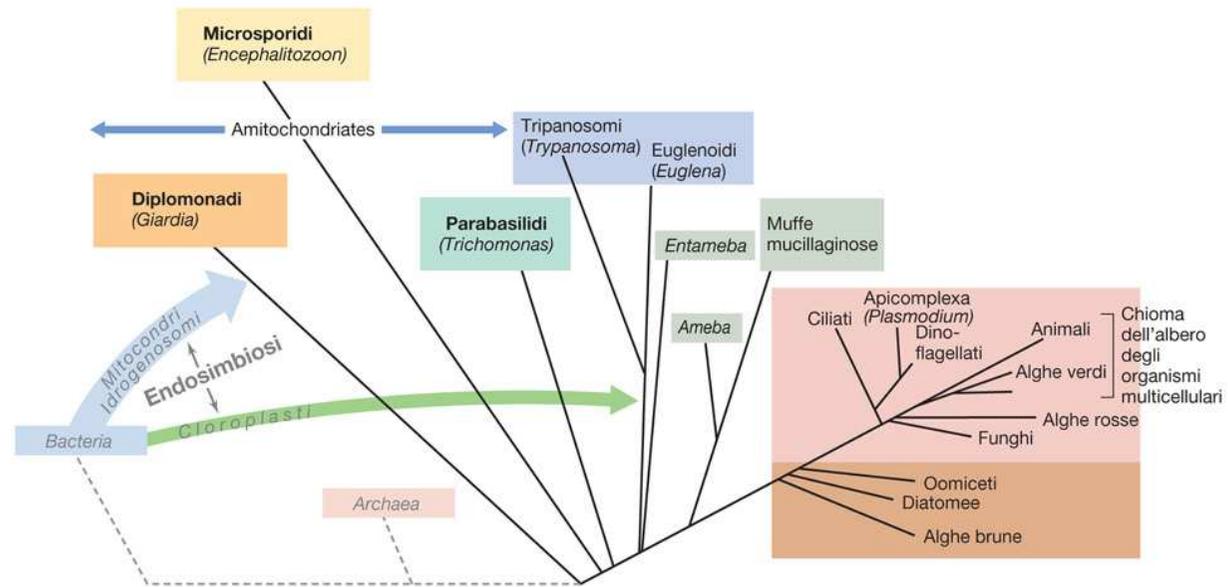
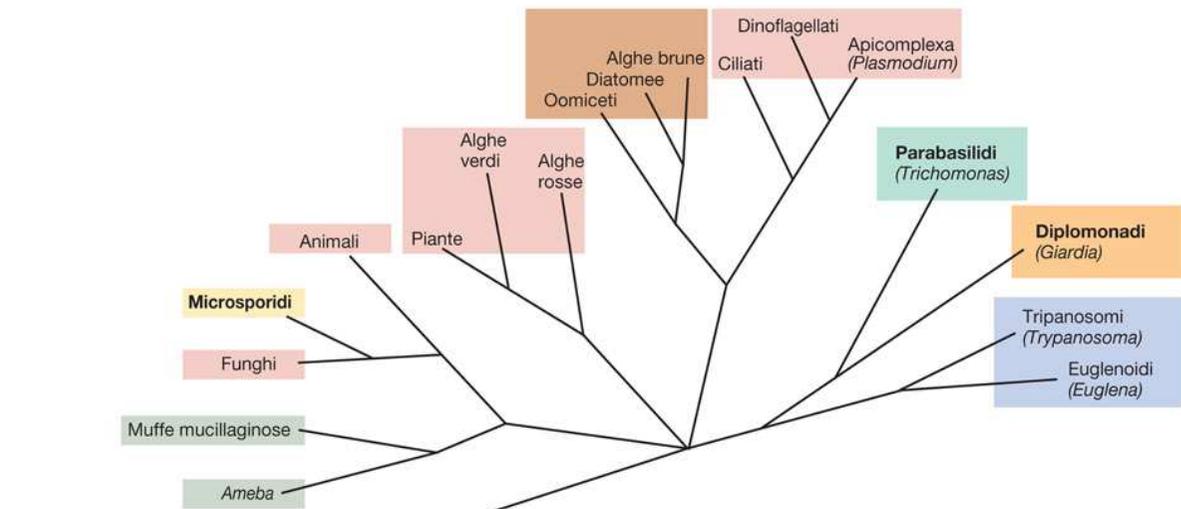


MICROBIOLOGIA GENERALE

**Eukaryotic
microorganisms**



(a)



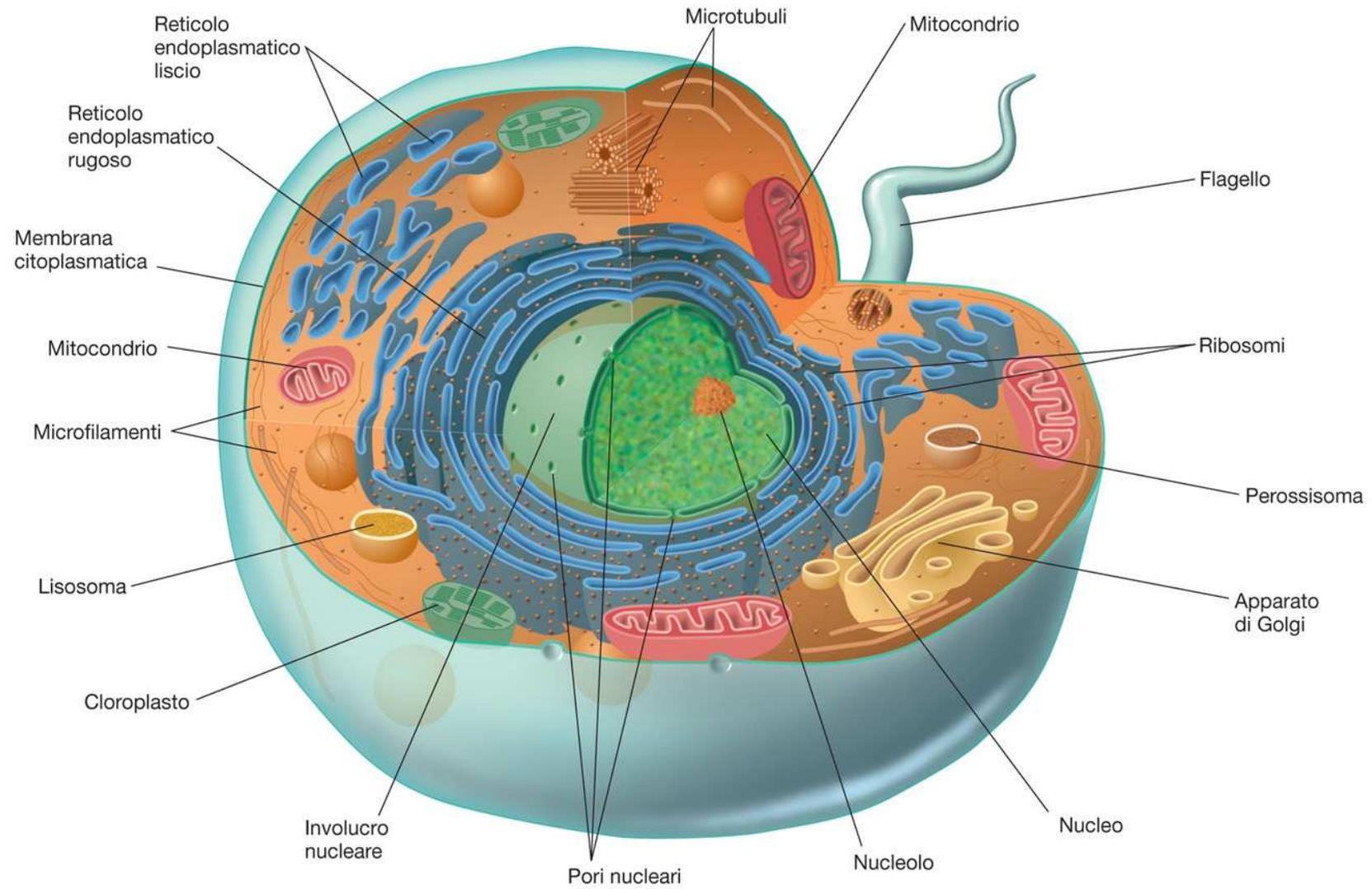
(b)

Phylogenetic trees of *Eukarya*

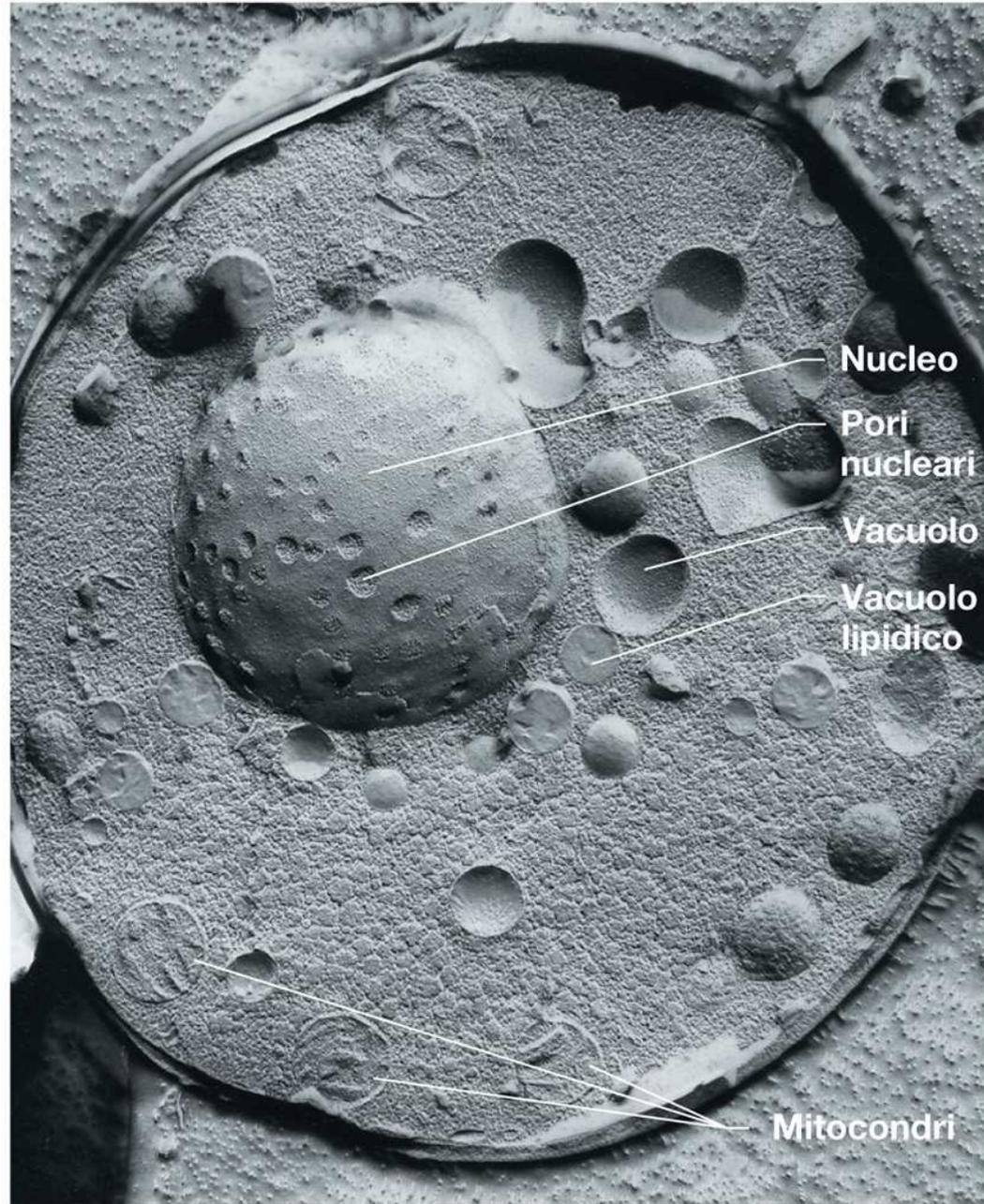
Eukaryotic microorganisms:

Eukaryotic cell structure/ function

Cut away view of a eukaryotic cell

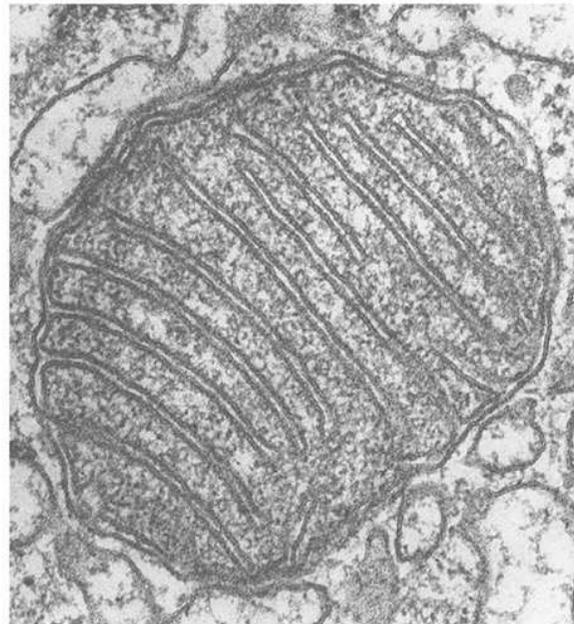
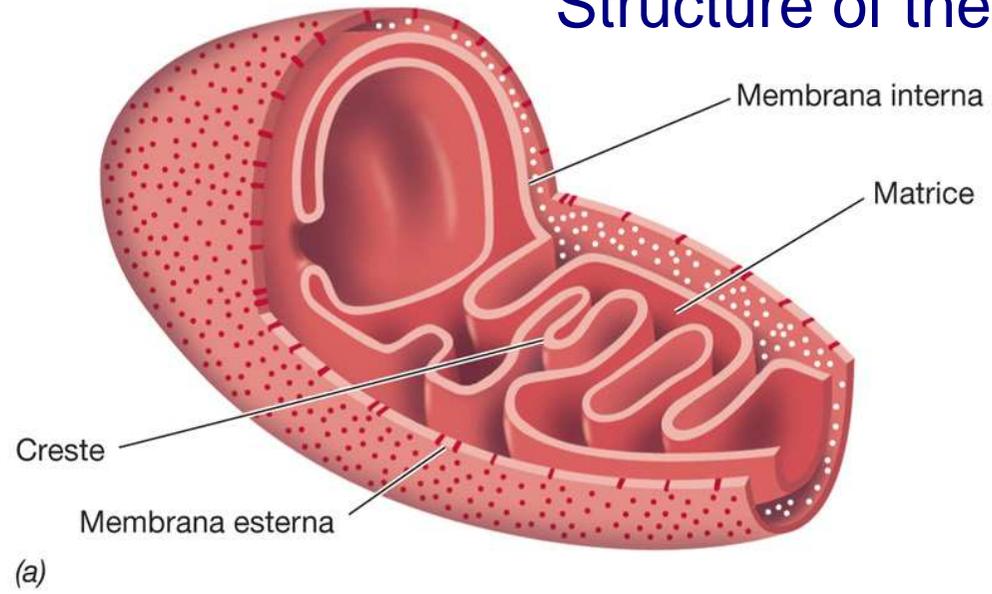


The nucleus



E. Guth, T. Hashimoto, and S.F. Conti

Structure of the mitochondrion

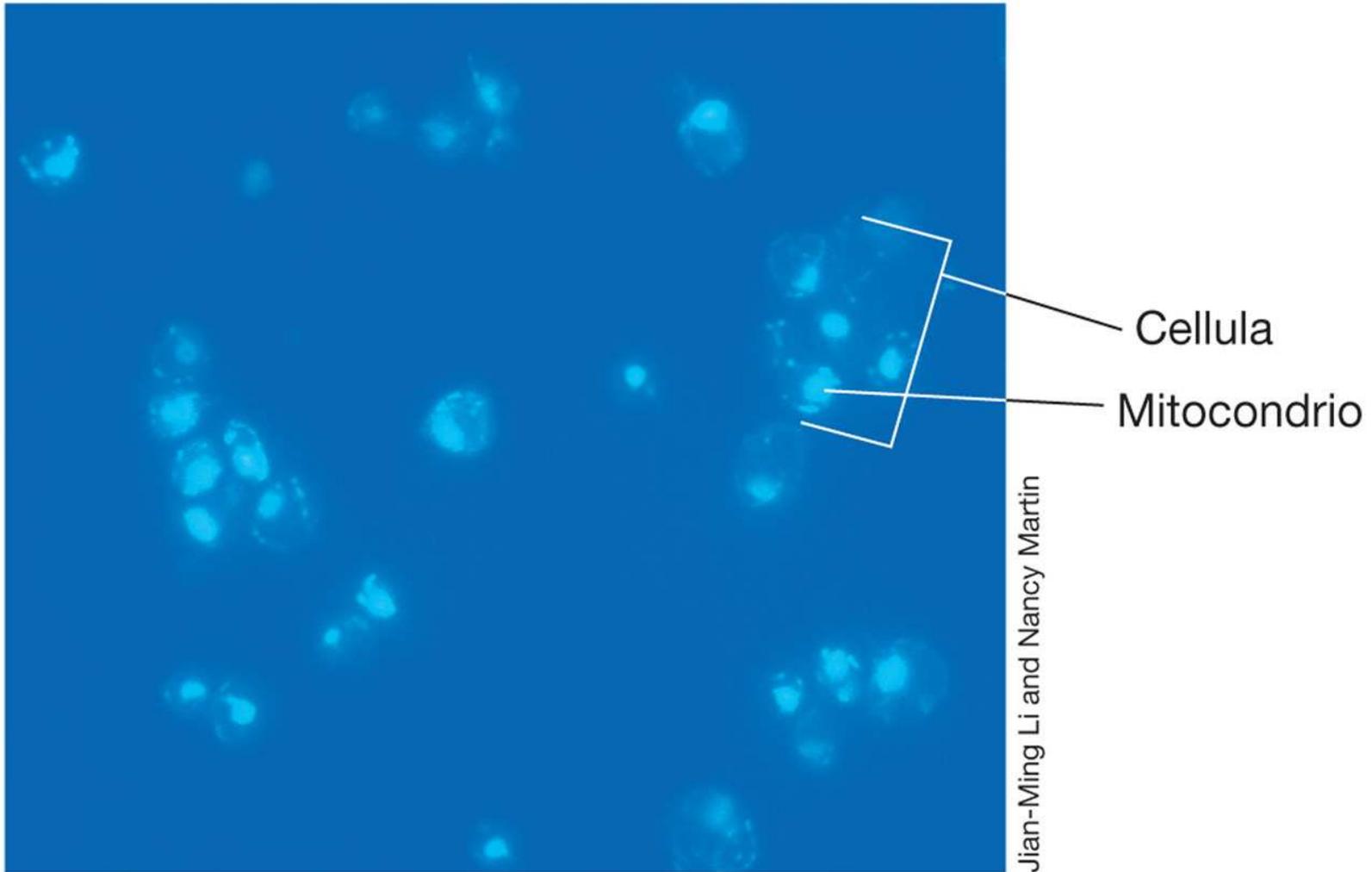


(b)

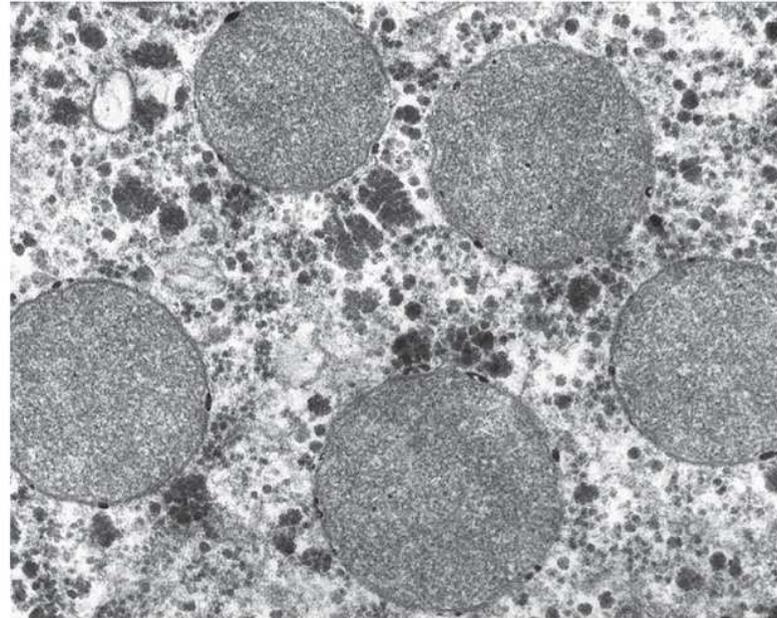


(c)

The mitochondrial DNA of *Saccharomyces cerevisiae*

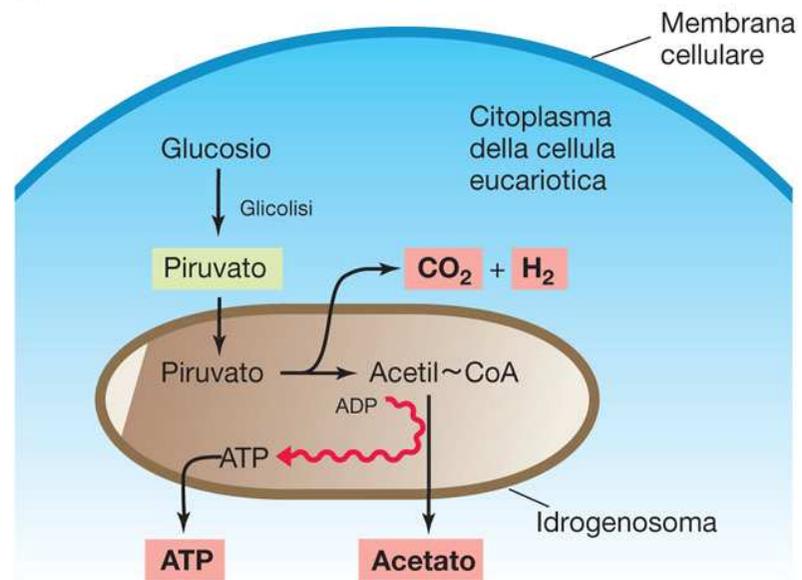


The hydrogenosome



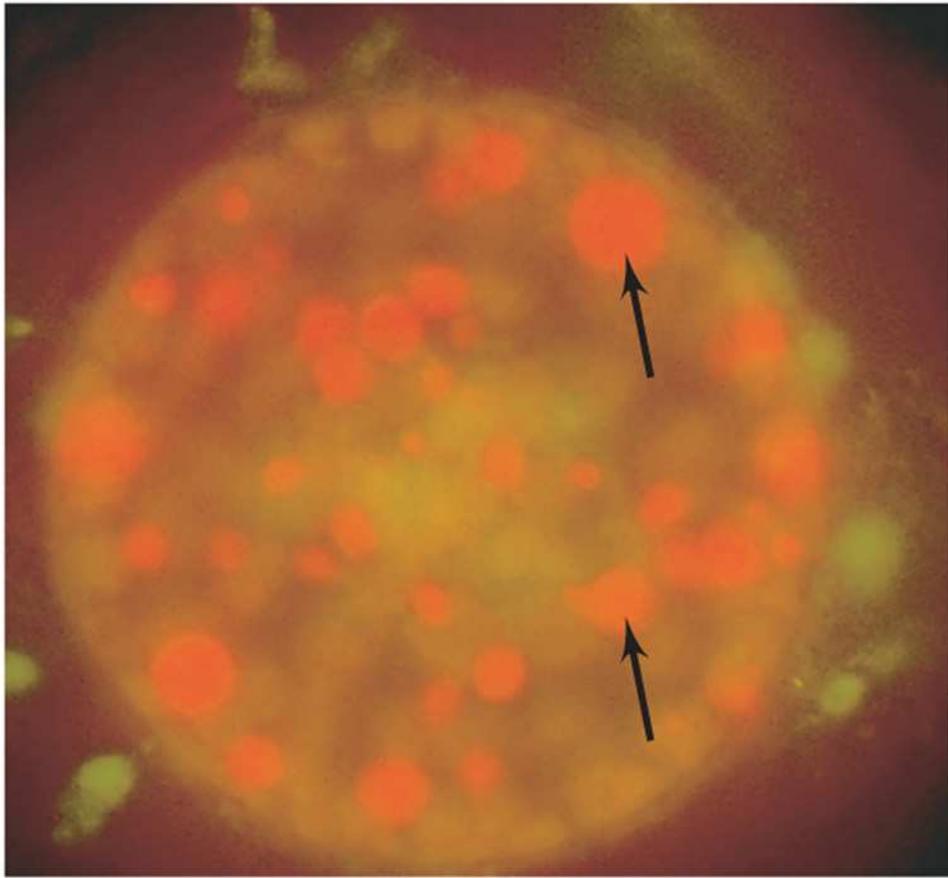
Helen Shio and Miklós Müller

(a)



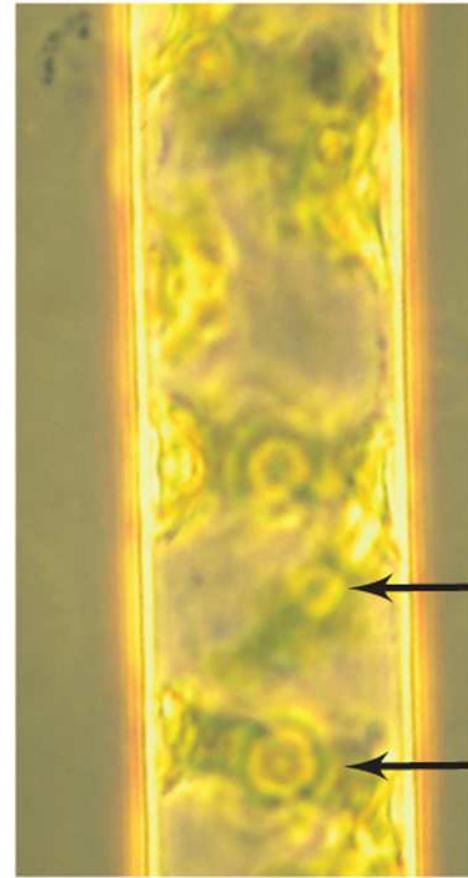
(b)

The chloroplasts



T. D. Brock

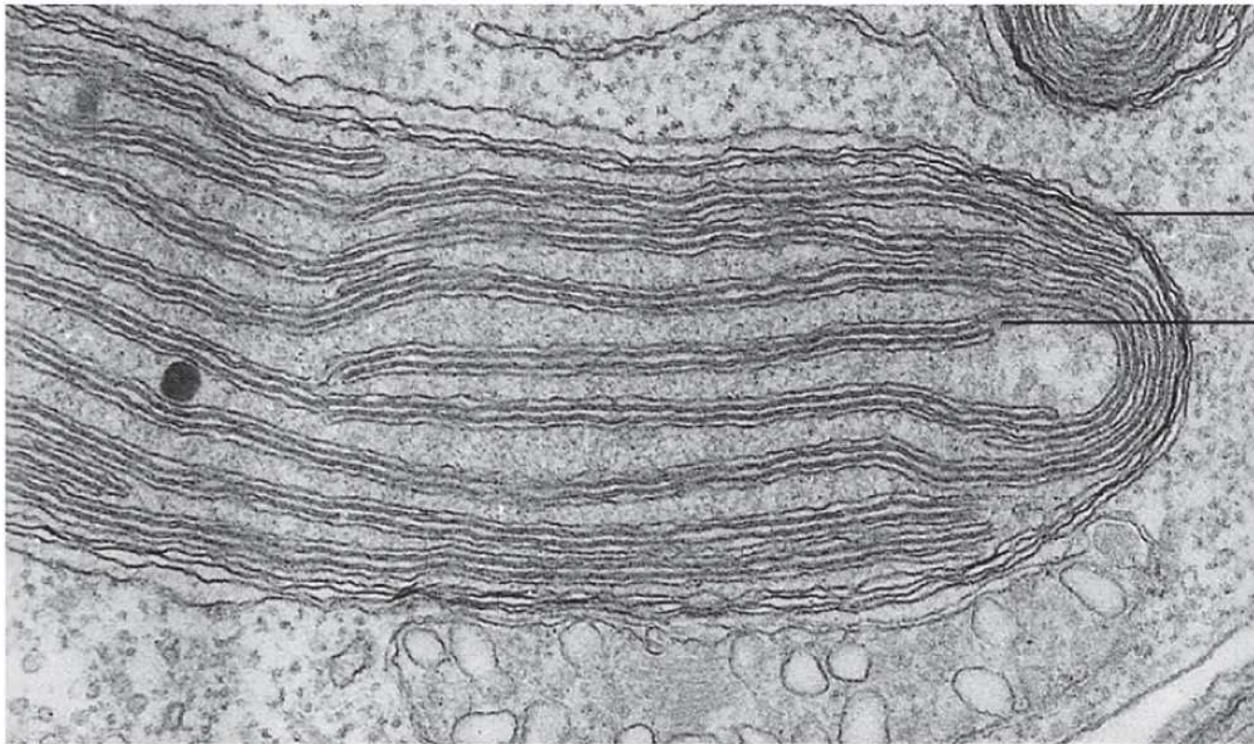
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T. D. Brock

(b)

The chloroplasts

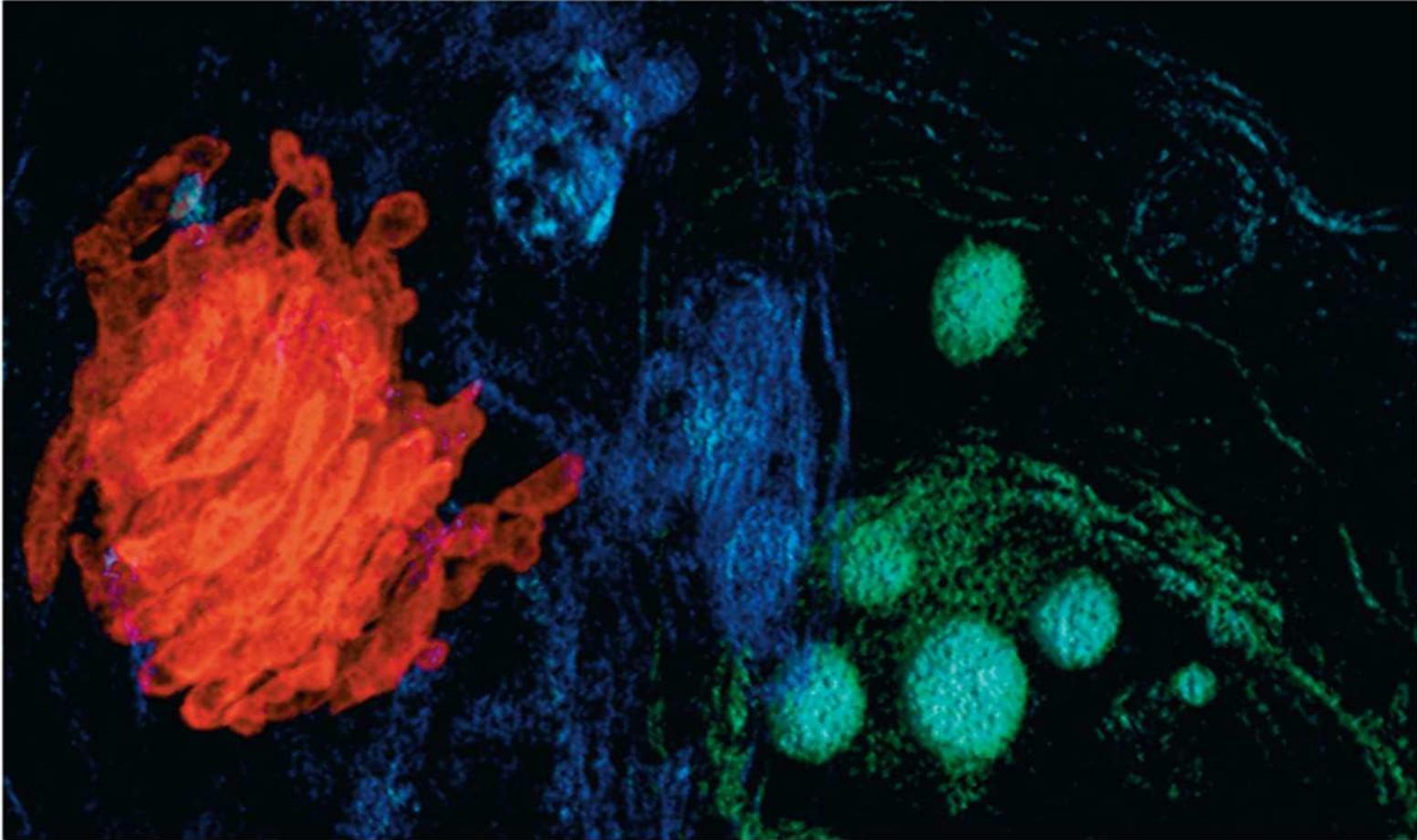


Cloroplasto

Tilacoide

T. Slankis and S. Gibbs

The Golgi complex of *Toxoplasma gondii*



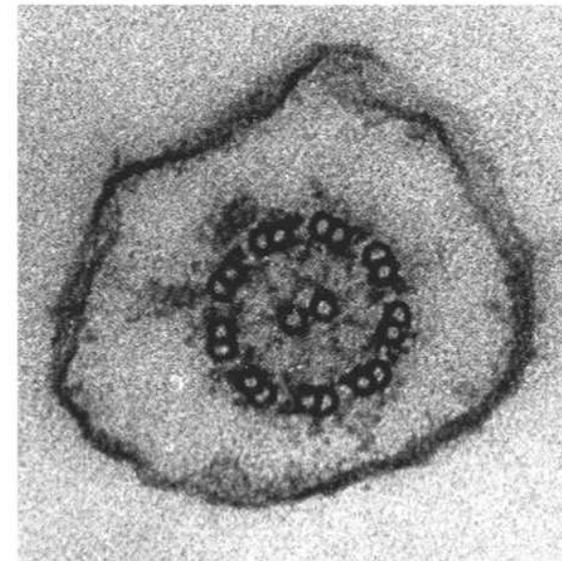
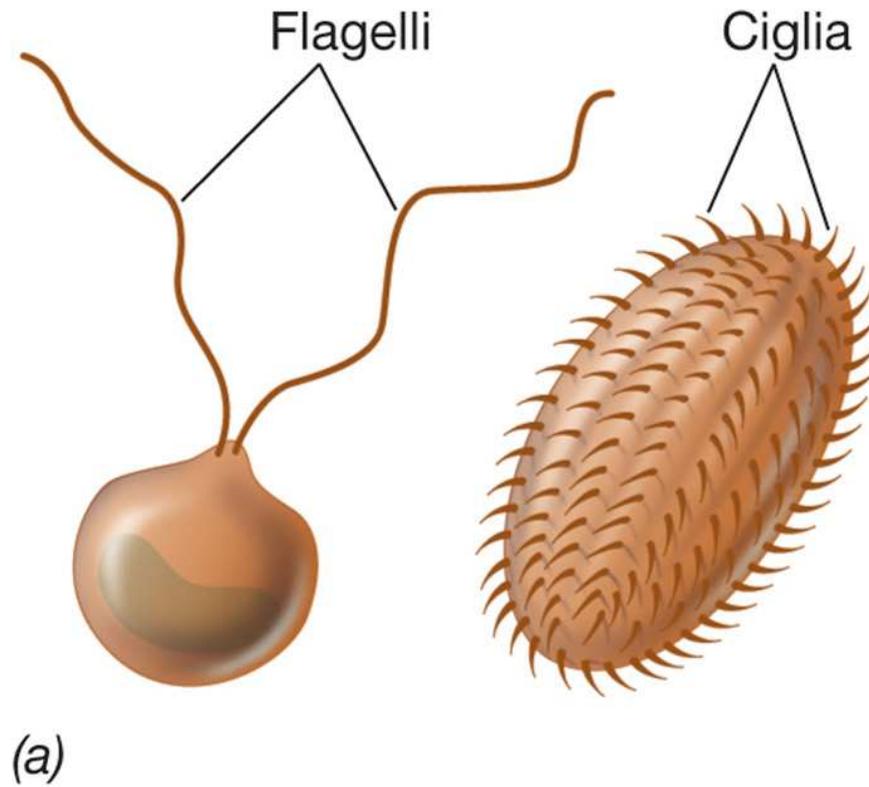
Laurence Pelletier, David Sheff, and Graham Warren

Microfilaments and eukaryotic cell architecture



Ohad Medalia and Wolfgang Baumeister

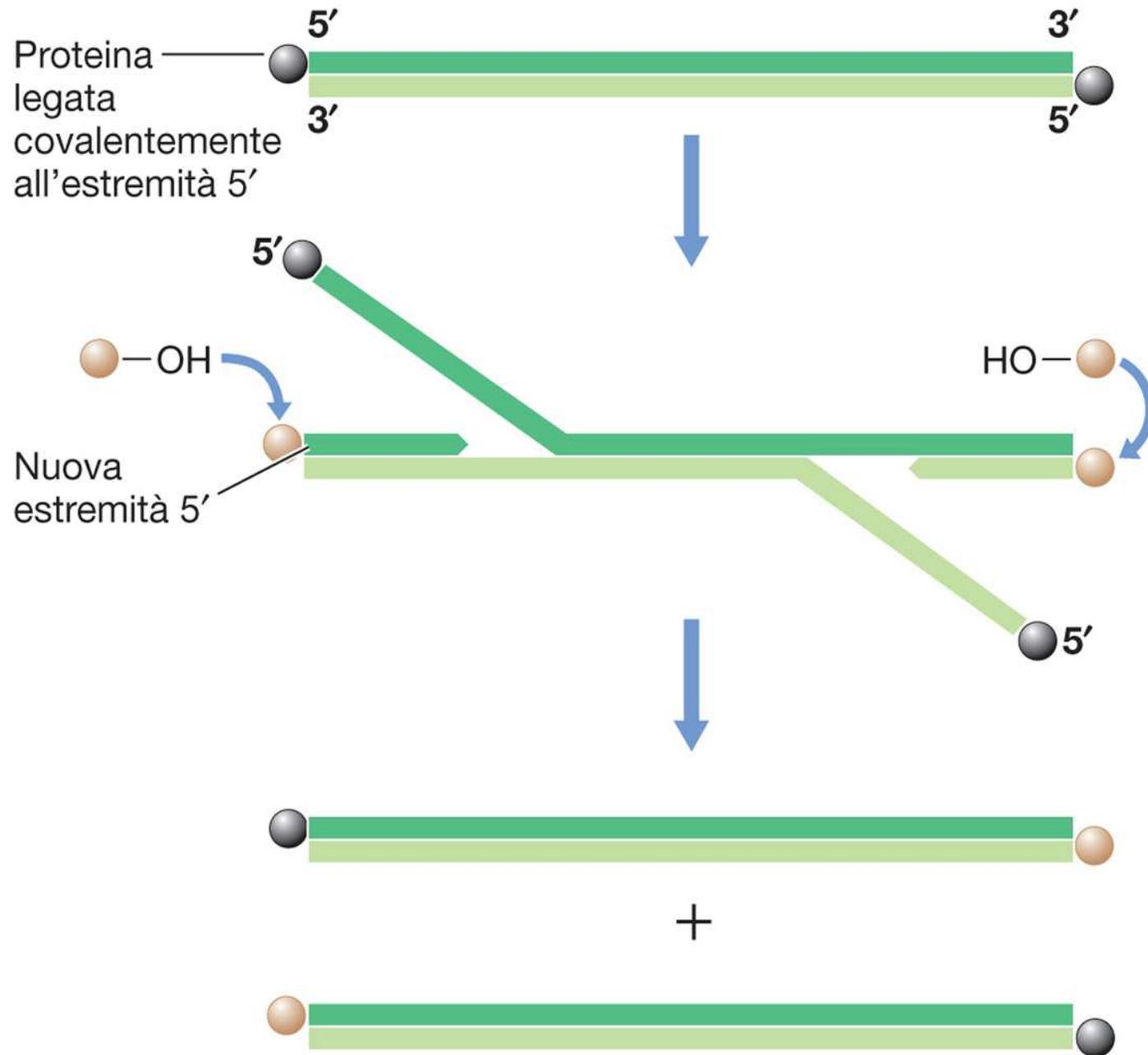
Flagella and cilia: motility organelles in eukaryotic cells

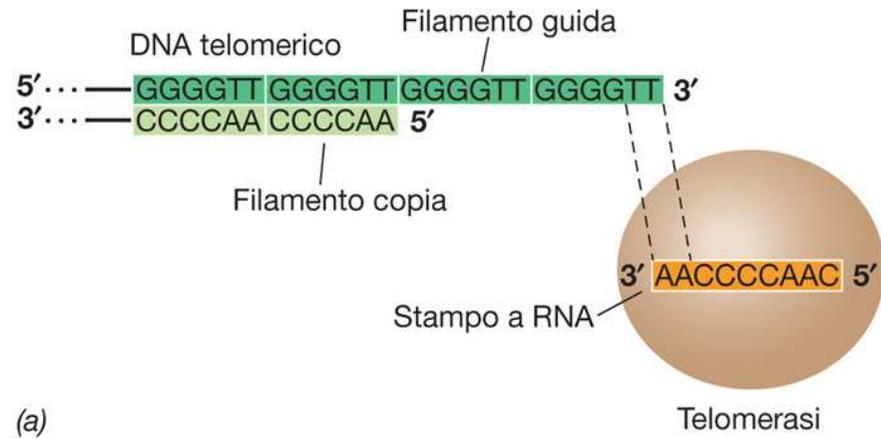


Melvin S. Fuller

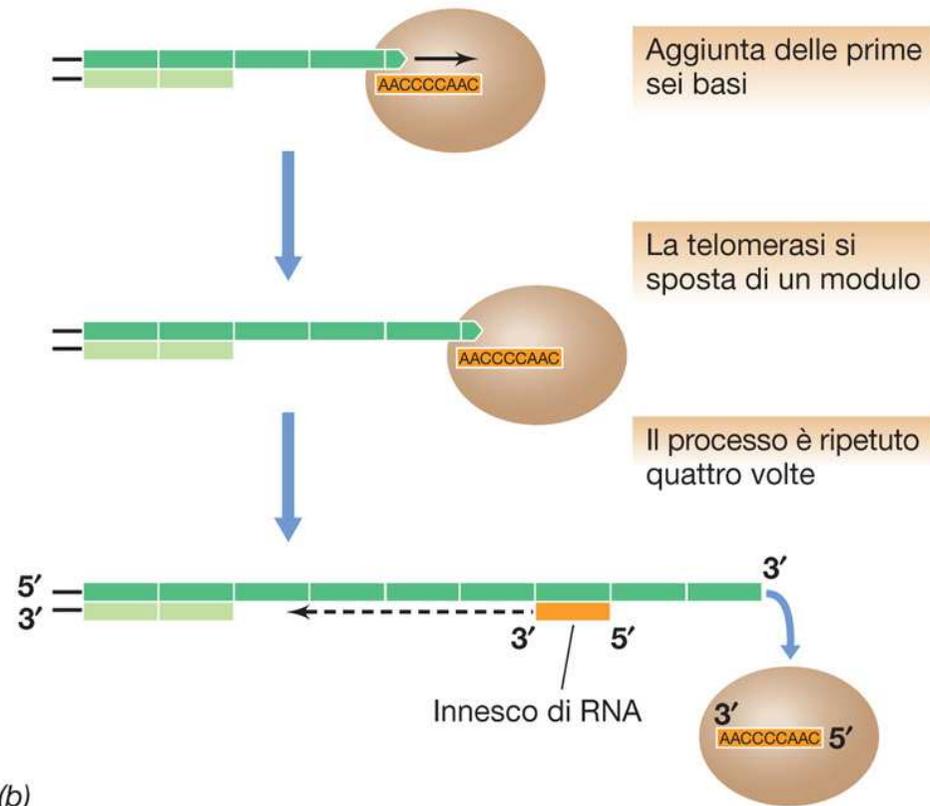
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Eukaryotic microorganisms:
Essential of eukaryotic genetics

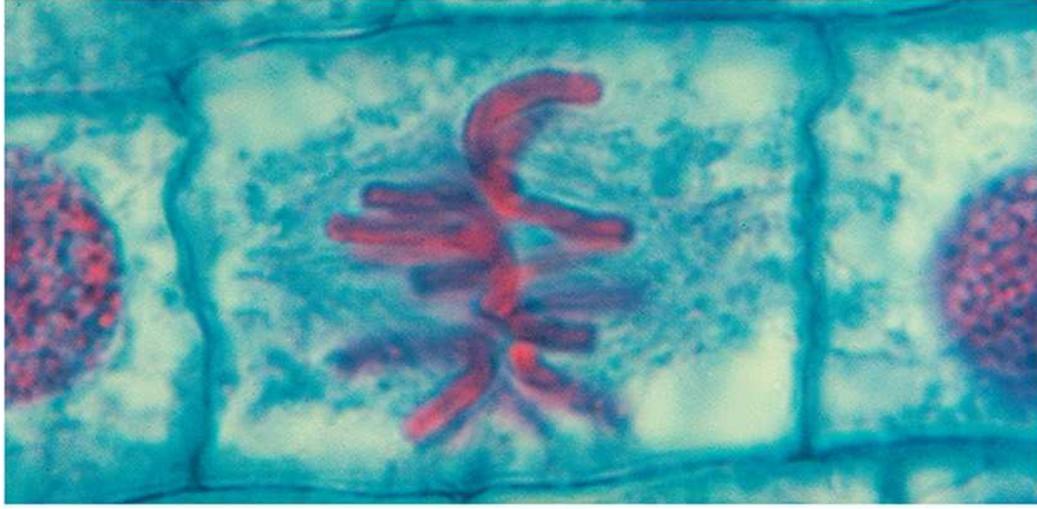




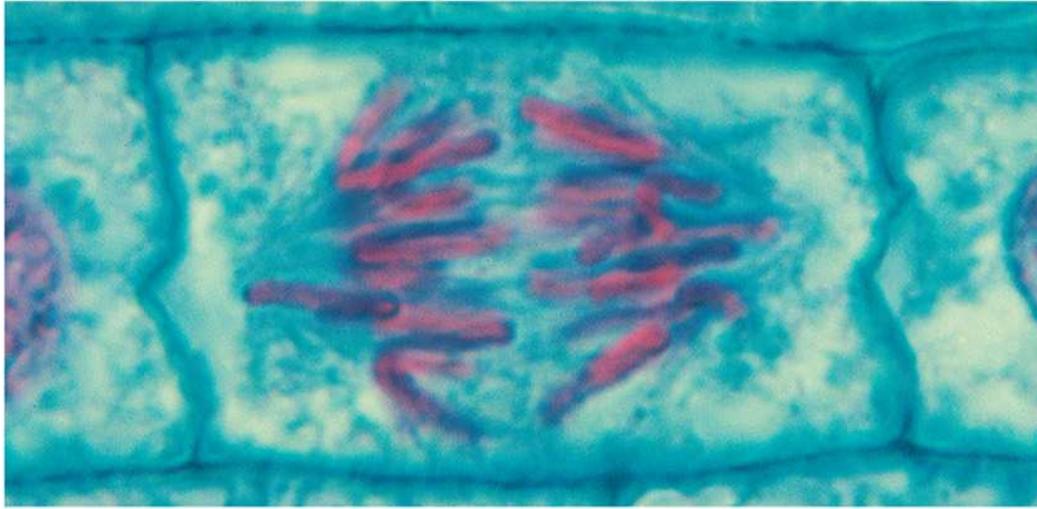
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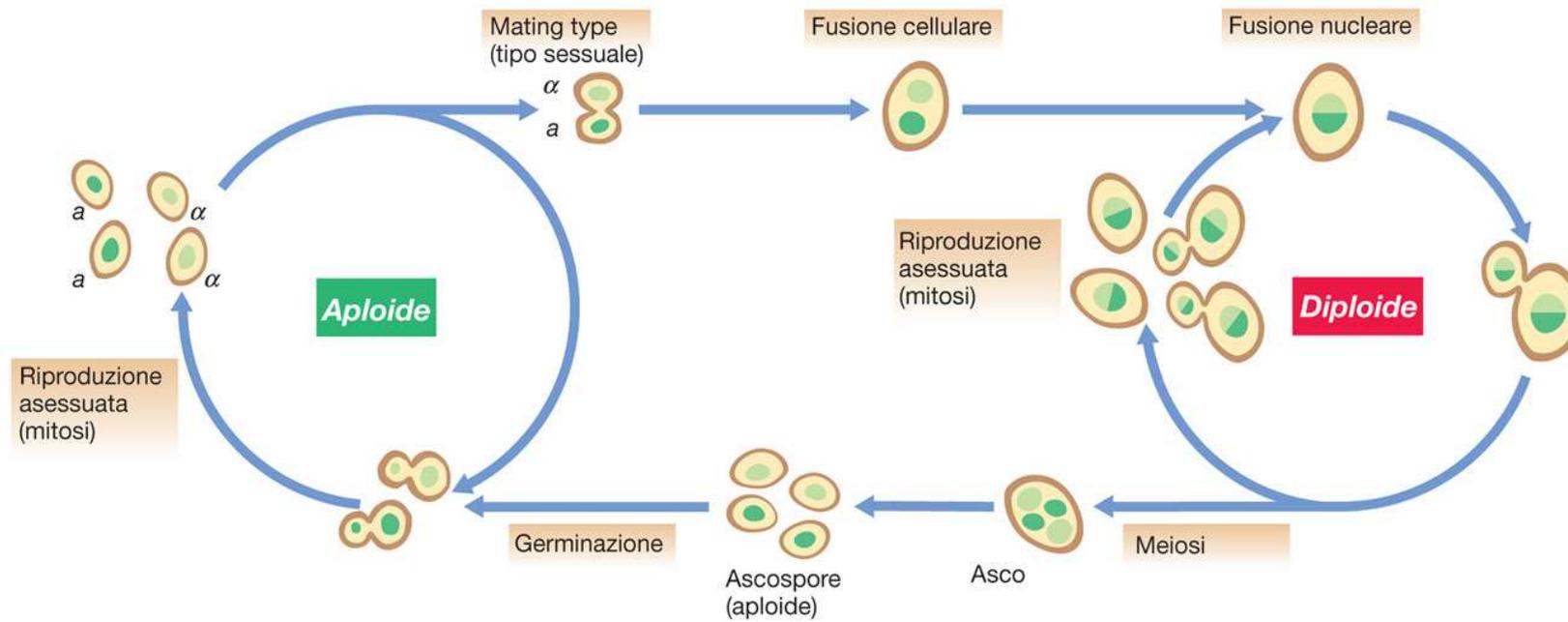
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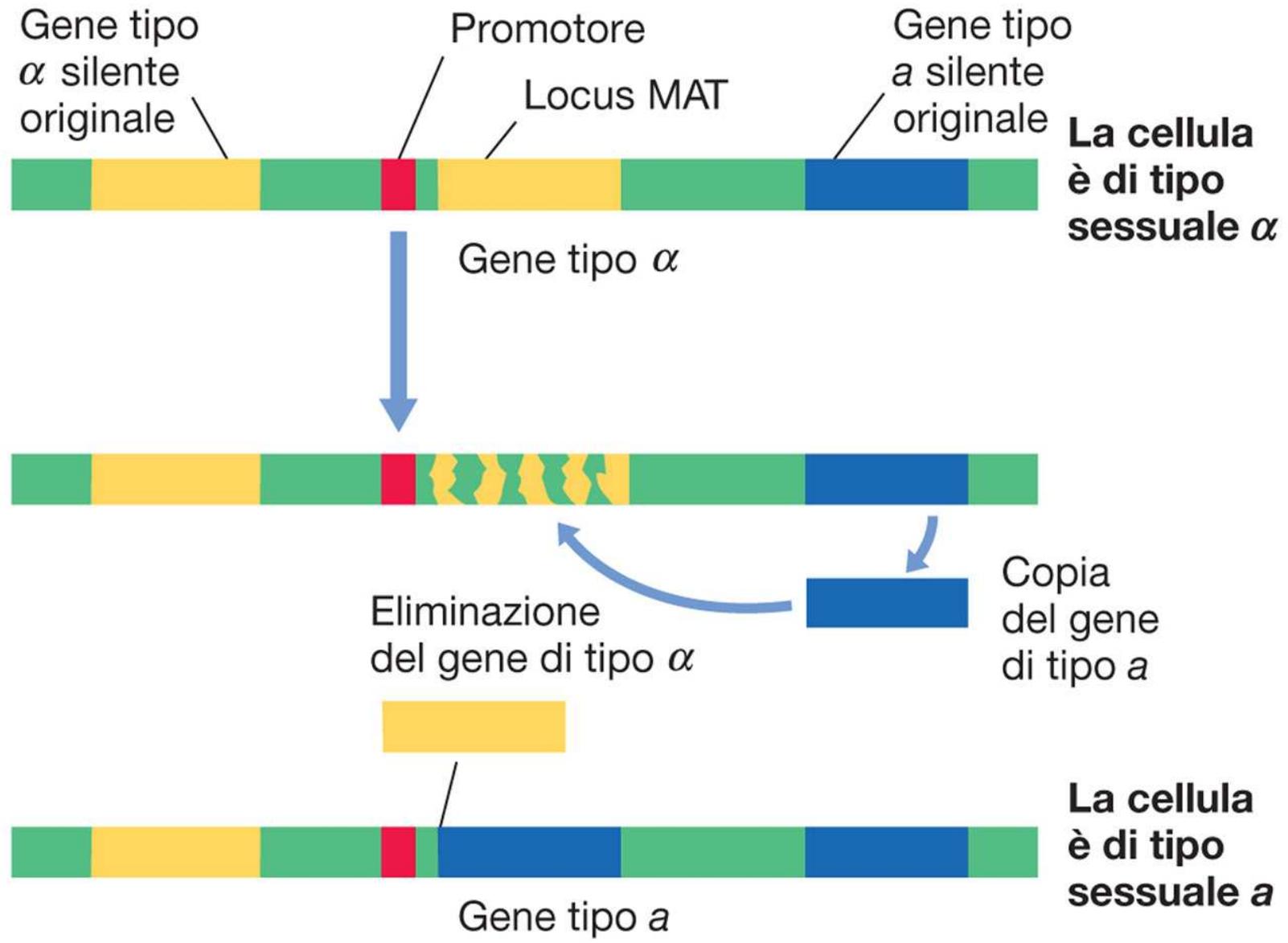


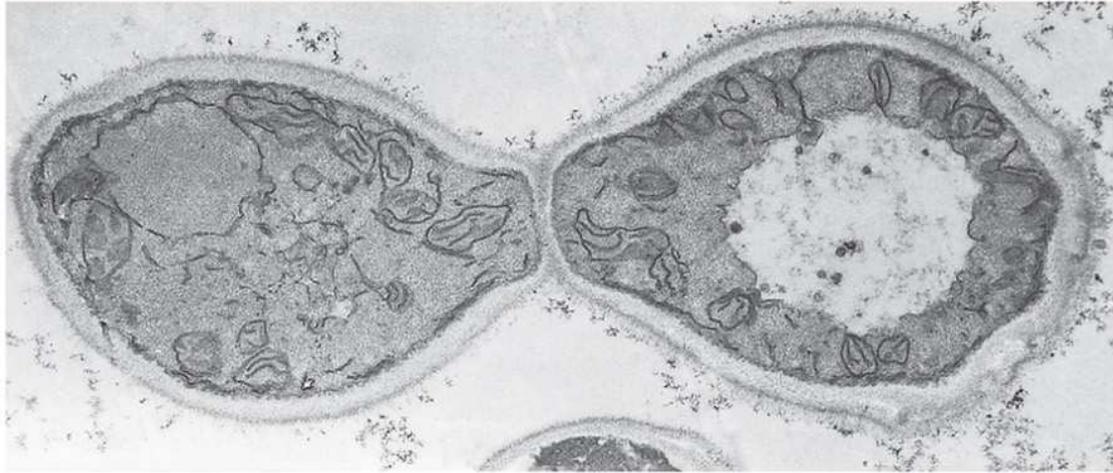
(a)



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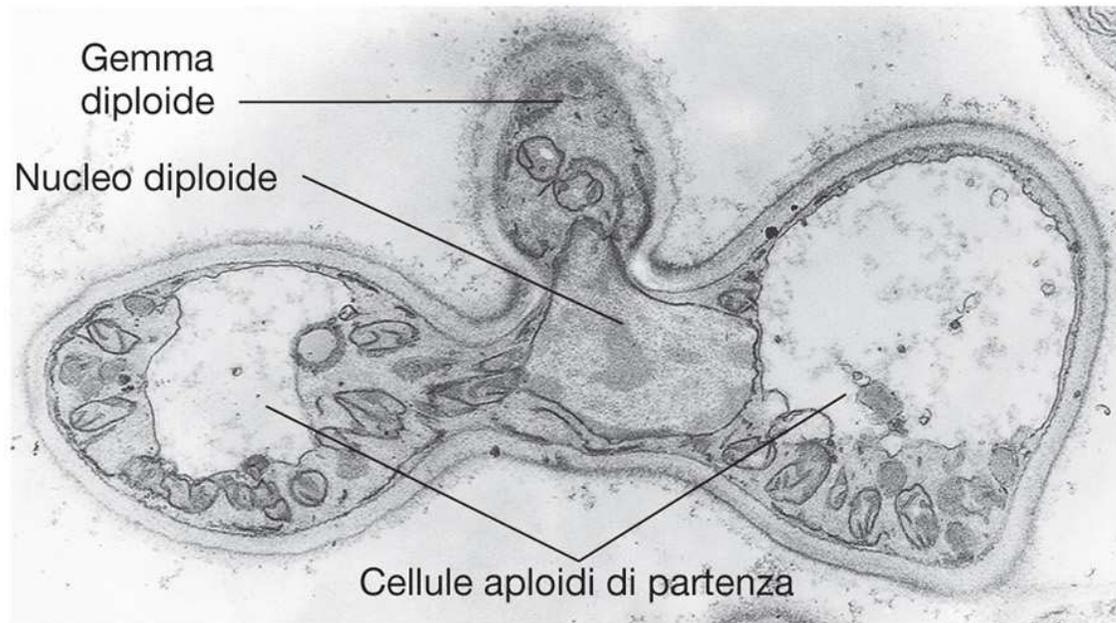






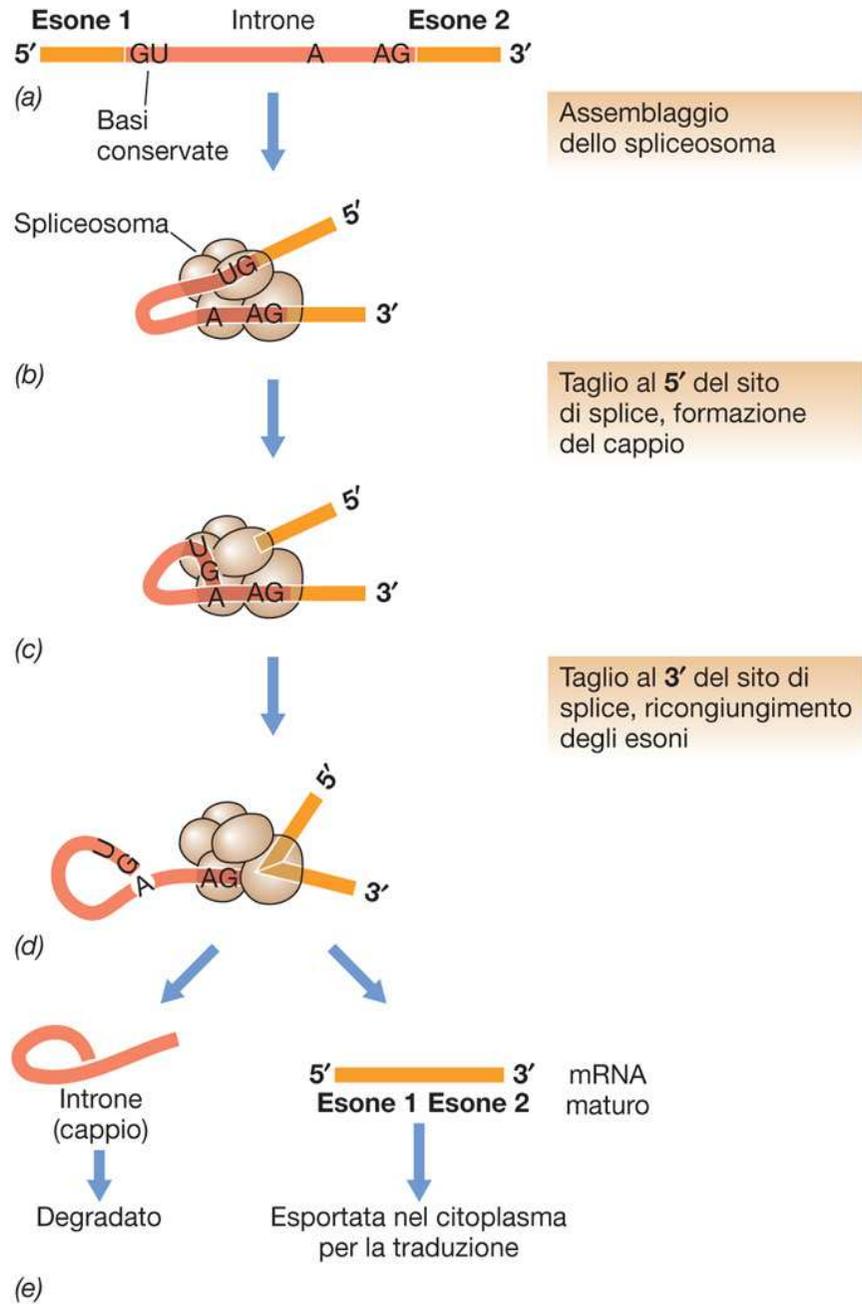
S. F. Conti and T. D. Brock

(a)

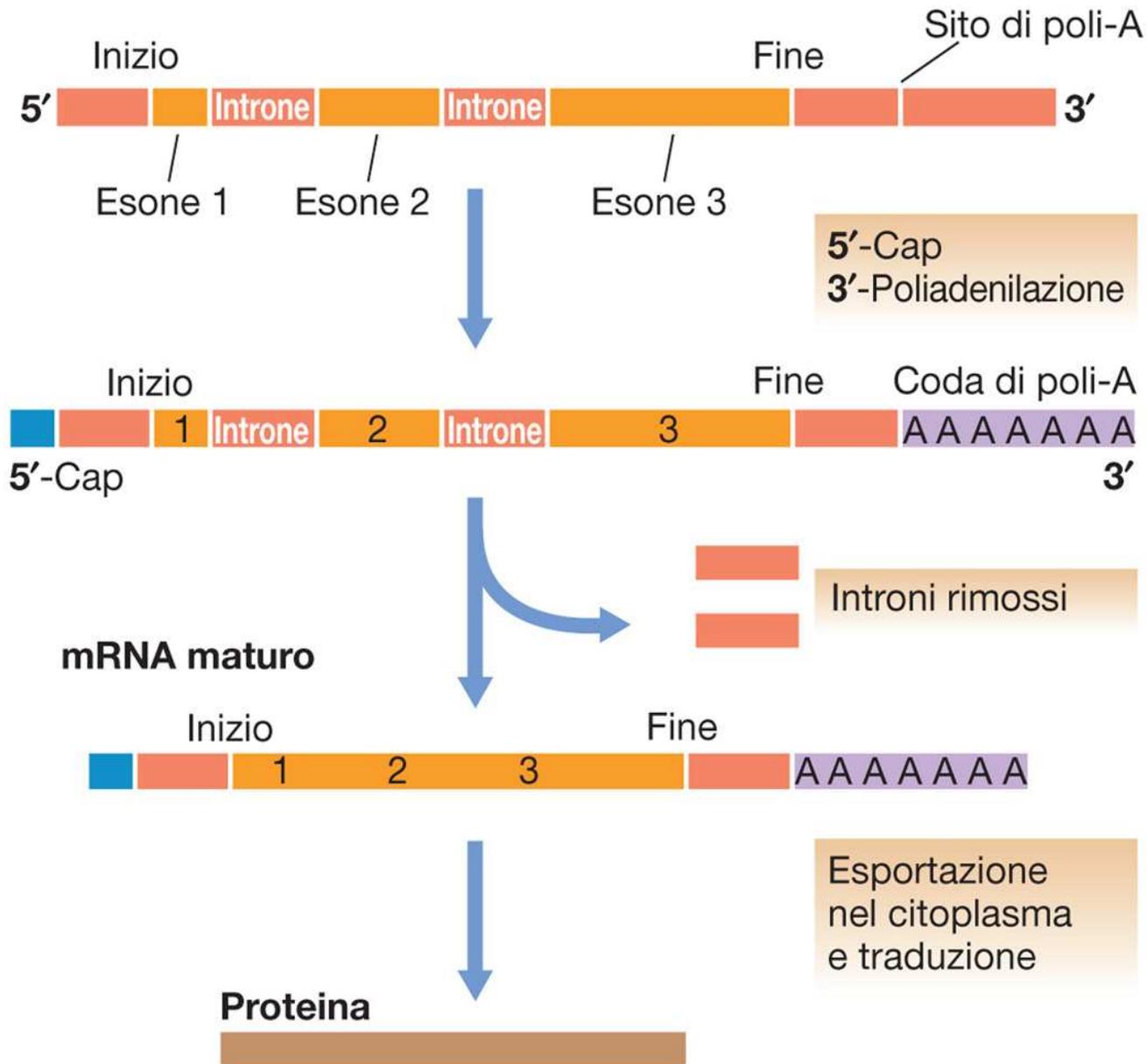


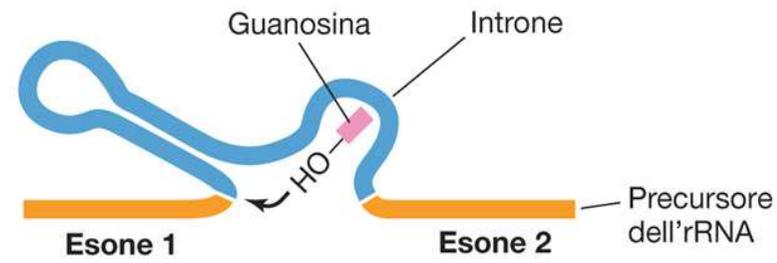
S. F. Conti and T. D. Brock

(b)

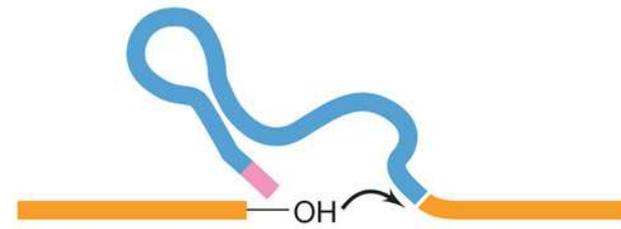


Pre-mRNA (trascrizione primaria)

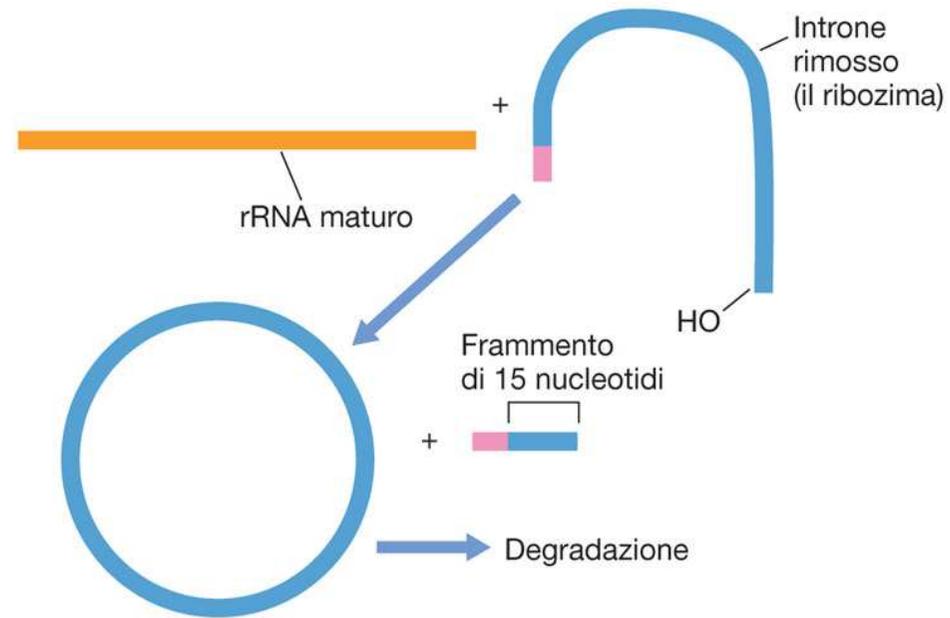




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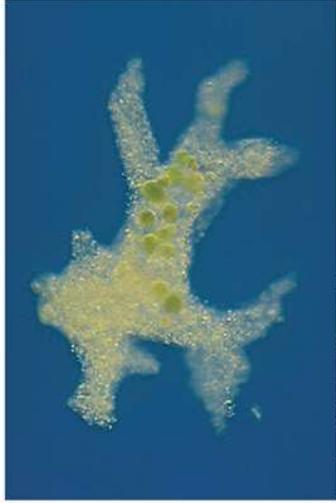
(c)

Eukaryotic microorganisms:
Protozoa

Tab. 12.1 Caratteristiche dei principali gruppi di protozoi

Gruppo	Nome comune	Esempi tipici	Habitat	Patologie
Mastigofori	Flagellati	<i>Trypanosoma, Giardia, Leishmania, Trichomonas</i>	Acqua corrente; parassiti di animali	Malattia del sonno africana, giardiosi, leishmaniosi
Euglenoidi ^a	Flagellati fototrofi	<i>Euglena</i>	Acqua corrente; alcune, acqua marina	Non sono note
Sarcodini	Ameba	<i>Amoeba, Entamoeba</i>	Acqua corrente e marina; parassiti di animali	Dissenteria amebica (amebiasi)
Ciliofori	Ciliati	<i>Balantidium, Paramecium</i>	Acqua corrente e marina; parassiti di animali; ruminanti	Dissenteria
Apicomplexa	Sporozoi	<i>Plasmodium, Toxoplasma</i>	Principalmente parassiti degli animali; insetti (vettori di malattie parassitarie)	Malaria, toxoplasmosi

^a Questo gruppo viene considerato anche insieme alle alghe (vedi par. 12.13 e tab. 12.3).



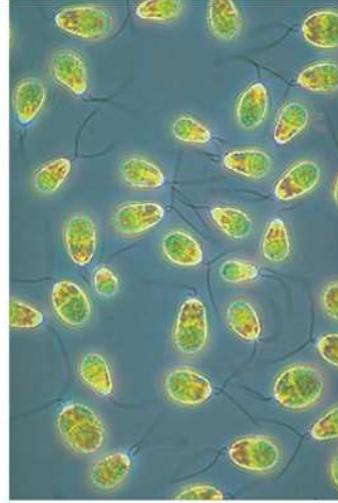
Carolina Biological Supply Co.

(a)



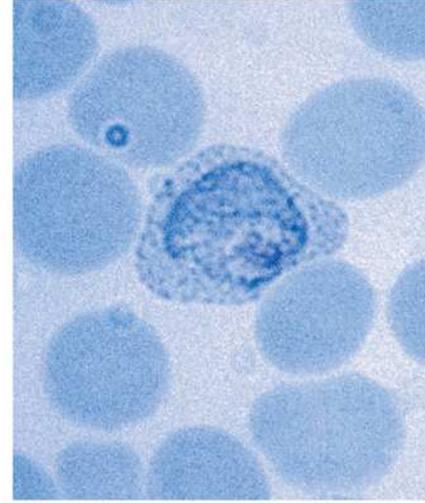
Carolina Biological Supply Co.

(b)



Arthur M. Nonomura

(c)

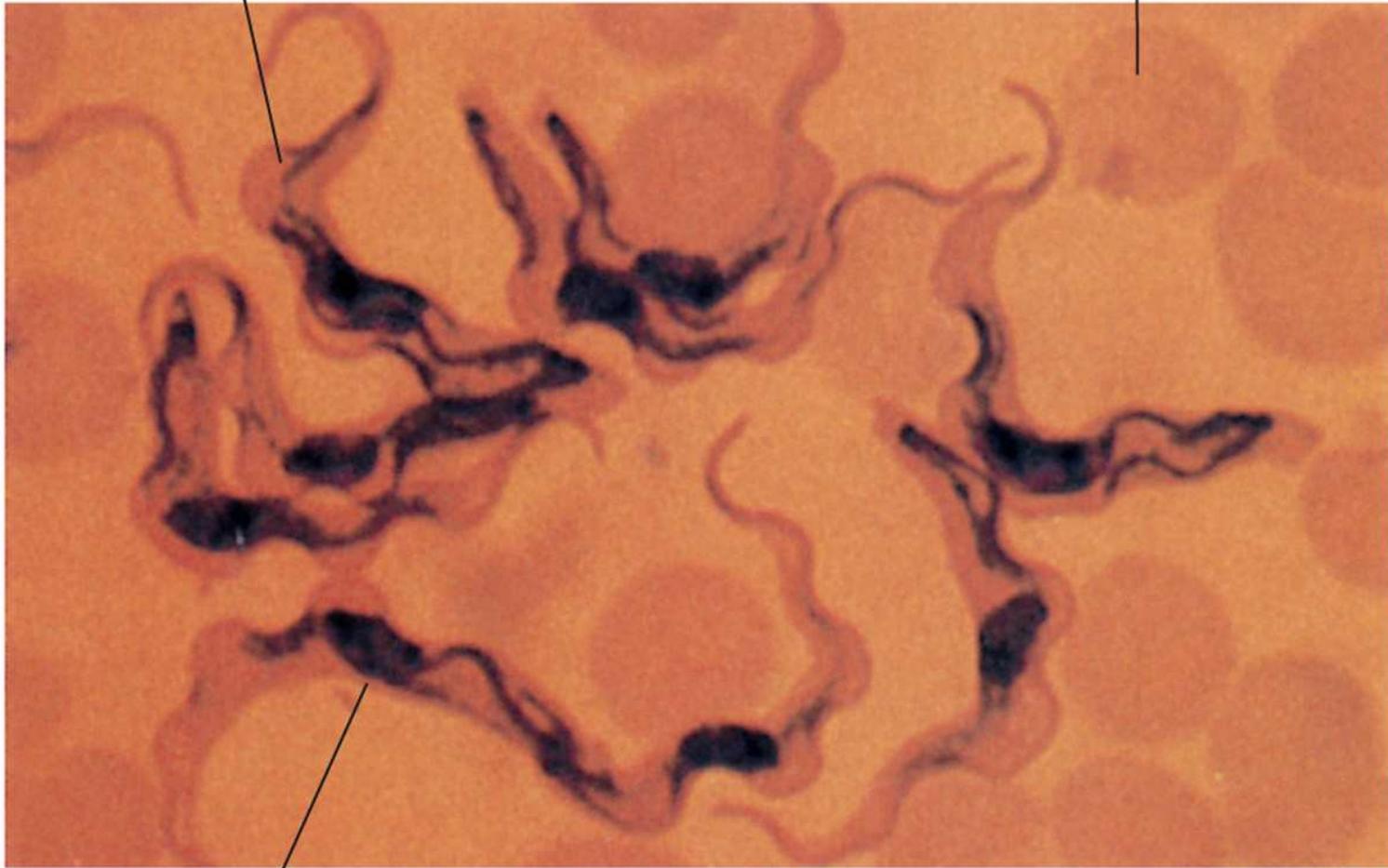


Dr. Mae Melvin, CDC Public Health Image Library, PHIL

(d)

Lembo della membrana

Globulo rosso

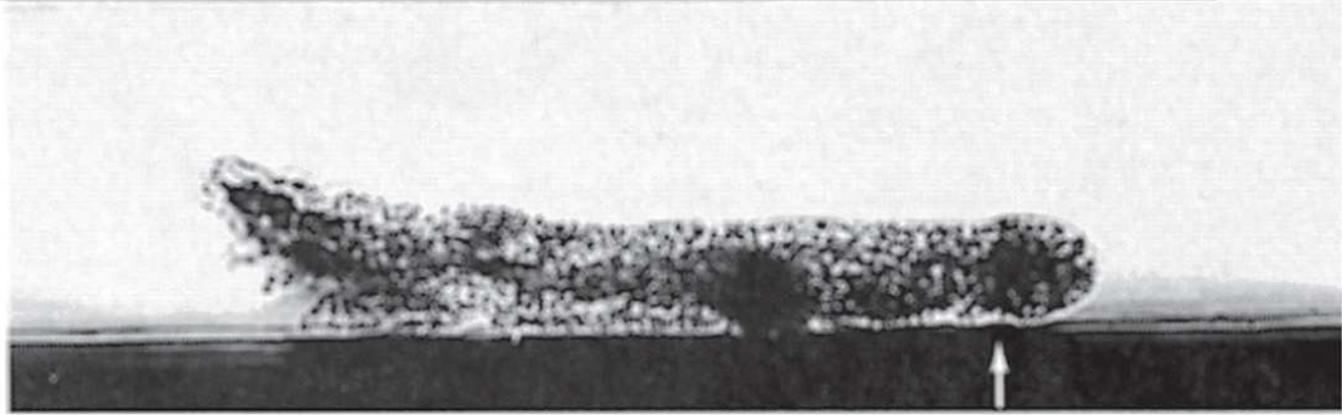
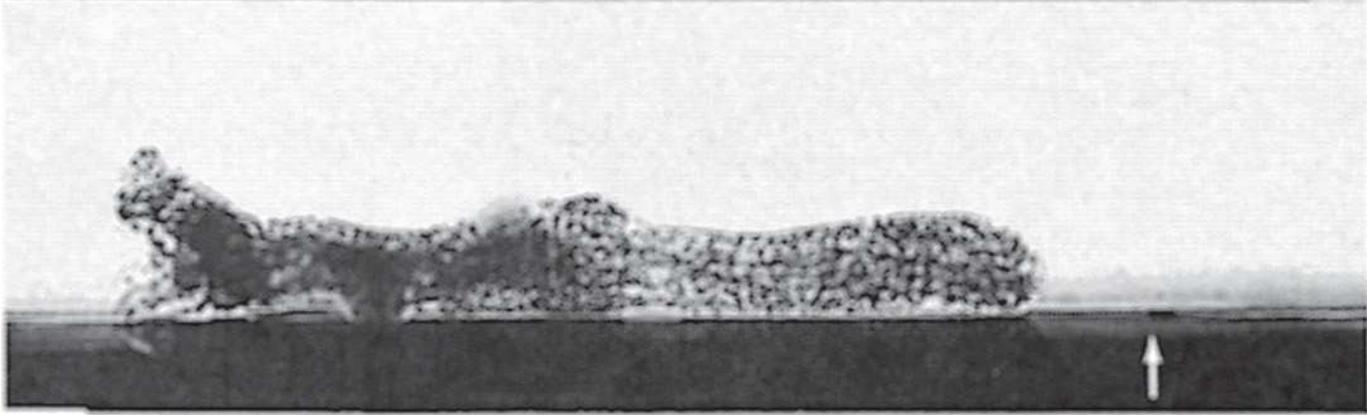
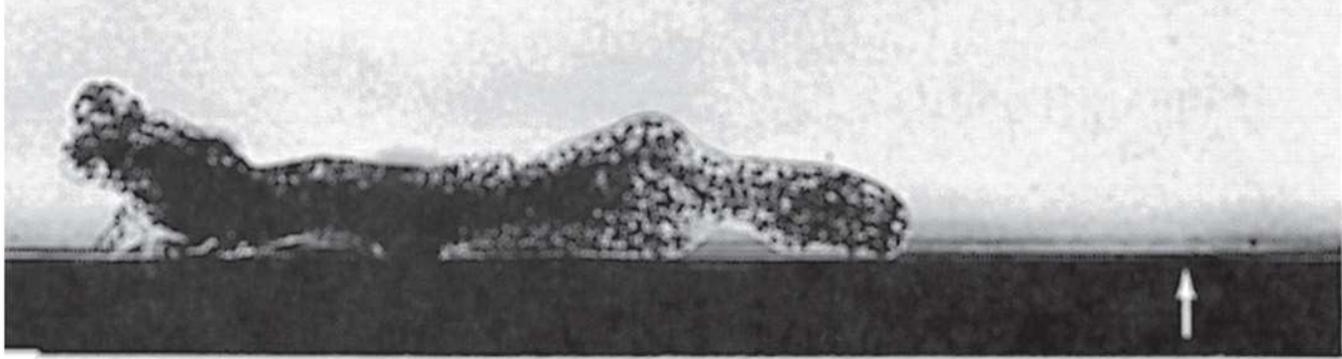


Cellula di tripanosoma

Arthur M. Siegelman



Carolina Biological Supply Co.



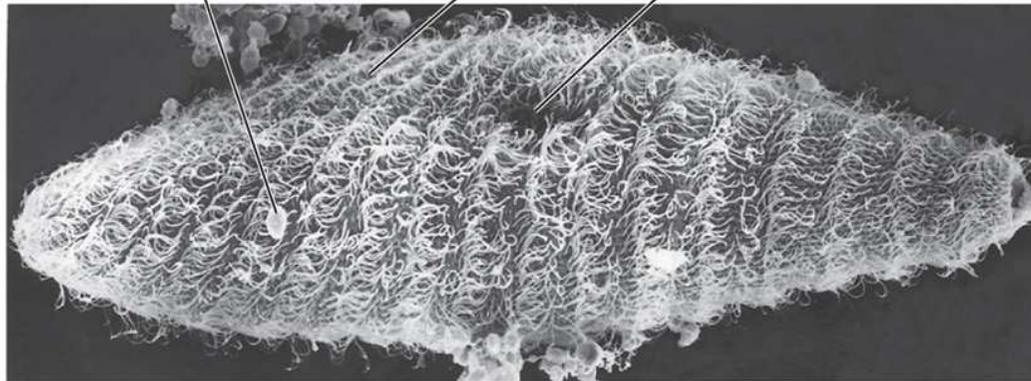
M. Haberey



(a) Cellula di lievito
(utilizzata come scala
per le dimensioni)

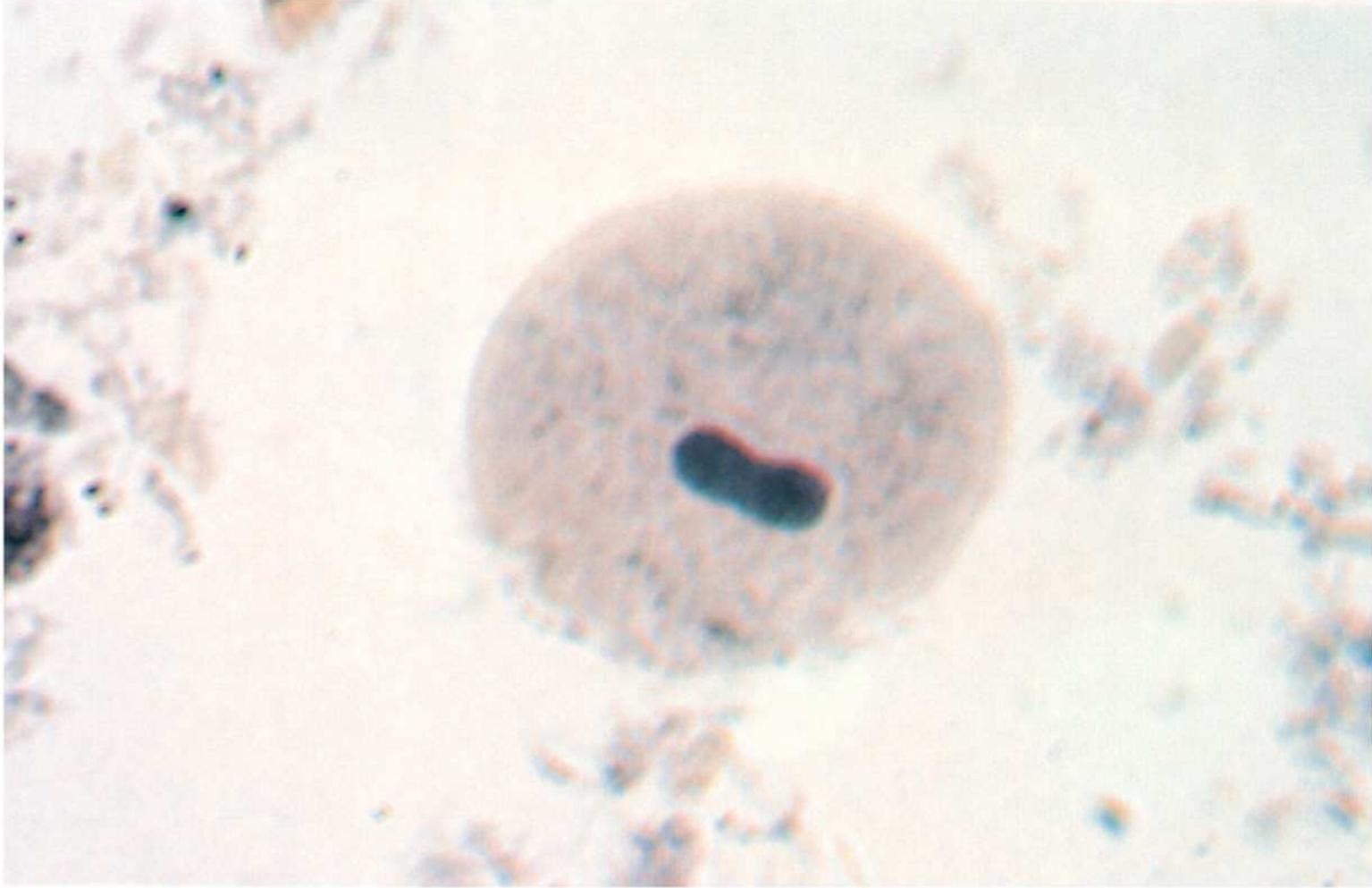
Ciglia

Bocca (gola)



(b)

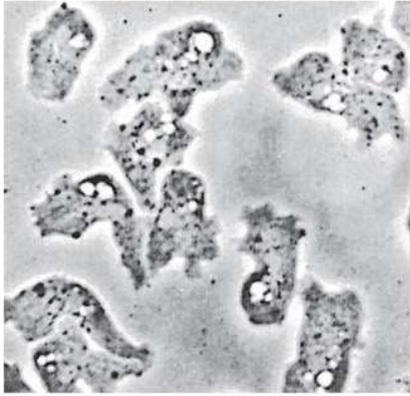
Sydney Tamm



American Society of Clinical Pathologists

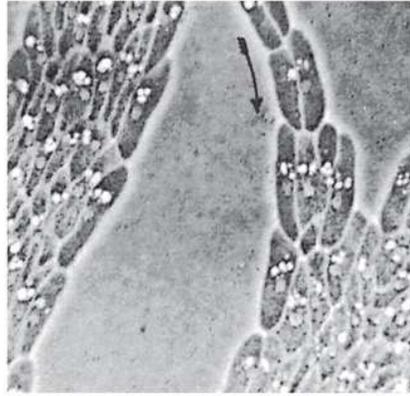


Carolina Biological Supply Co.



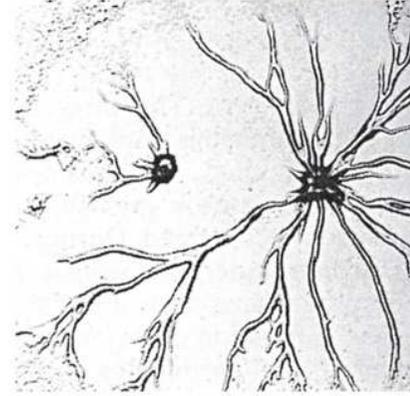
Kenneth B. Raper

(a)



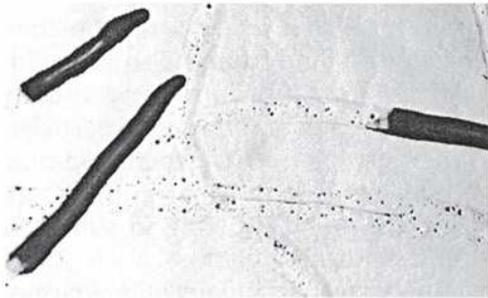
Kenneth B. Raper

(b)



Kenneth B. Raper

(c)



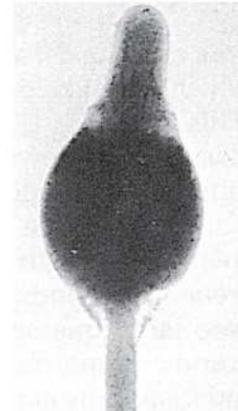
Kenneth B. Raper

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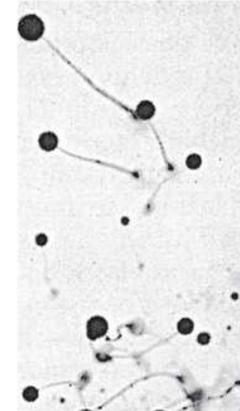
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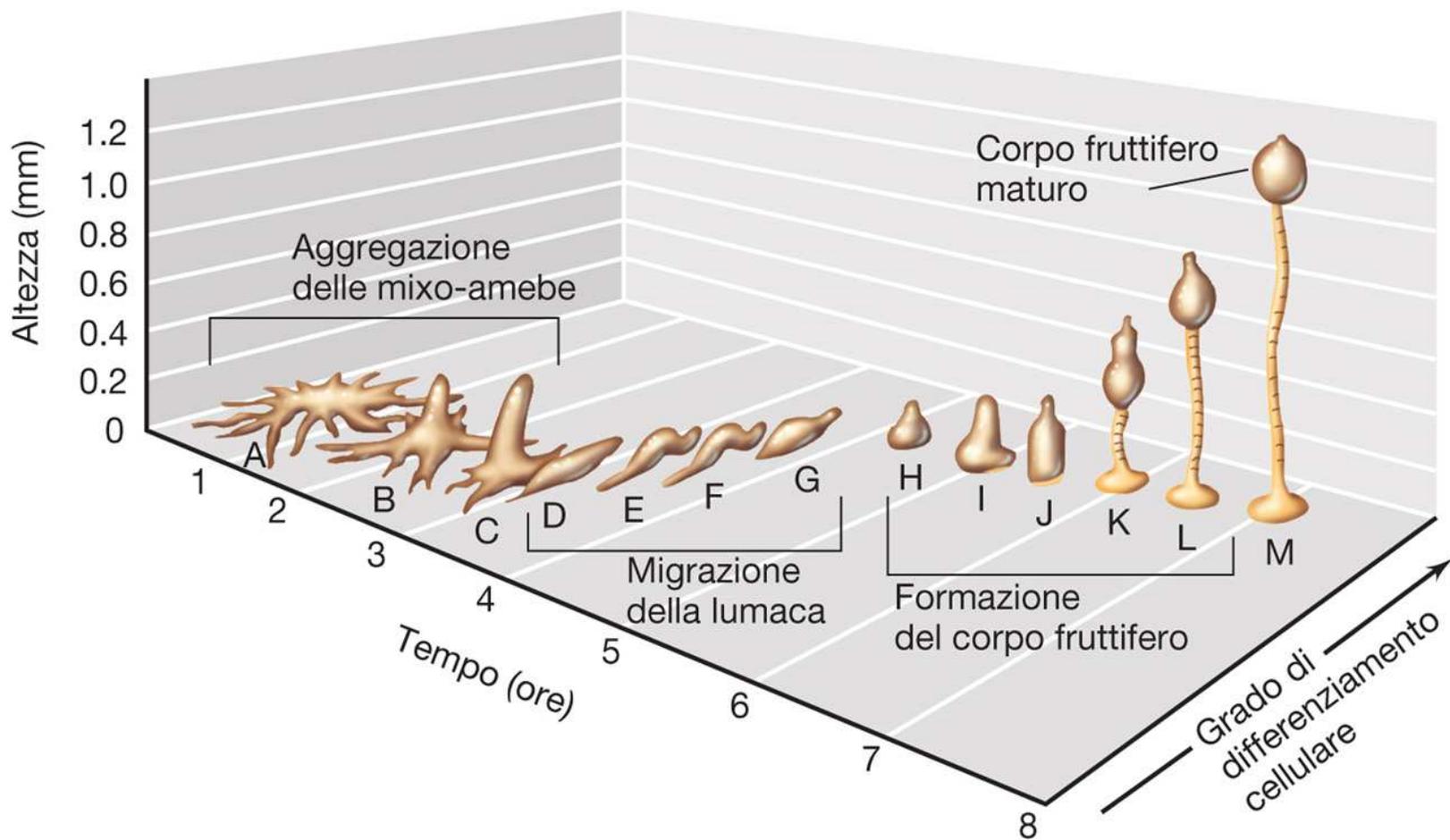
Kenneth B. Raper

(f)



Kenneth B. Raper

(g)



Eukaryotic microorganisms:
fungi

Tab. 12.2 Classificazione e principali caratteristiche dei funghi^a

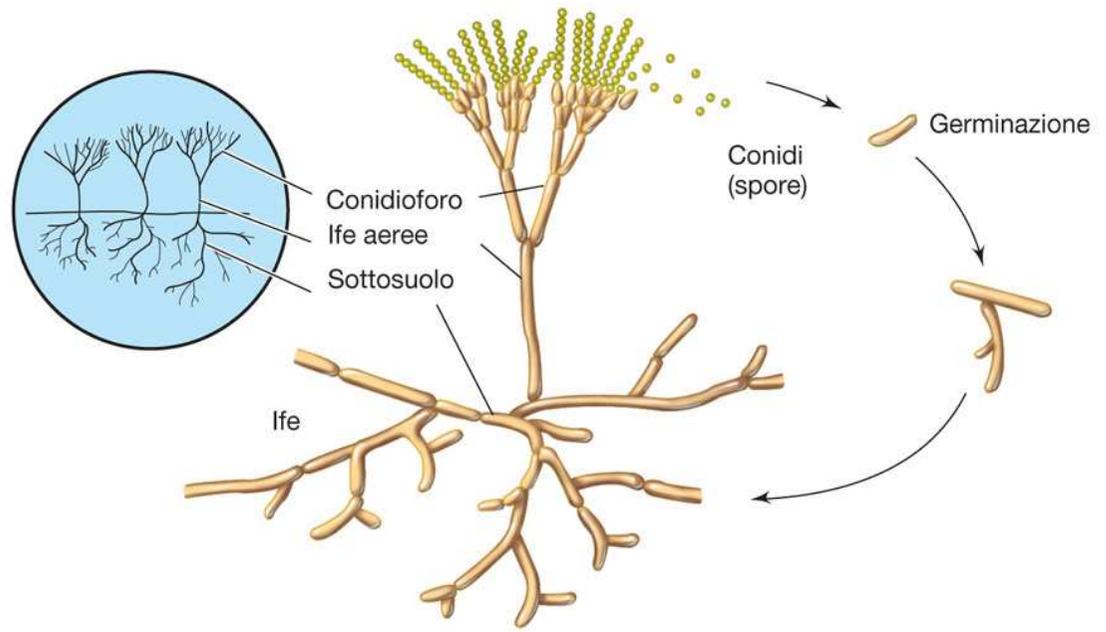
Gruppo	Nome comune	Ife	Esempi tipici	Tipi di spore sessuali	Habitat	Patologie
Ascomiceti	Funghi a sacco	Settate	<i>Neurospora</i> , <i>Saccharomyces</i> , <i>Morchella</i> (spugnole)	Ascospore	Suolo, materiale vegetale in decomposizione	Grafiosi dell'olmo, cancro del castagno, fungo della segale cornuta, marciumi
Basidiomiceti	Funghi a bastoncino, funghi fruttiferi	Settate	<i>Amanita</i> (fungo velenoso), <i>Agaricus</i> (fungo commestibile)	Basidiospore	Suolo, materiale vegetale in decomposizione	Marciume del colletto, ruggine del frumento, carbone dei cereali
Zigomiceti	Muffe del pane	Cenocitiche	<i>Mucor</i> , <i>Rhizopus</i> (comune muffa del pane)	Zigospore	Suolo, materiale vegetale in decomposizione	Alterazioni alimentari, raramente coinvolti in patologie parassitarie
Oomiceti	Muffe d'acqua	Cenocitiche	<i>Allomyces</i>	Oospore	Acquatici	Ruggine della patata, alcune malattie dei pesci
Deuteromiceti	Funghi imperfetti	Settate	<i>Penicillium</i> , <i>Aspergillus</i> , <i>Candida</i>	Nessuna	Suolo, materiale vegetale in decomposizione, cute di animali	Avvizzimento dei vegetali, infezioni negli animali come tricofizia, piede dell'atleta e altre dermatomicosi (<i>Candida</i>)

^a Con l'eccezione degli Oomiceti, che sono filogeneticamente distinti, gli altri gruppi sono strettamente correlati (vedi fig. 14.20)



Barry Katz, Mycosearch

(a)

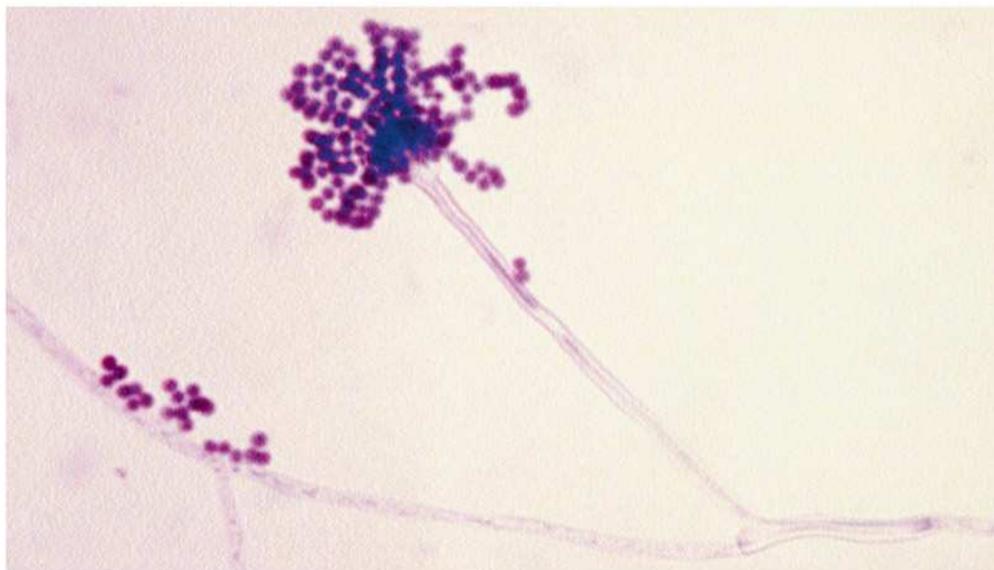


(b)



Cheryl L. Broadie

(a)



CDC Public Health Image Library, PHIL

(b)



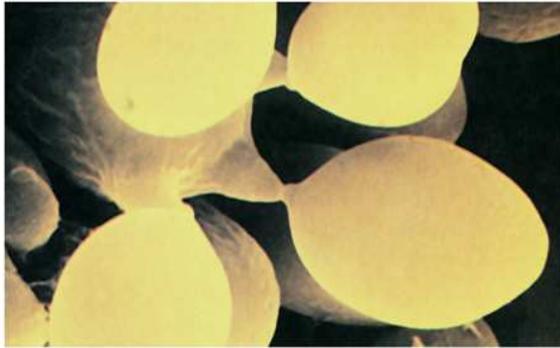
W. Ormshead

(a)



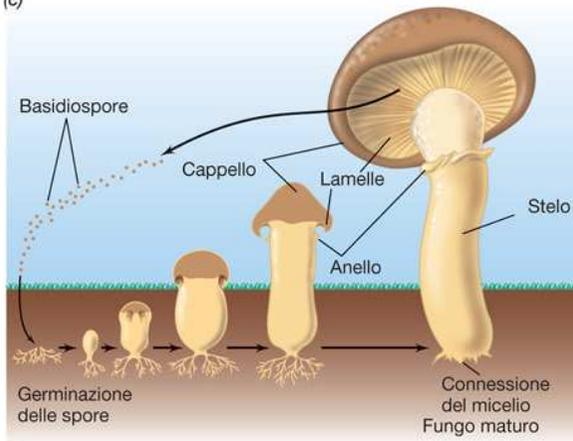
USDA

(b)

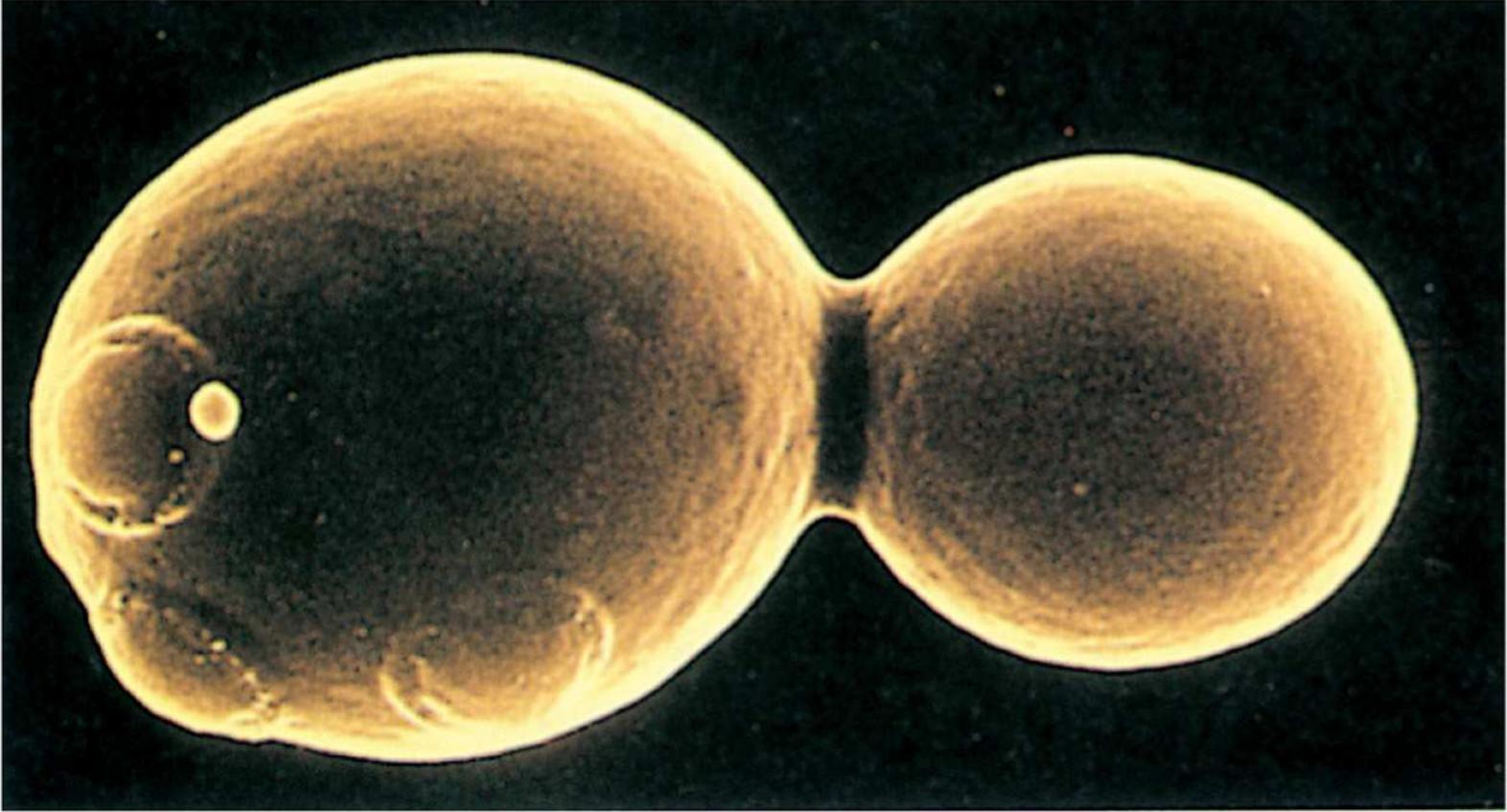


S. L. Pflieger

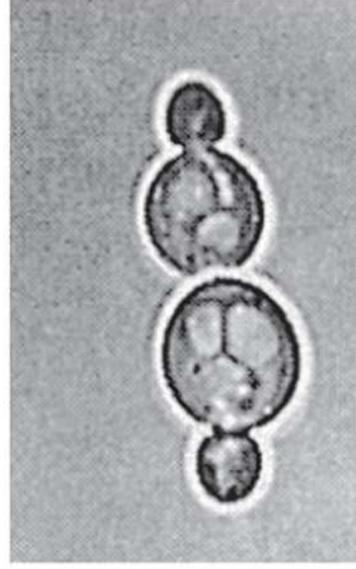
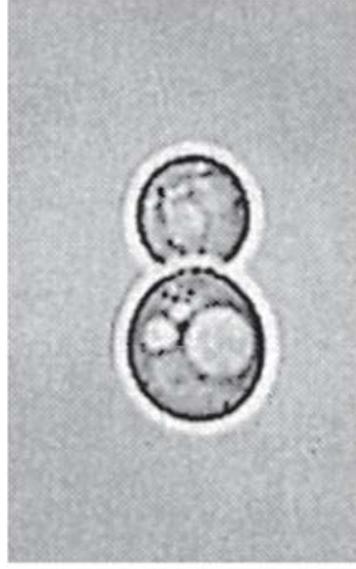
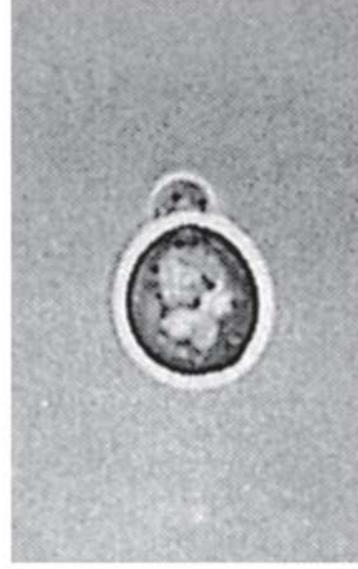
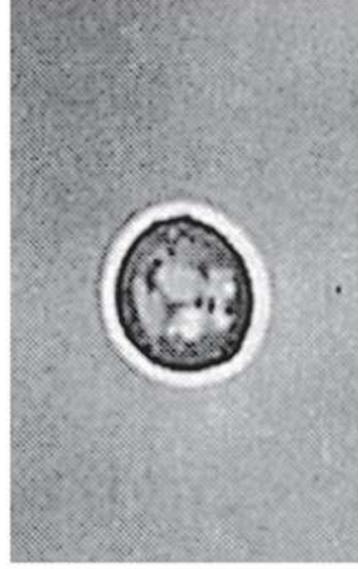
(c)



(d)



J. Forsdyke



T. D. Brock

Eukaryotic microorganisms:
Algae

Tab. 12.3 Proprietà dei principali gruppi di alghe

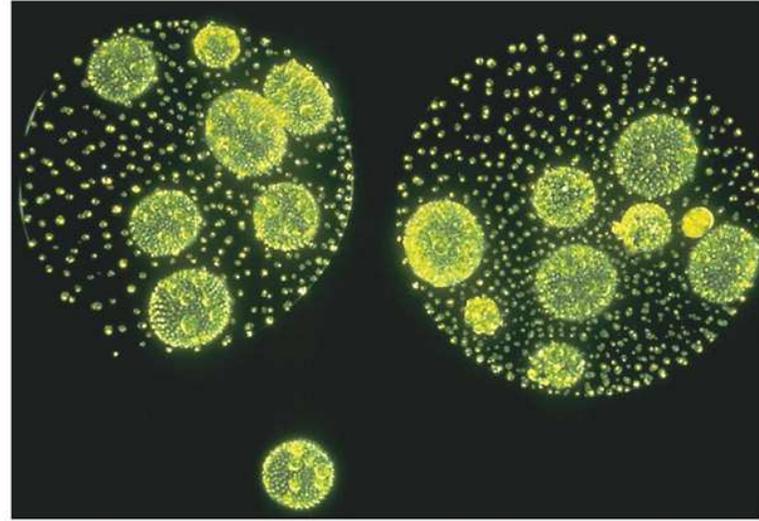
Gruppo	Nome comune	Morfologia	Pigmenti	Esempi tipici	Materiali di riserva carboniosi	Parete cellulare	Habitat principali
Chlorophyta	Alghe verdi	Unicellulare a tallo	Clorofille <i>a</i> e <i>b</i>	<i>Chlamydomonas</i>	Amido (α -1,4-glucano) saccarosio	Cellulosa	Acqua dolce, suoli, in alcuni casi il mare
Euglenophyta ^a	Euglenoidi	Flagellati unicellulari	Clorofille <i>a</i> e <i>b</i>	<i>Euglena</i>	β -1,2-glucano	Assente	Acqua dolce, in alcuni casi il mare
Dinoflagellata	Dinoflagellati	Flagellati unicellulari	Clorofille <i>a</i> e <i>c</i> , xantofille	<i>Gonyaulax</i> , <i>Pfiesteria</i>	Amido (α -1,4-glucano)	Cellulosa	Principalmente marino
Chrysophyta	Alghe dorate brune, diatomee	Unicellulare	Clorofille <i>a</i> e <i>c</i>	<i>Nitzschia</i>	Lipidi	Due componenti sovrapposte di silice	Acqua dolce e acqua marina, suolo
Phaeophyta	Alghe brune	Filamentose a tallo, a volte particolarmente grandi e simili alle piante	Clorofille <i>a</i> e <i>c</i> , xantofille	<i>Laminaria</i>	Laminarina (β -1,3-glucano), mannitolo	Cellulosa	Acqua marina
Rhodophyta	Alghe rosse	Unicellulari, filamentose a tallo	Clorofille <i>a</i> e <i>d</i> , ficocianina, ficoeritrina	<i>Polysiphonia</i>	Floridina, amido (α 1,6- e α -1,4-glucano)	Cellulosa	Acqua marina

^a Questo gruppo è considerato anche nei protozoi (vedi par. 12.10).



T.D. Brock

(a)



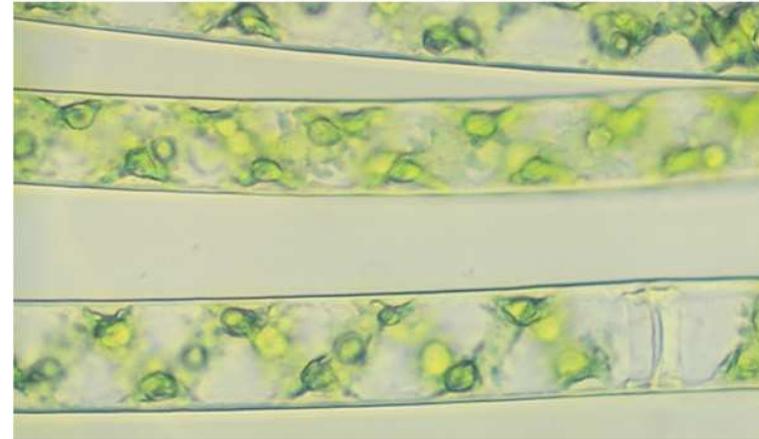
Dennis Kunkel

(b)



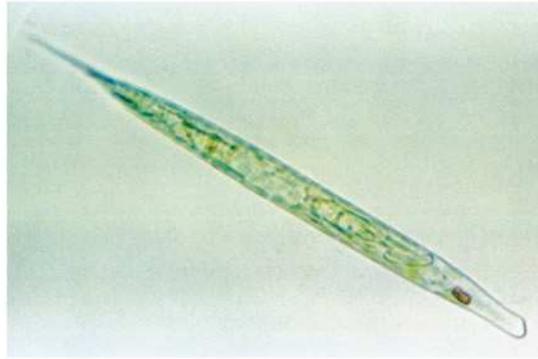
Carolina Biological Supply Co.

(c)



Carolina Biological Supply Co.

(d)



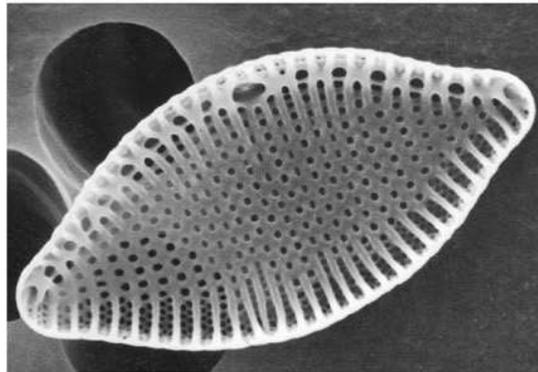
Carolina Biological Supply Co.

(a)



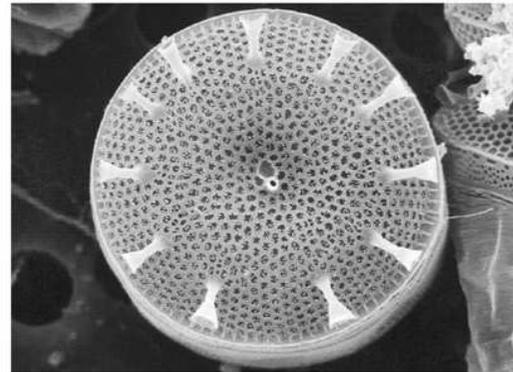
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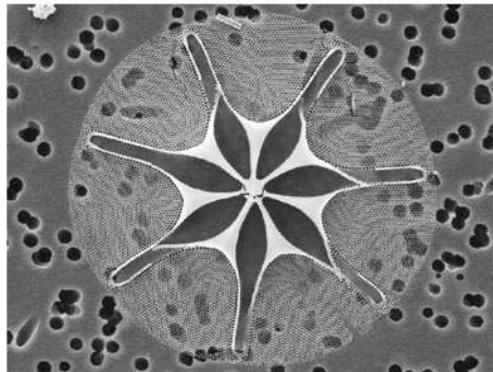
Irena Kaczmarek

(c)



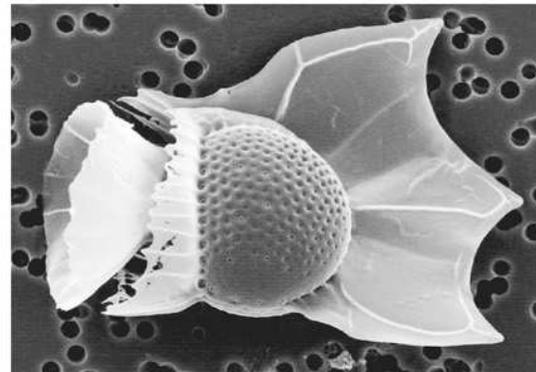
Irena Kaczmarek

(d)



Irena Kaczmarek

(e)



Irena Kaczmarek

(f)



Rita R. Colwell

(a)



North Carolina State University Center for Applied Ecology

(b)



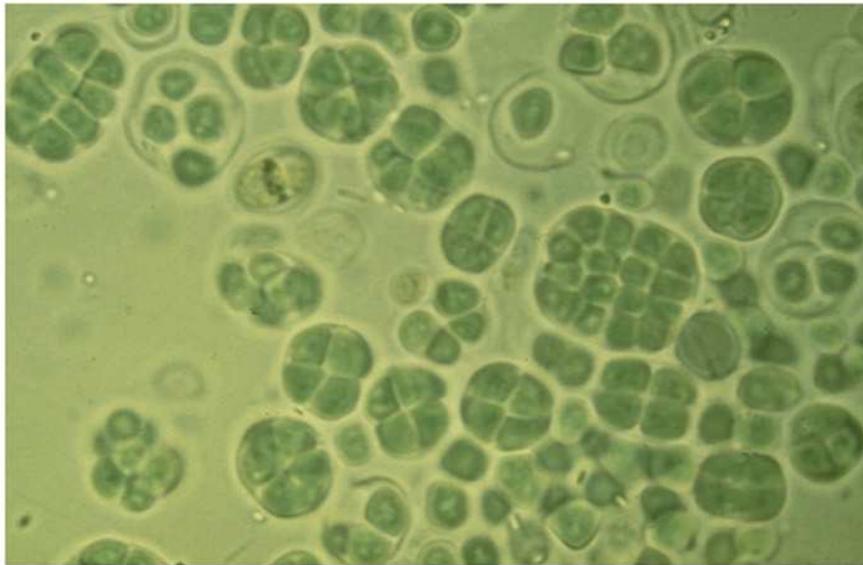
North Carolina State University Center for Applied Ecology

(c)



E. Imre Friedmann

(a)



E. Imre Friedmann

(b)