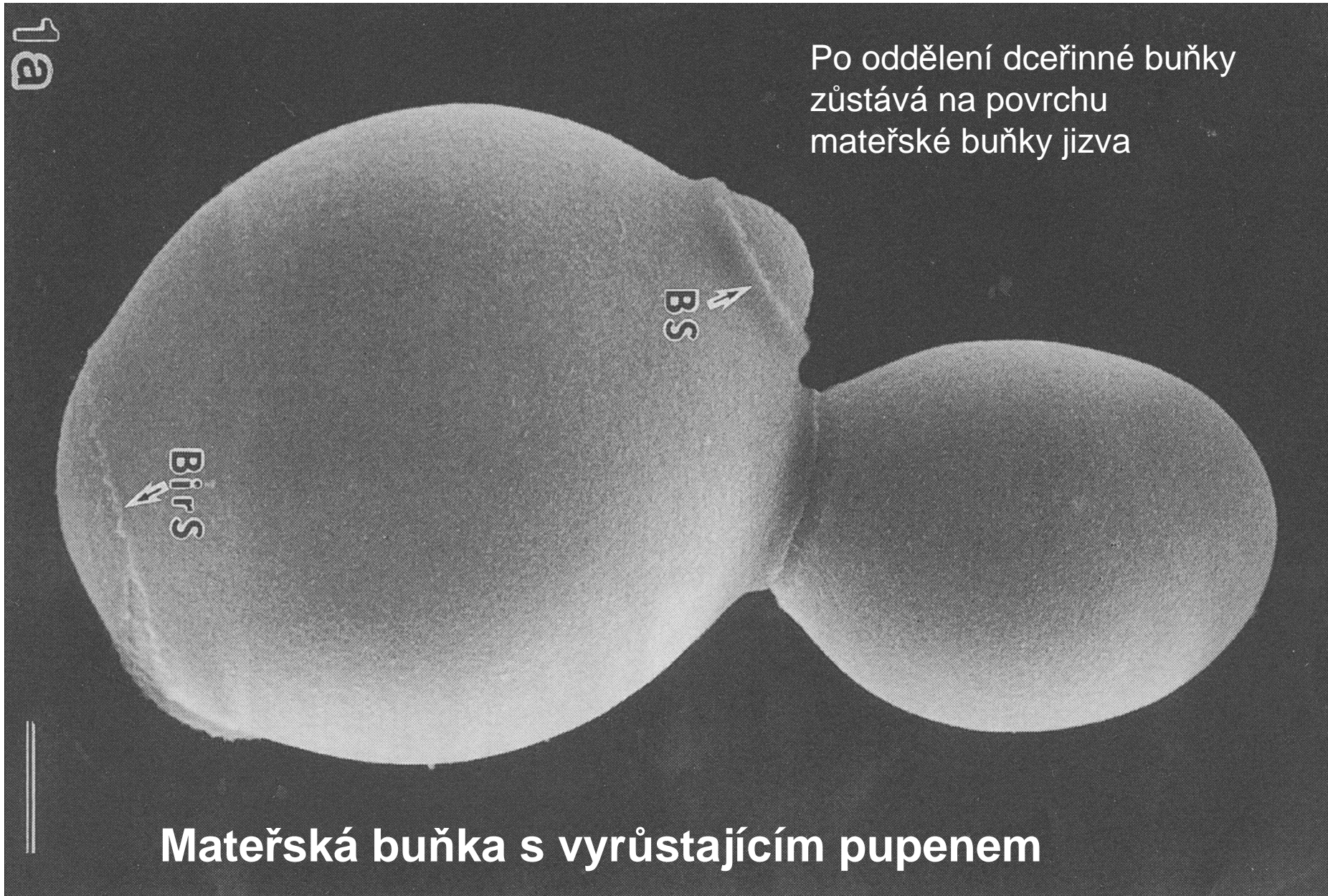
Jádra

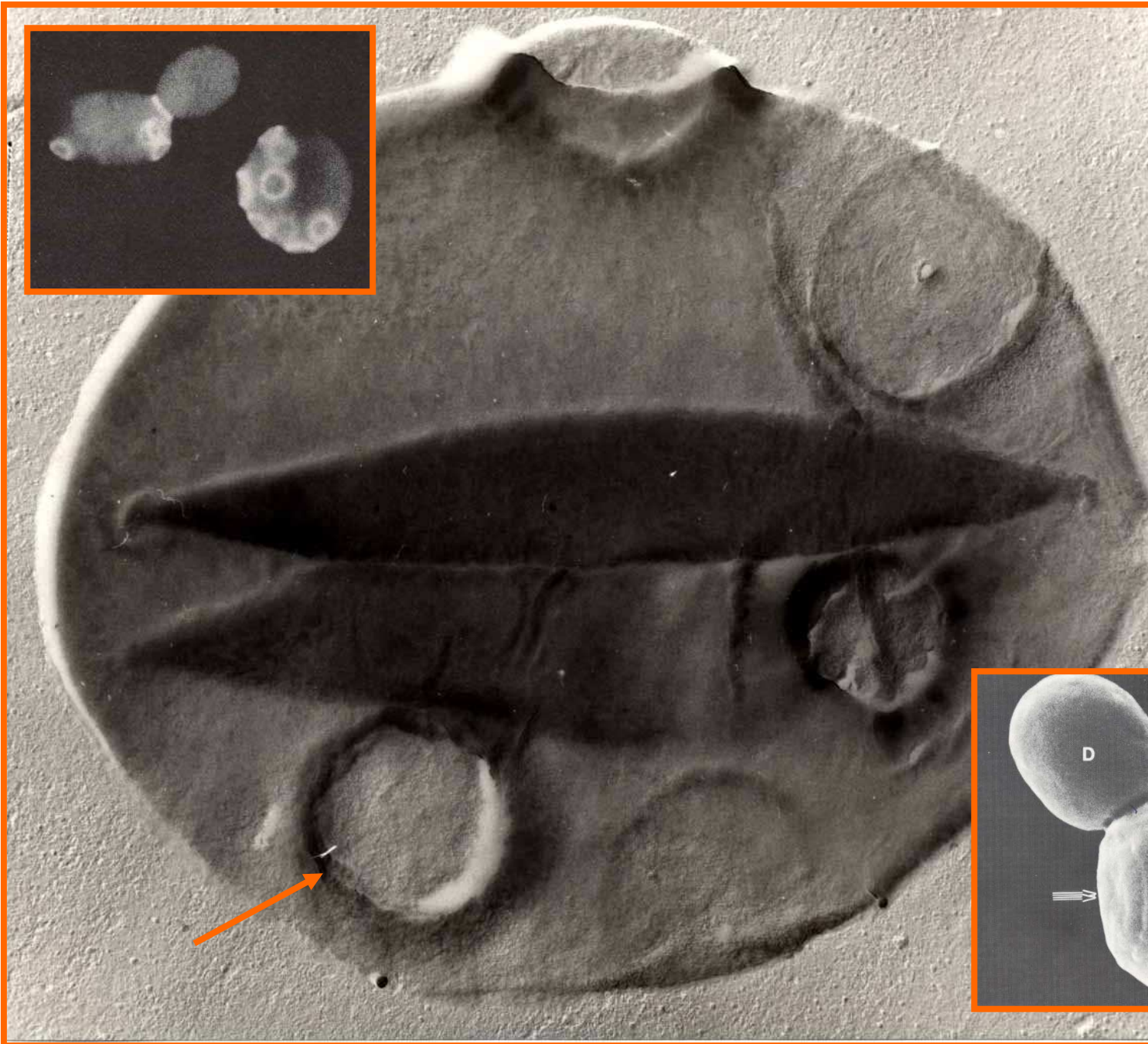


Barvení jader

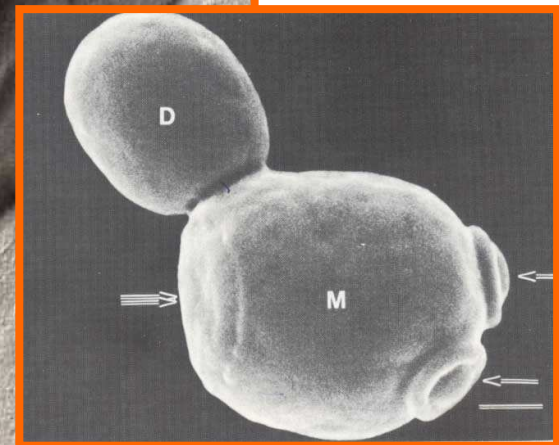


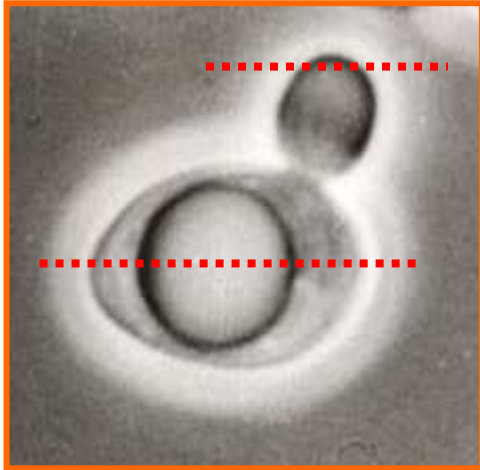
Skenovací elektronová mikroskopie





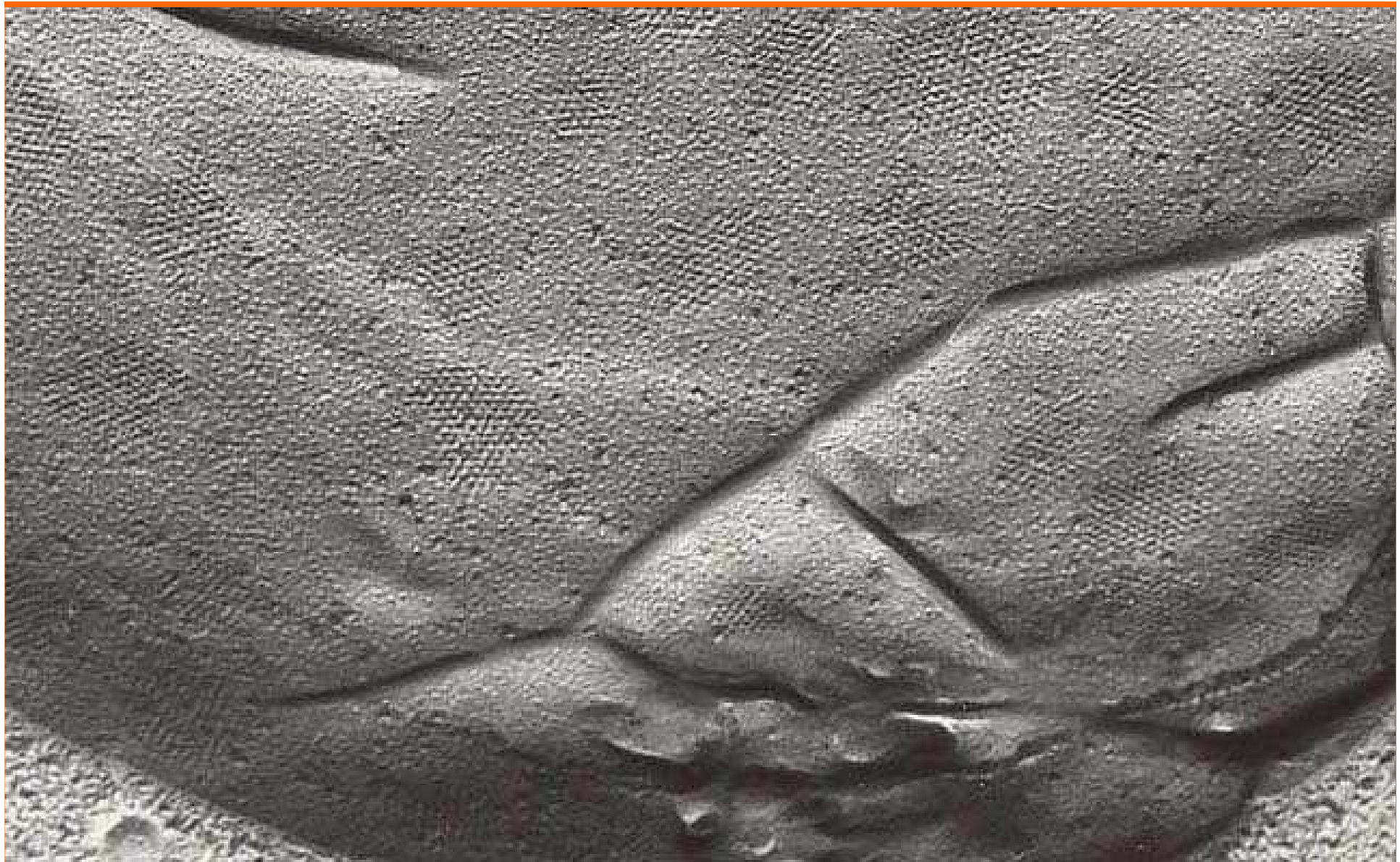
Buněčná
stěna po
pokovení

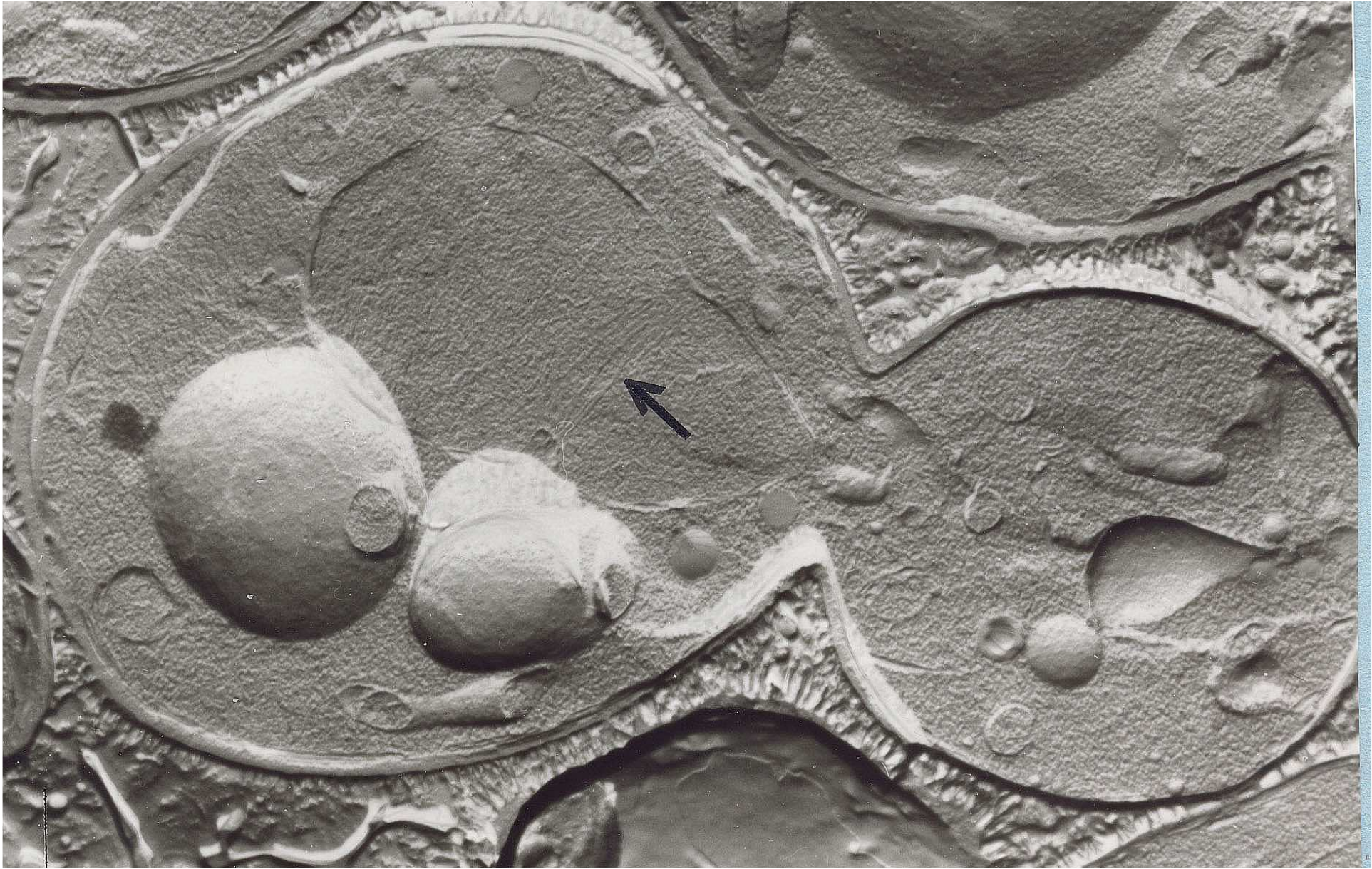




Technika mrazového
lámání – freeze fracturing

Povrch plasmatické membrány *S. cerevisiae* odhalený technikou mrazového lámání

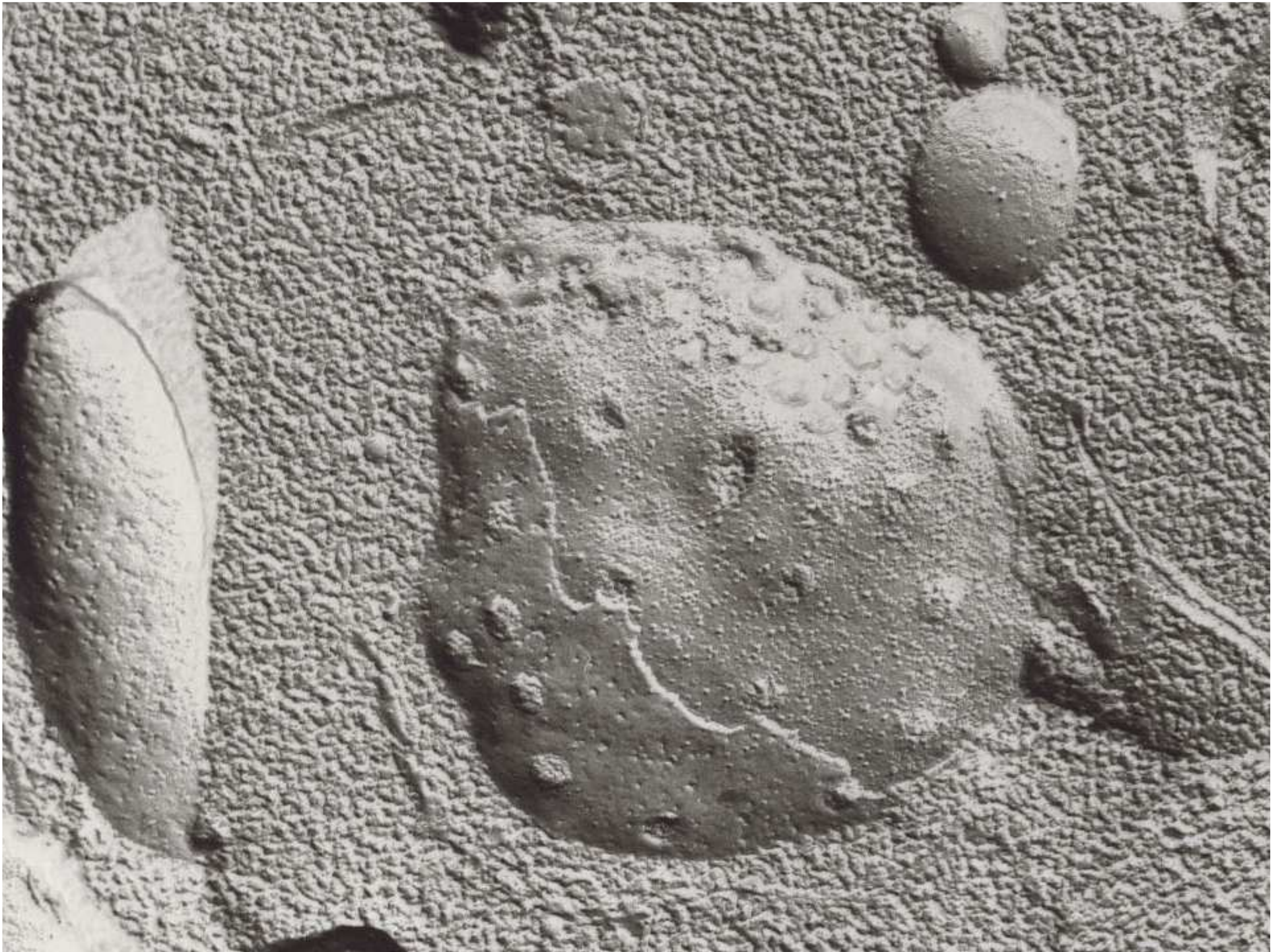


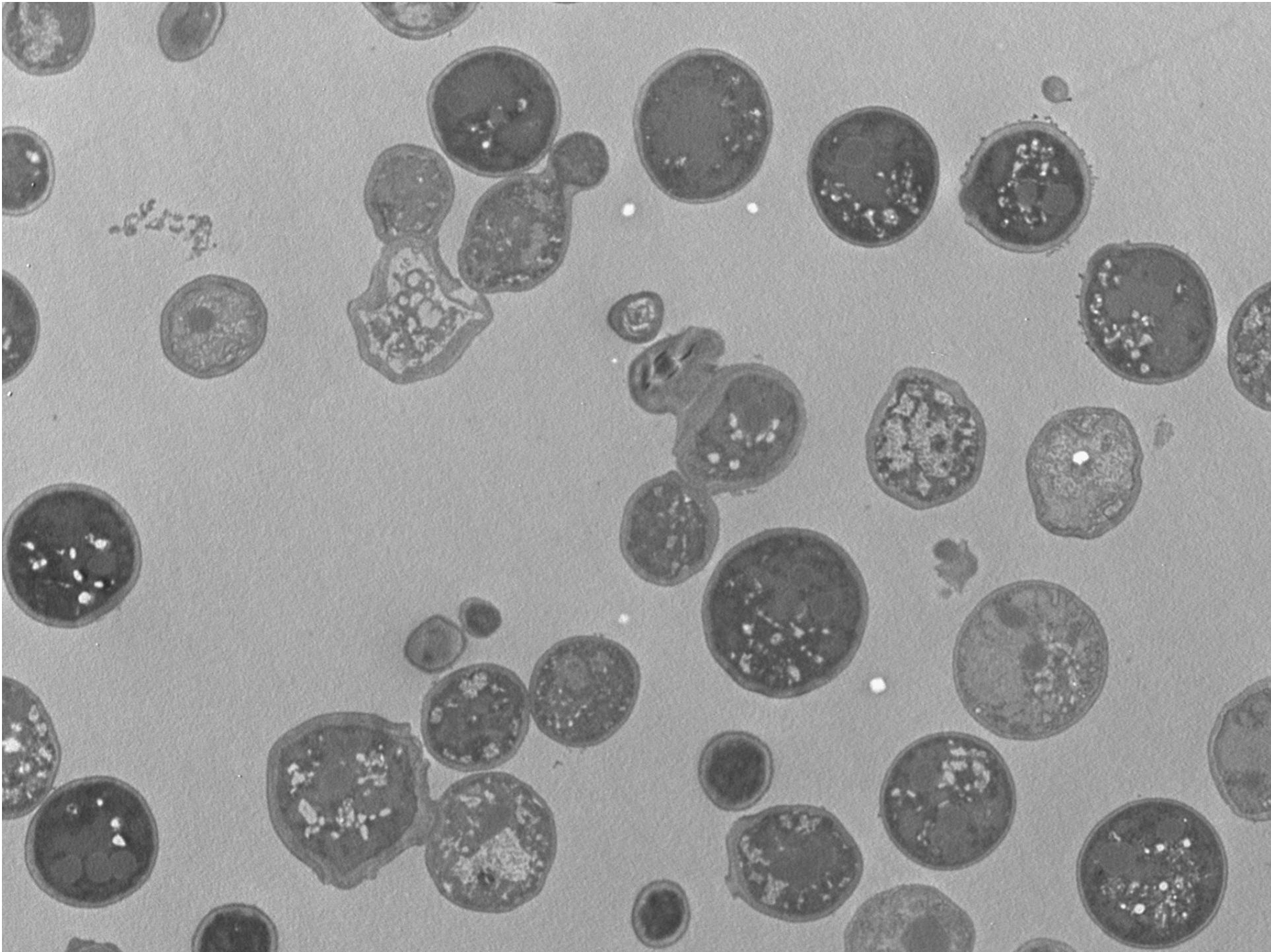


Zygosacch. rouxii

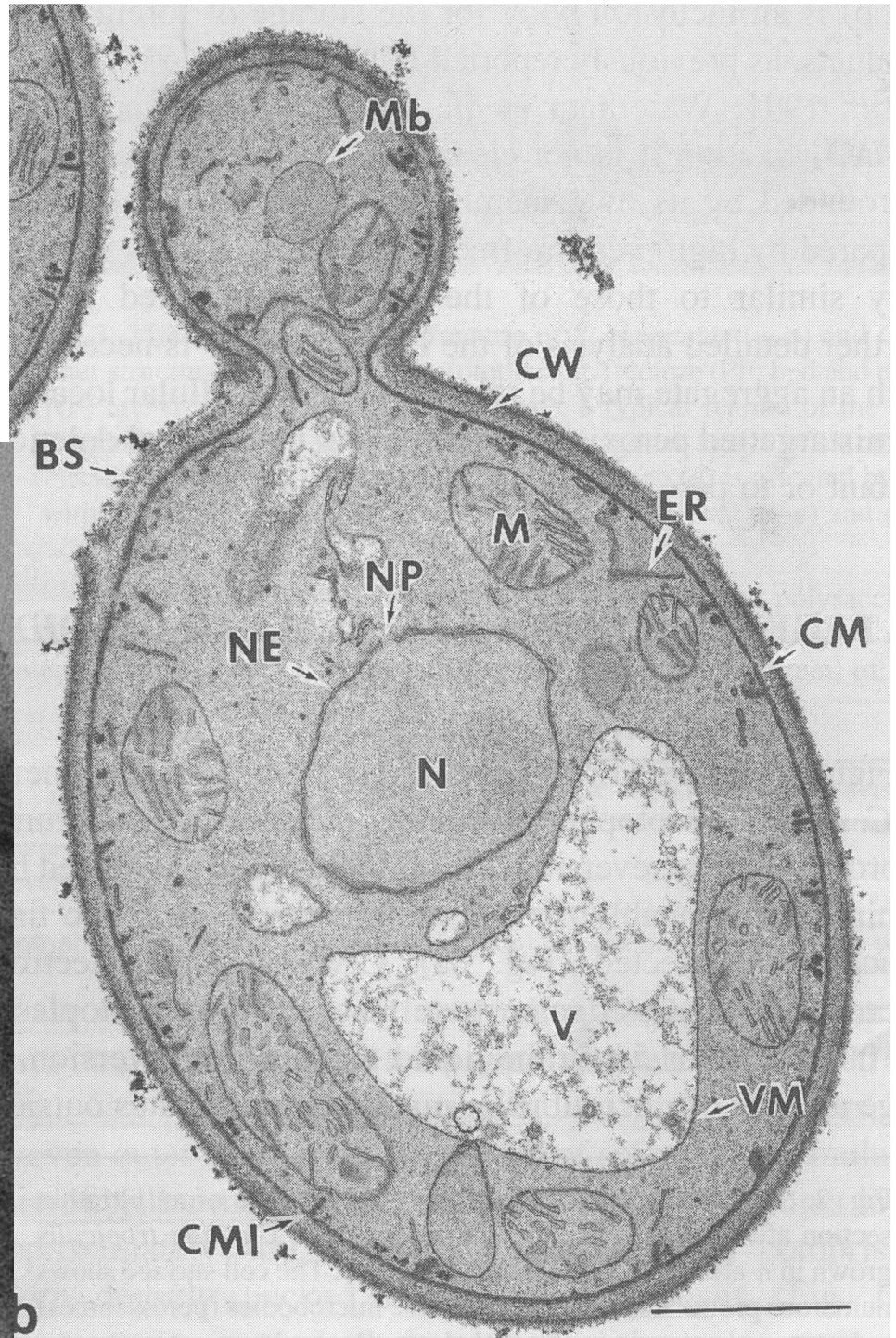
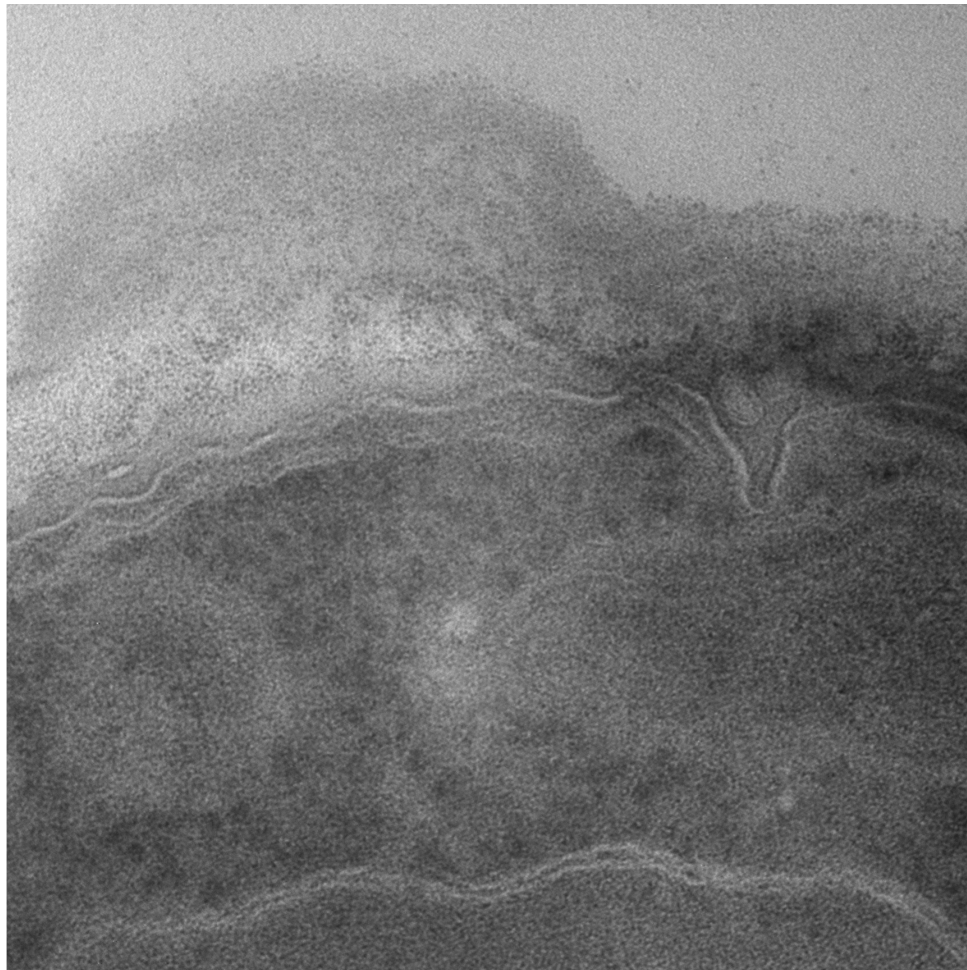


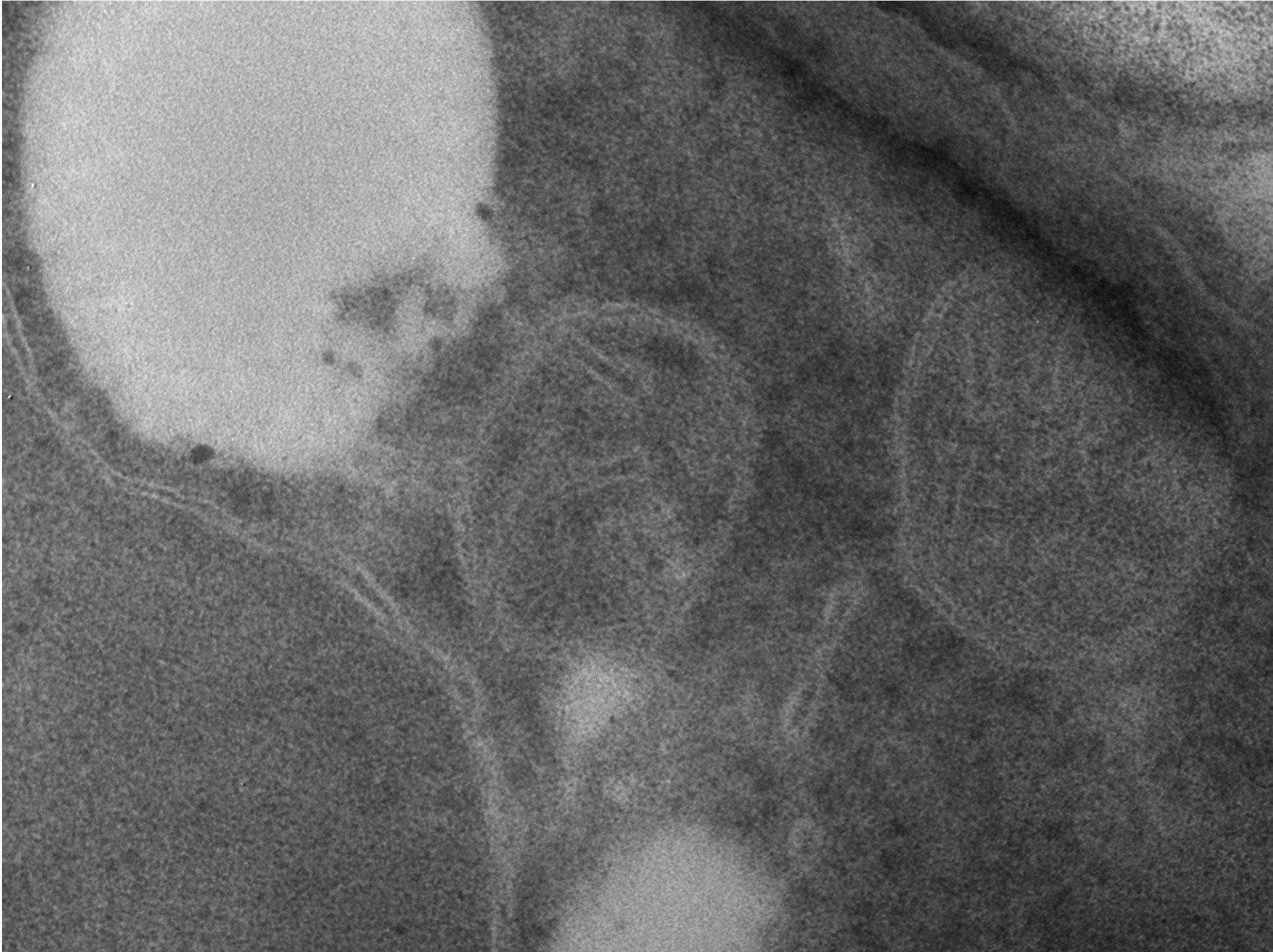
Zkvašuje
koncentrované
mošty



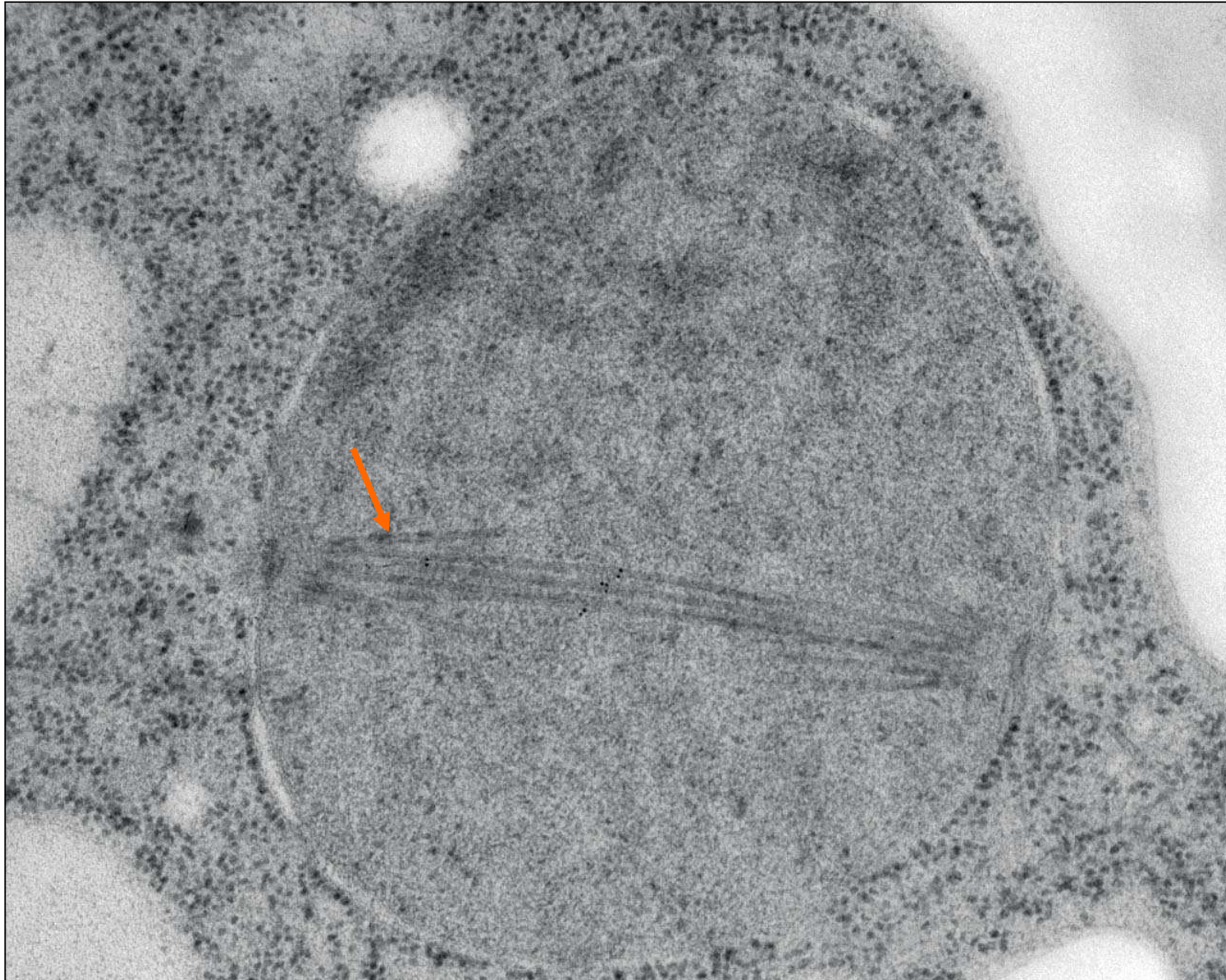


Elektronová mikroskopie
ultratenkých řezů
– po šetrné fixaci,
kontrastování a zalití do
pryskyřic

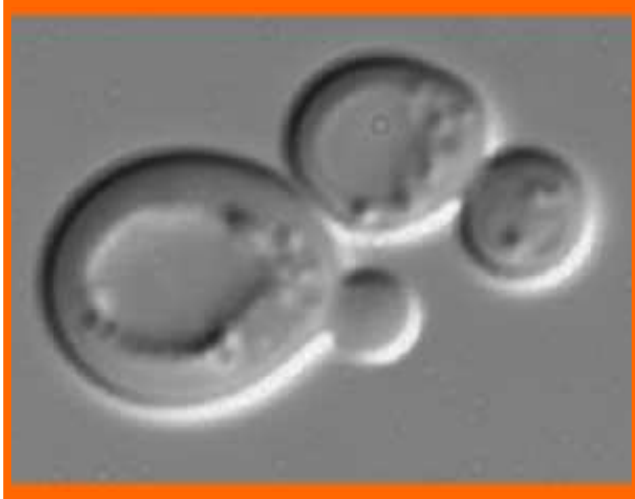




Technika ultratenkých řezů dovoluje studovat i jemnou strukturu dělicího vřeténka, které je u kvasinek uvnitř jádra

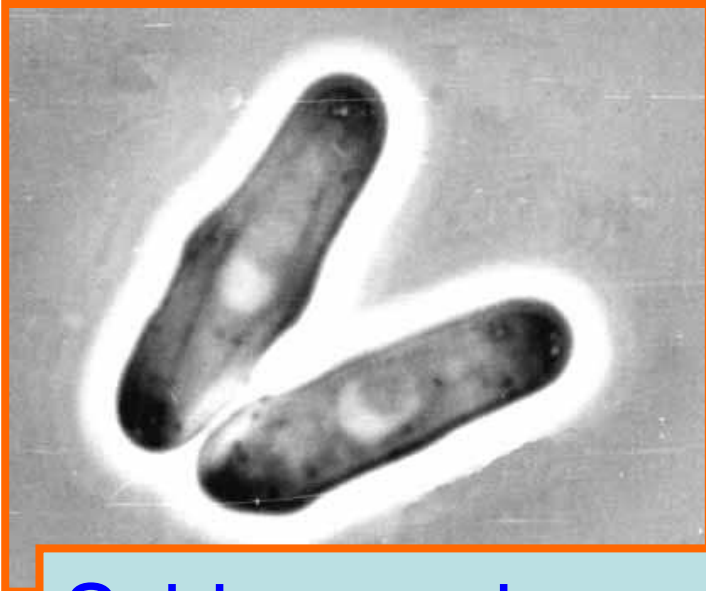


Pučení *S. cerevisiae*

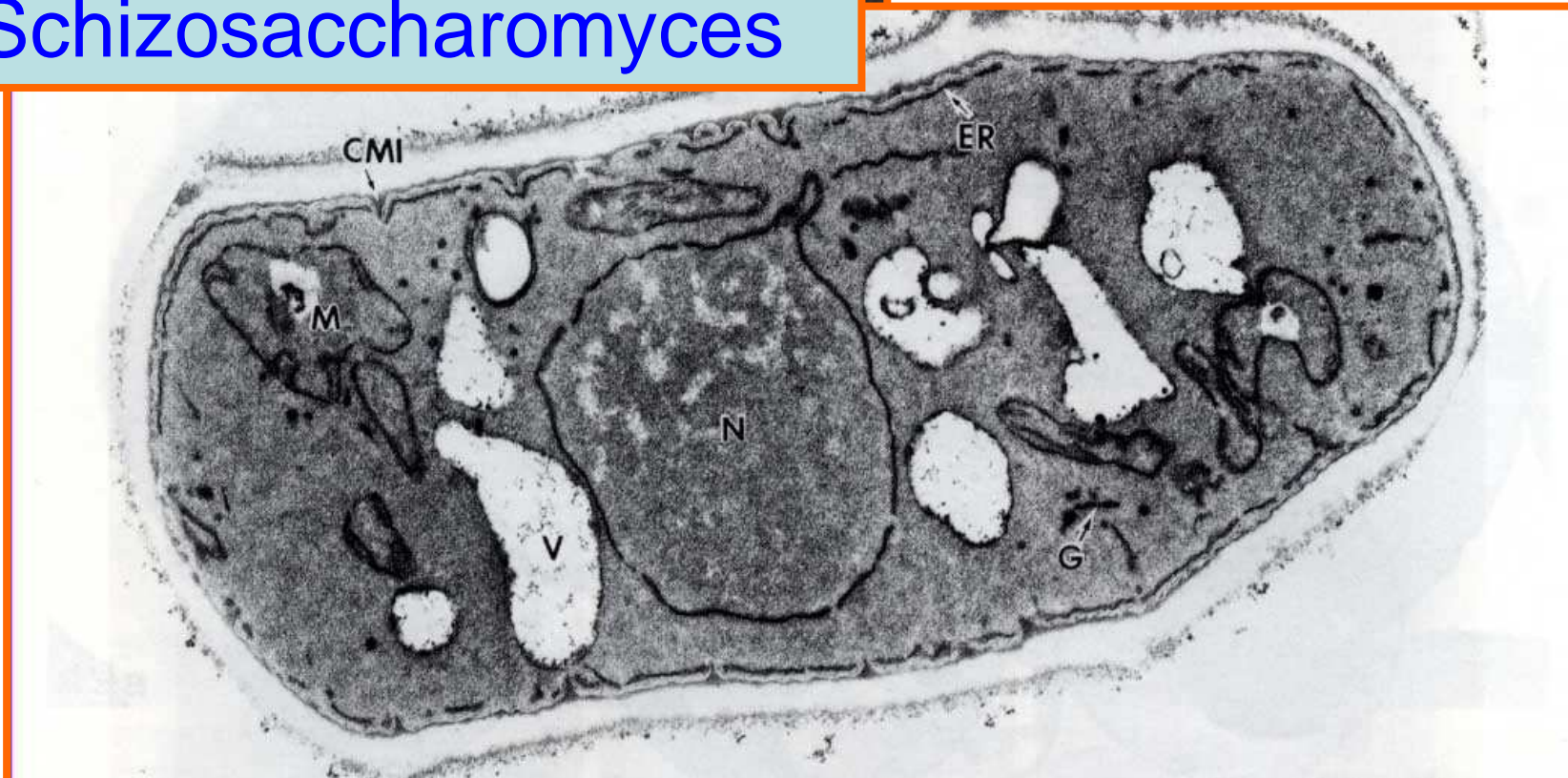


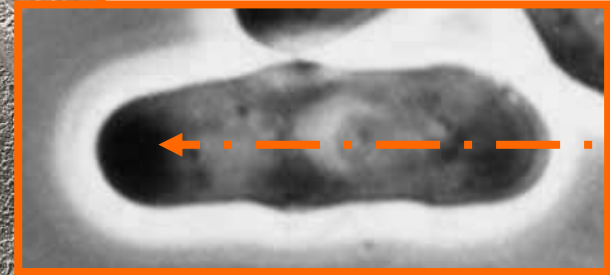


Pohled do rostoucího pupene
kvasinky *S. cerevisiae*

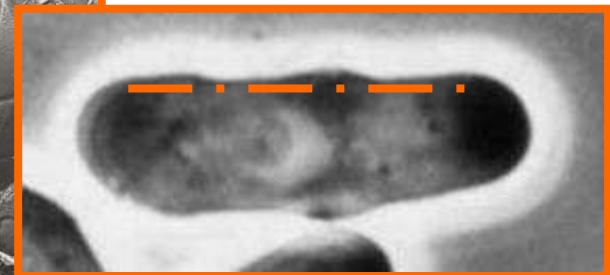


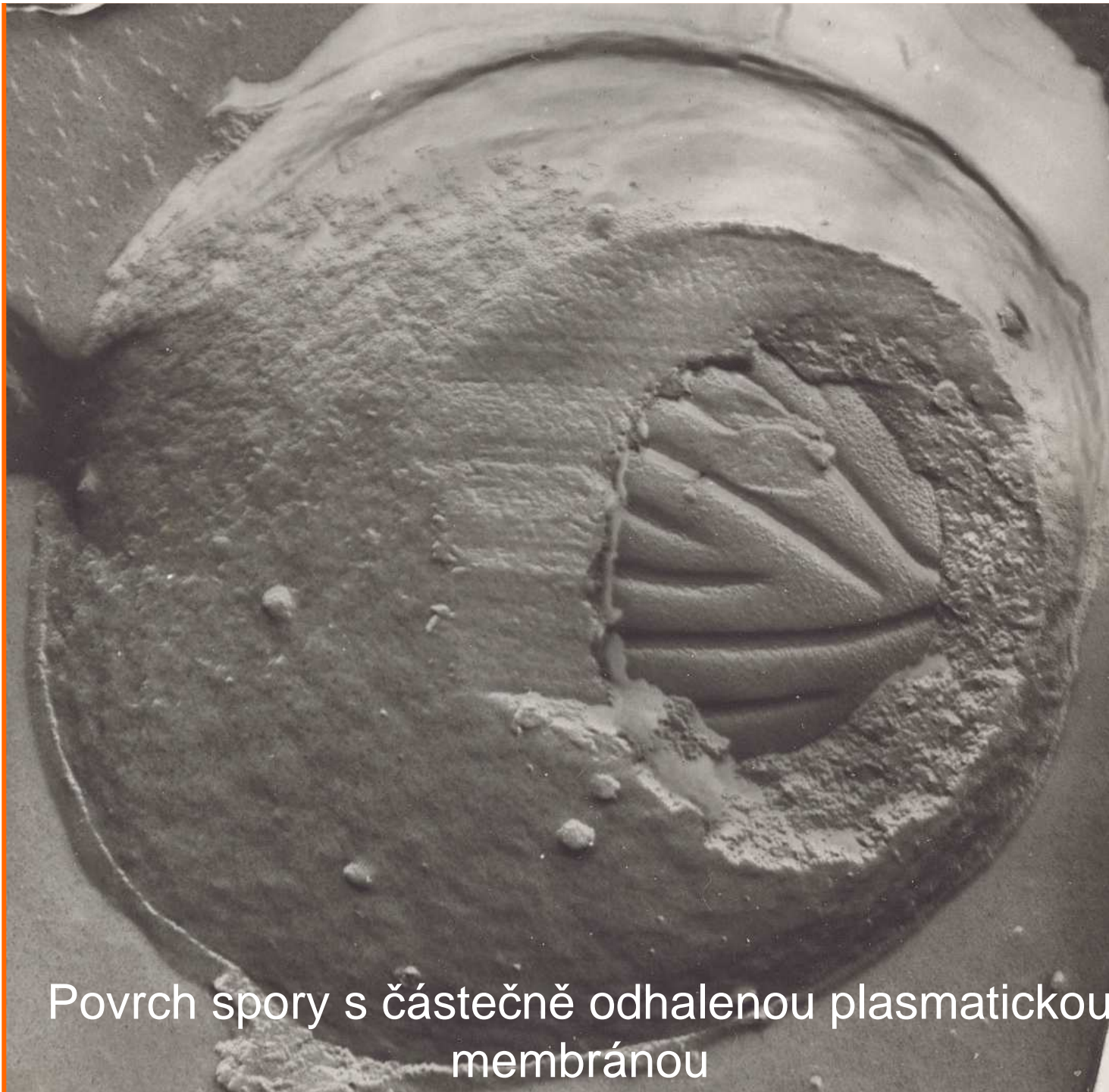
Schizosaccharomyces





Preparace buněk
technikou
mrazového
lámání

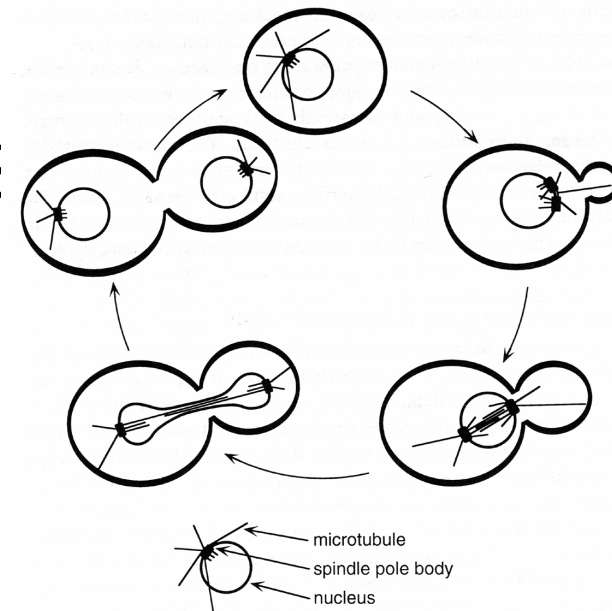




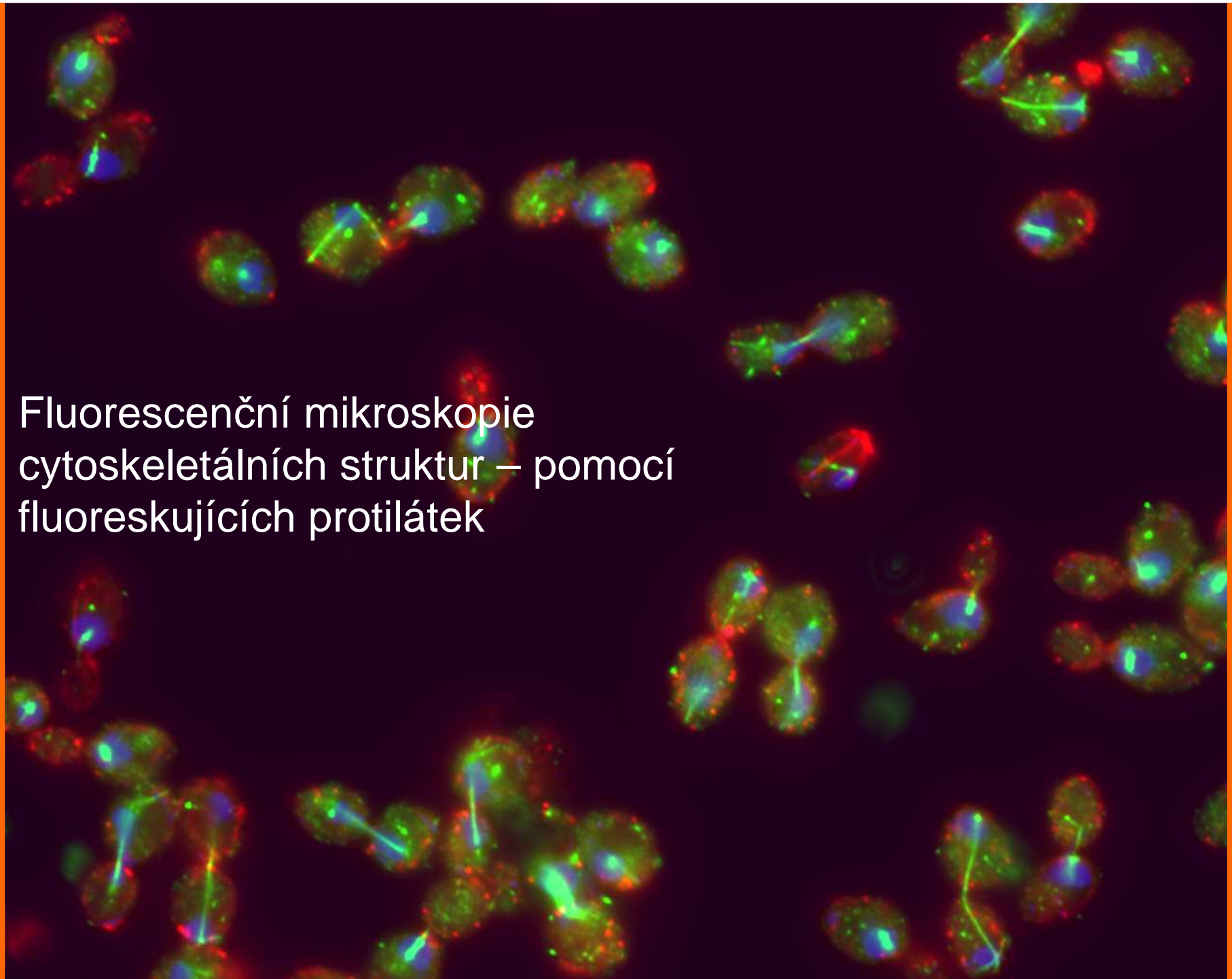
Povrch spory s částečně odhalenou plasmatickou membránou

Mikrotubuly *S.cerevisiae*

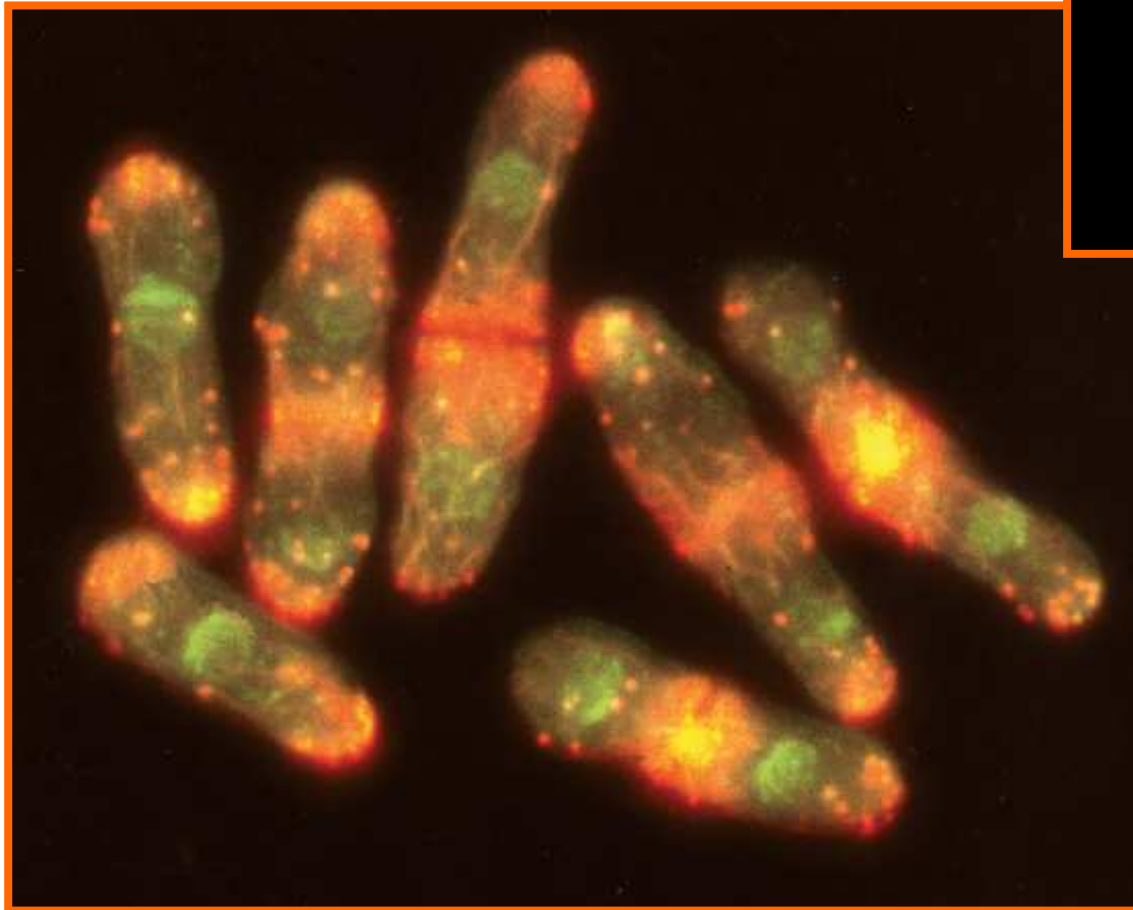
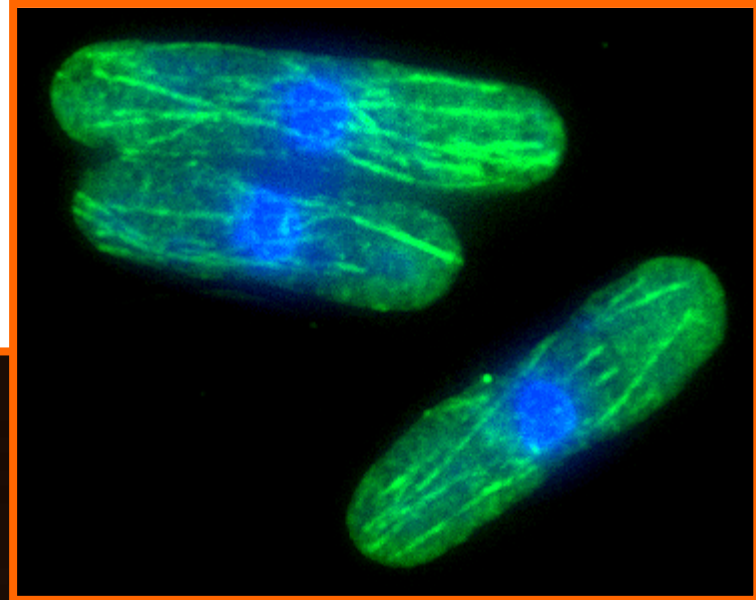
- jaderné (16/32, 8), cytoplazmatické různý počet
- heterodimery α a β tubulinu do protofilament (13,14) polarizované struktury (+)
- α tubulin – geny *TUB1, TUB3*
- β tubulin - gen *TUB2*
- γ tubulin – gen *TUB4*
- výměna GTP pouze β
- α pouze váže GTP

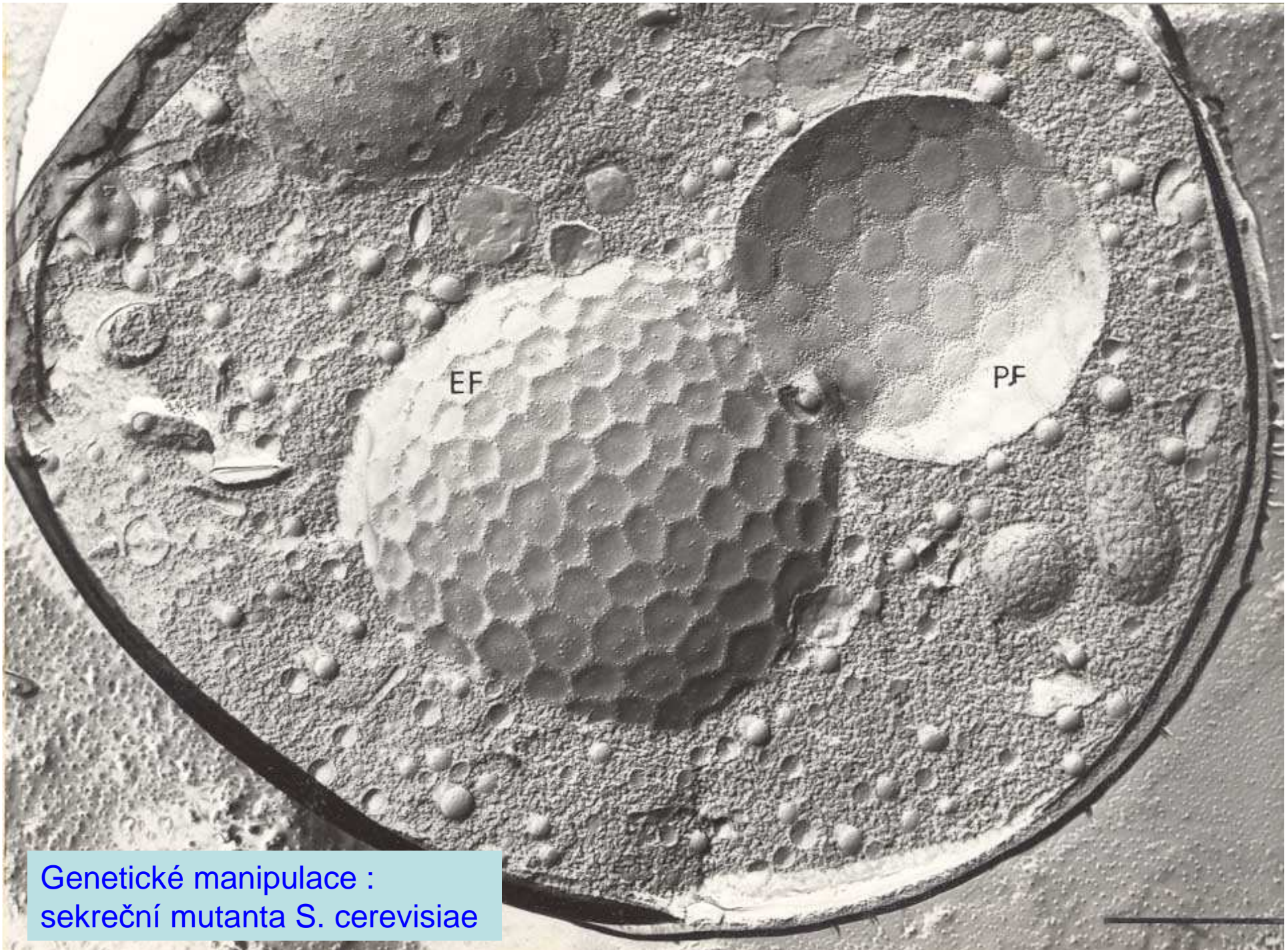


Fluorescenční mikroskopie
cytoskeletálních struktur – pomocí
fluoreskujících protilátek



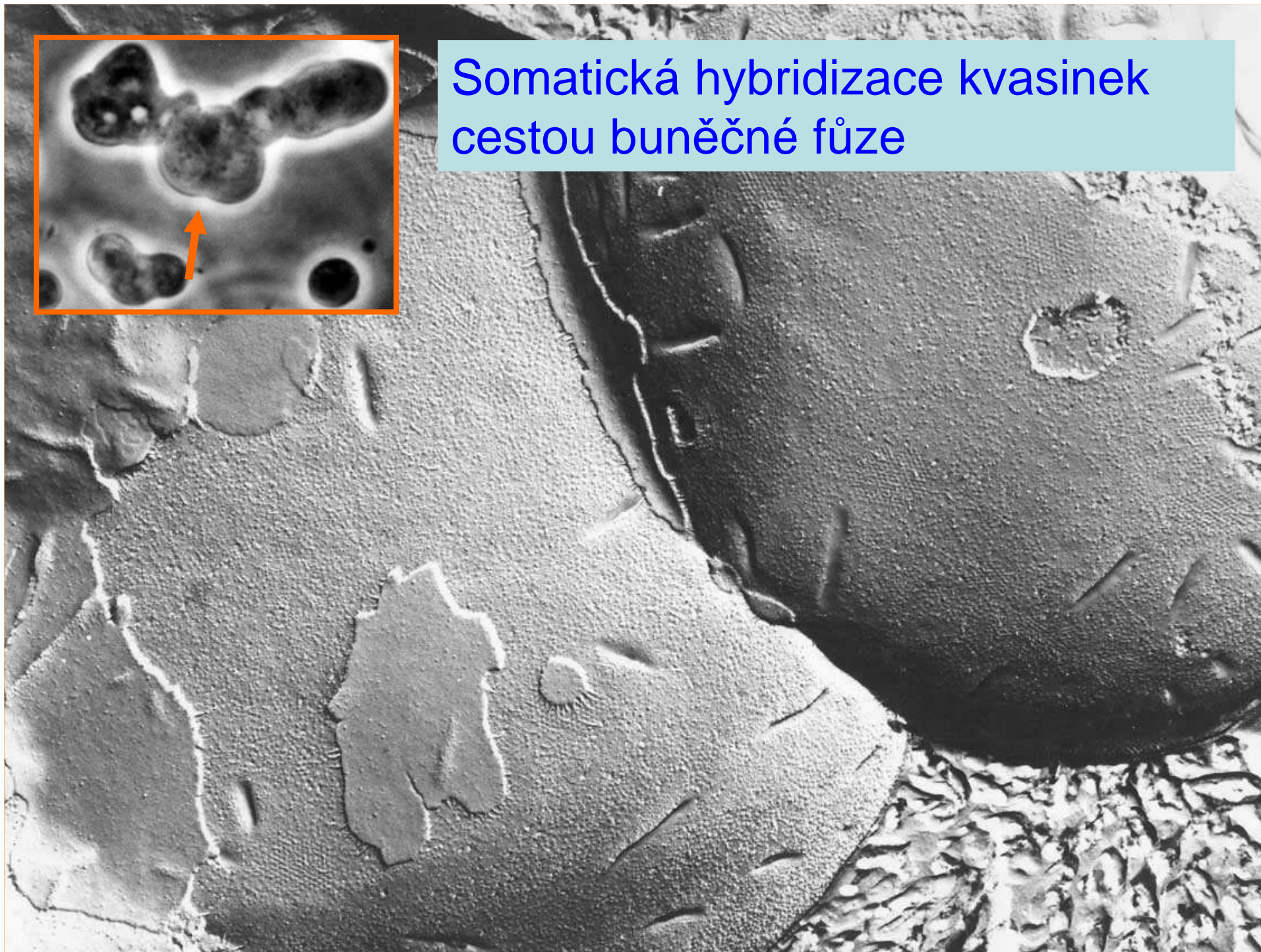
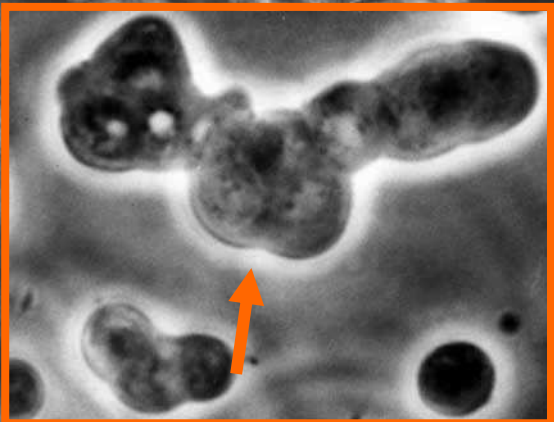
Mikrotubuly, aktin a
jádra v buňkách
Sch. pombe





Genetické manipulace :
sekreční mutanta *S. cerevisiae*

Somatic hybridization of yeasts
via cell fusion



Kvasinky podílející se na výrobě vína:

Brettanomyces – Dekkera

Candida

Cryptococcus

Debaryomyces

Rhodotorula

Hanseniaspora – Kloeckera

Kluyveromyces

Metschnikowia

Pichia

Saccharomyces

Saccharomycodes

Schizosaccharomyces

Zygosaccharomyces

A background image showing a microscopic view of yeast cells, likely Saccharomyces cerevisiae, which are small, round, and appear to have a thick cell wall. The cells are scattered across the frame, some in focus and some blurred.

Vinné kvasinky v průběhu **spontánní fermentace:**

Kloeckera, Hanseniaspora, Candida
Saccharomyces,
Schizosaccharomyces

Vinné kvasinky pro **inokulovanou fermentaci:**

Saccharomyces cerevisiae

Jak kvasinky vidí sochaři



Hustopeče 2007– ve dvoře domu u Synků (Informační středisko)



Bořetice, 2007



Rakvice, sochařské sympozium 2011