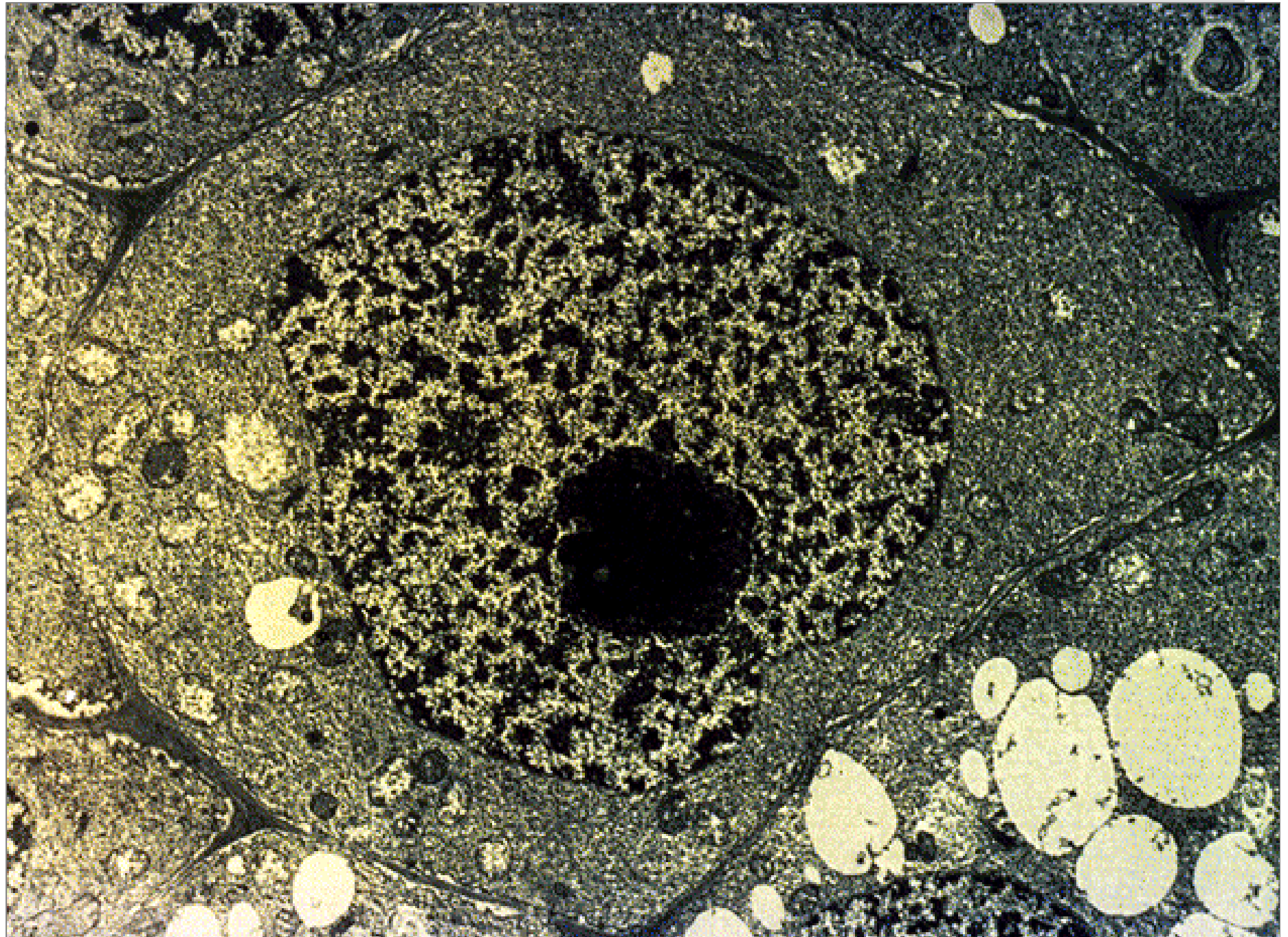
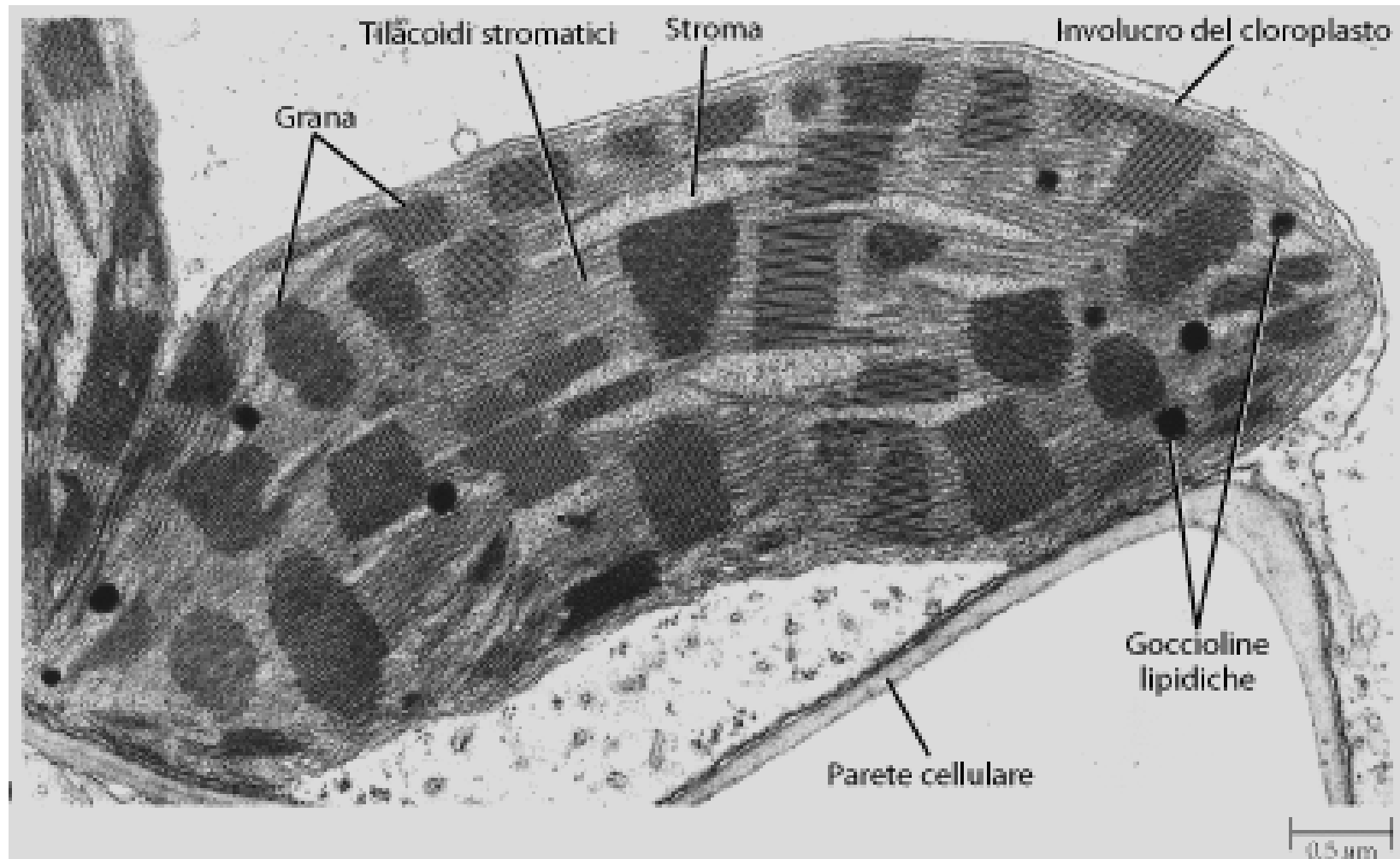






Plastidi per i processi di fotosintesi e di accumulo e funzione vessillare:

cloroplasti (verdi)

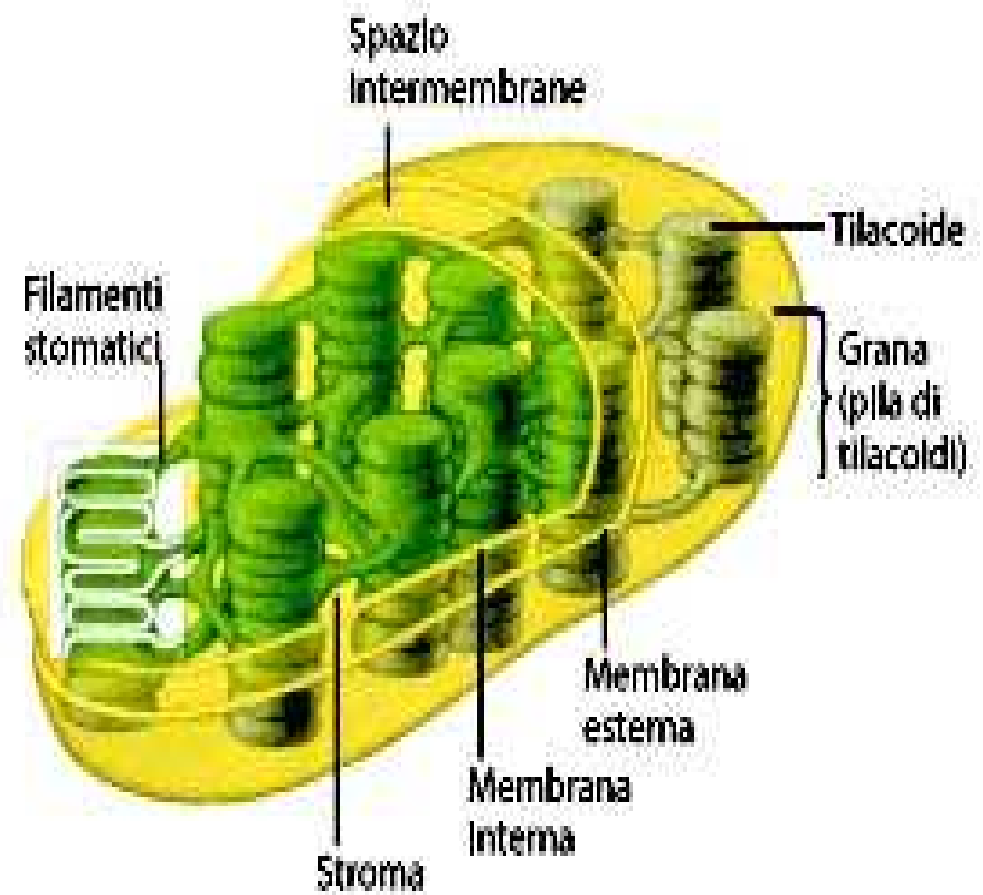
cromoplasti (giallo-arancio-bruno)

leucoplasti (incolori) → amiloplasti

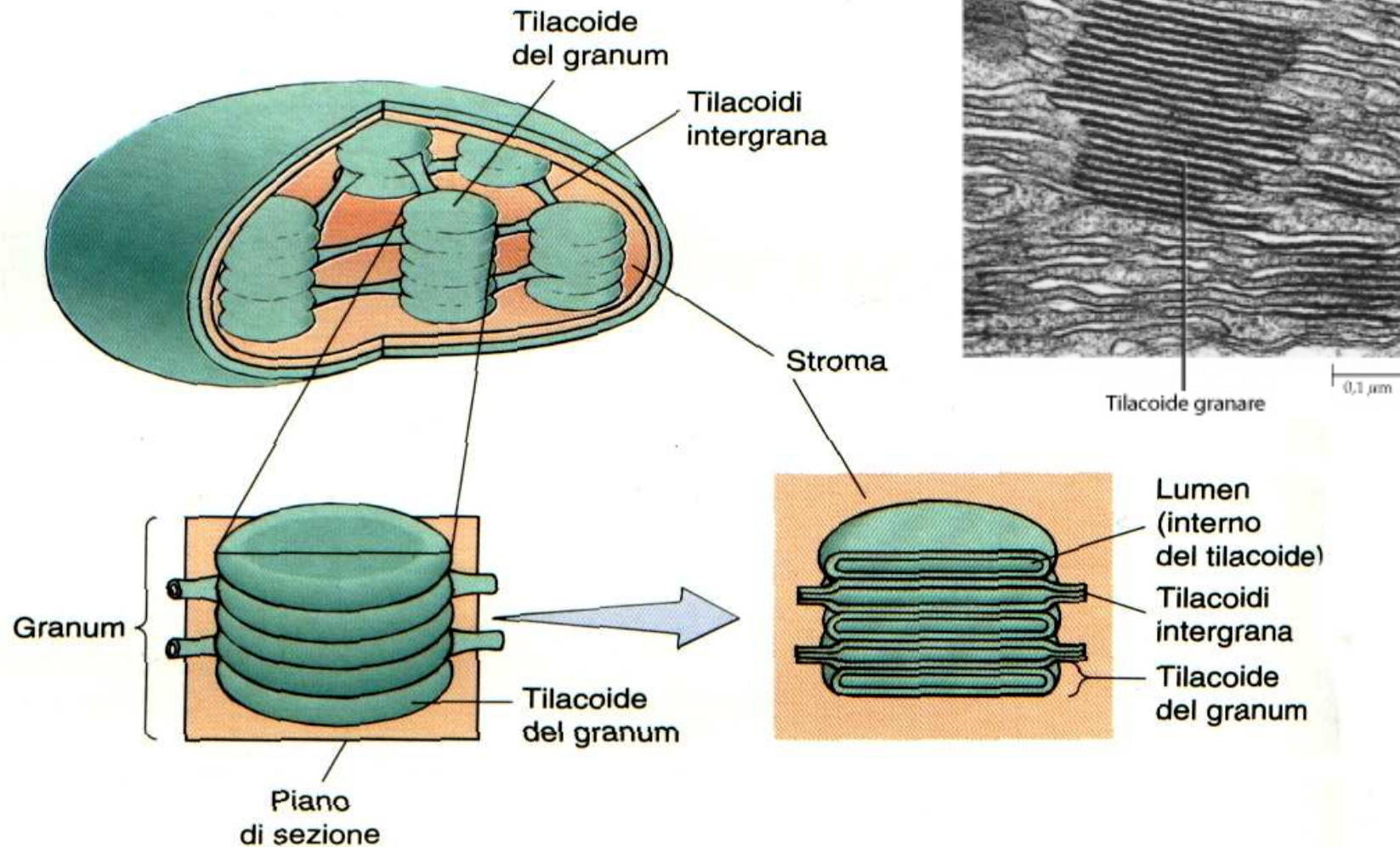
cloroplasti



Cellule epidermiche con cloroplasti

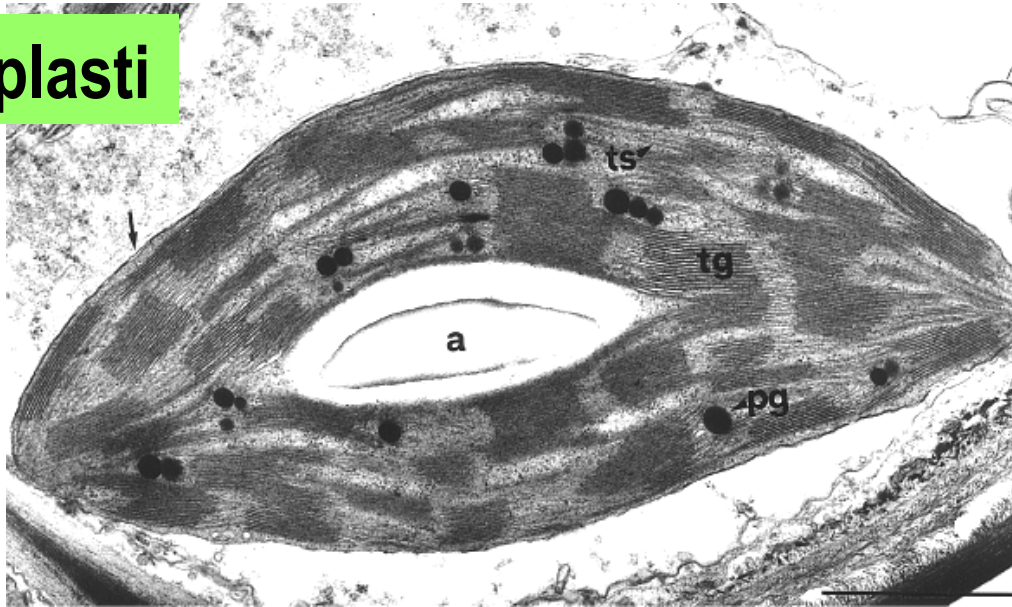


cloroplasti



I grana sono pile di piccole vescicole tilacoidali; i tilacoidi intergrana connettono un granum all'altro. Il lumen del tilacoide è continuo con quello del tilacoide intergrana. I tilacoidi sono immersi nello stroma, ma solo quelli non impilati hanno contatti diretti con lo stroma.

cloroplasti



stroma plastidiale:

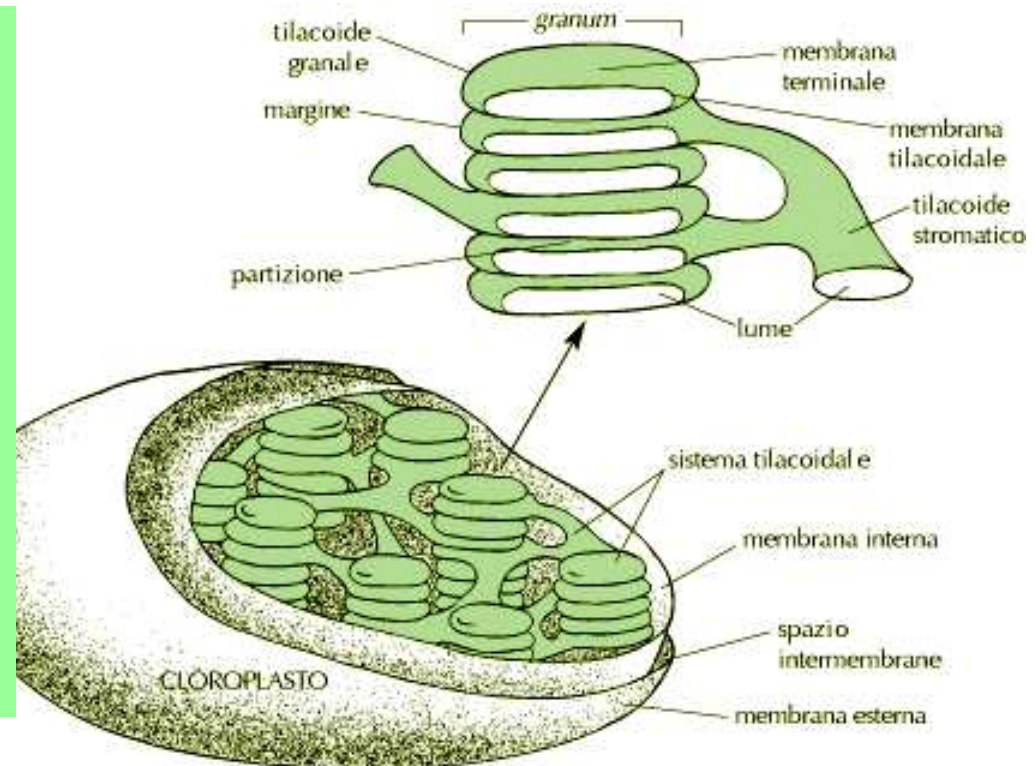
DNA e ribosomi 70 S
Rubisco e Ciclo C3
sintesi Chl e Cds
ac. grassi
assimilazione N e S

amido e plastoglobuli

Cloroplasti (4-6 μm):

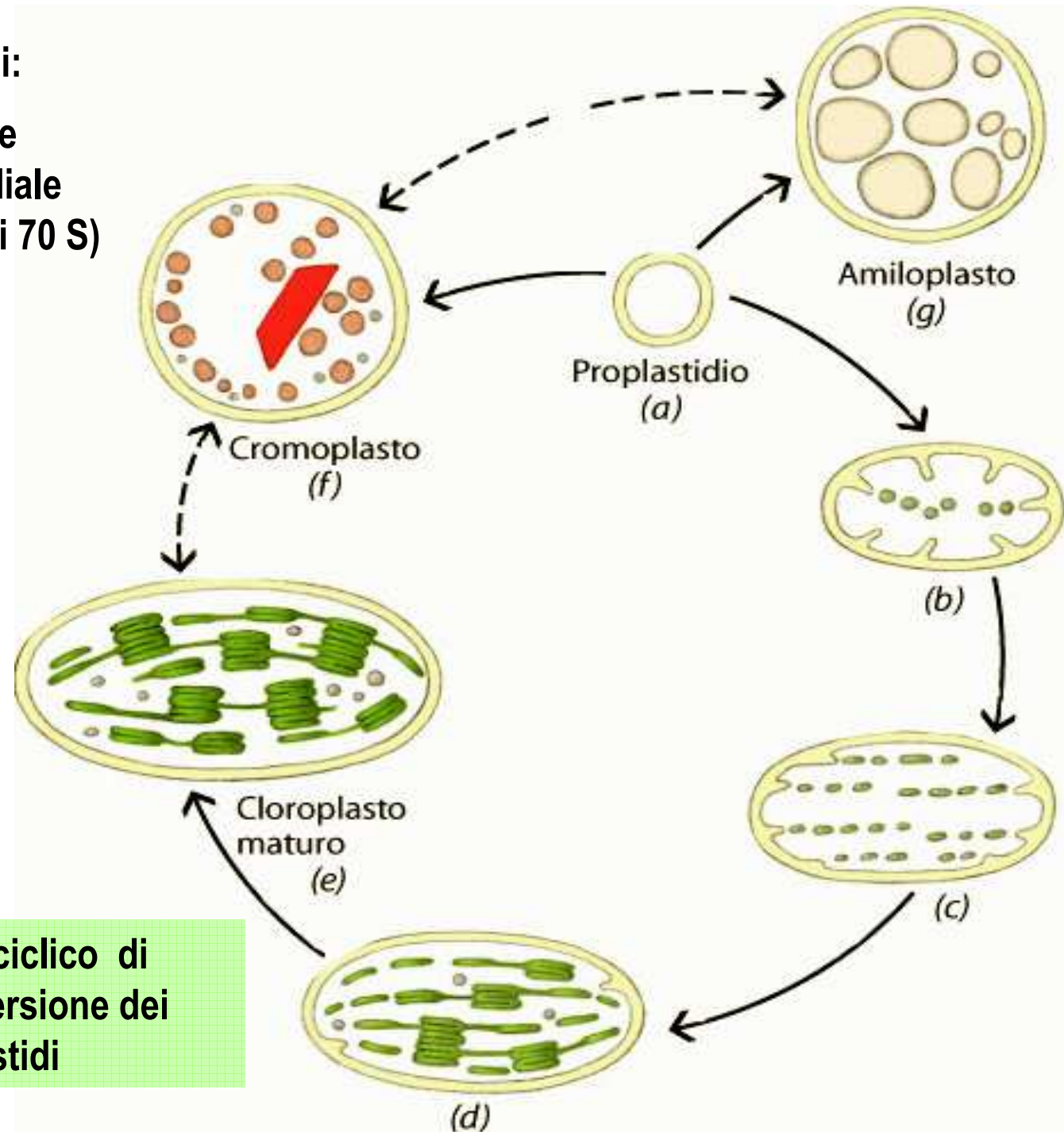
- **membrana esterna**
(non selettiva fino a 10kDa)
- **membrana interna** selettiva
(trasportatori ed enzimi ac. grassi)
- **membrane tilacoidali**
(lume interno in continuità)

(acidi grassi insaturi e
galatto- e solfolipidi)



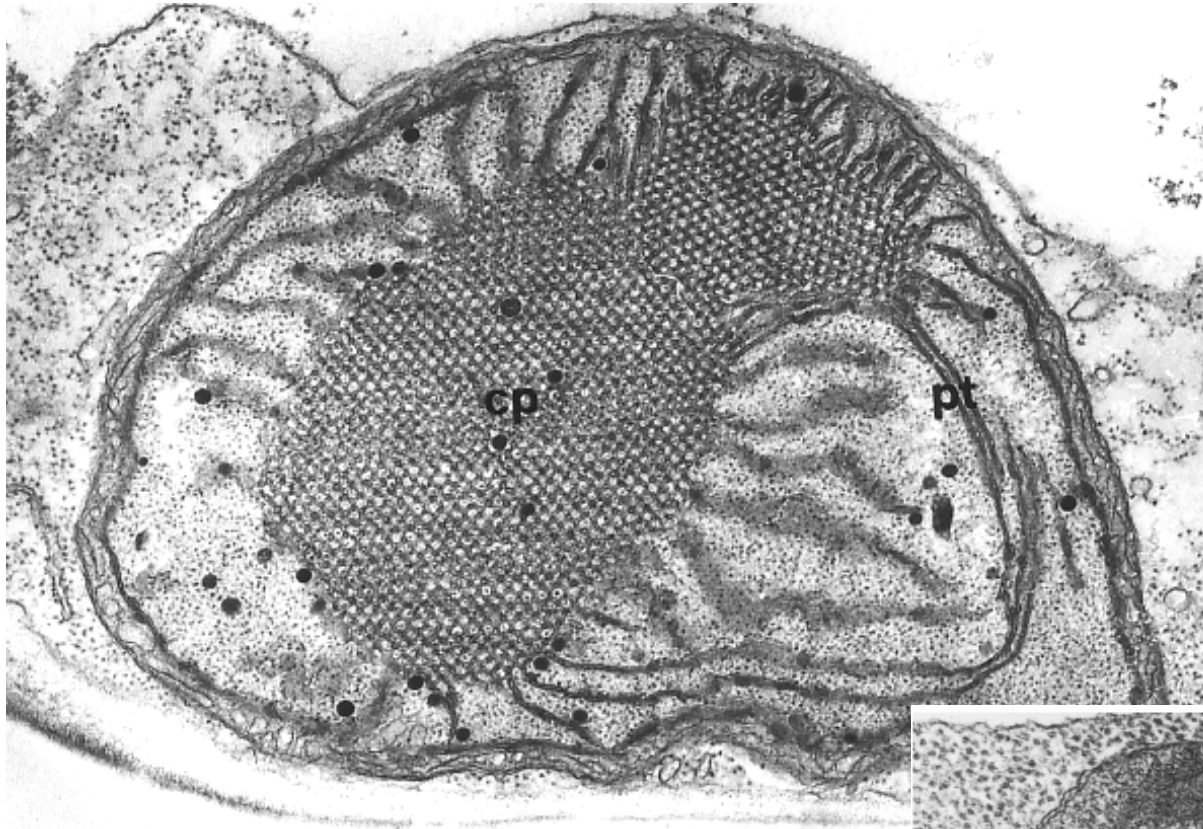
Tutti i plastidi:

- 2 membrane
- stroma plastidiale
(DNA e ribosomi 70 S)



**Modello ciclico di
interconversione dei
plastidi**

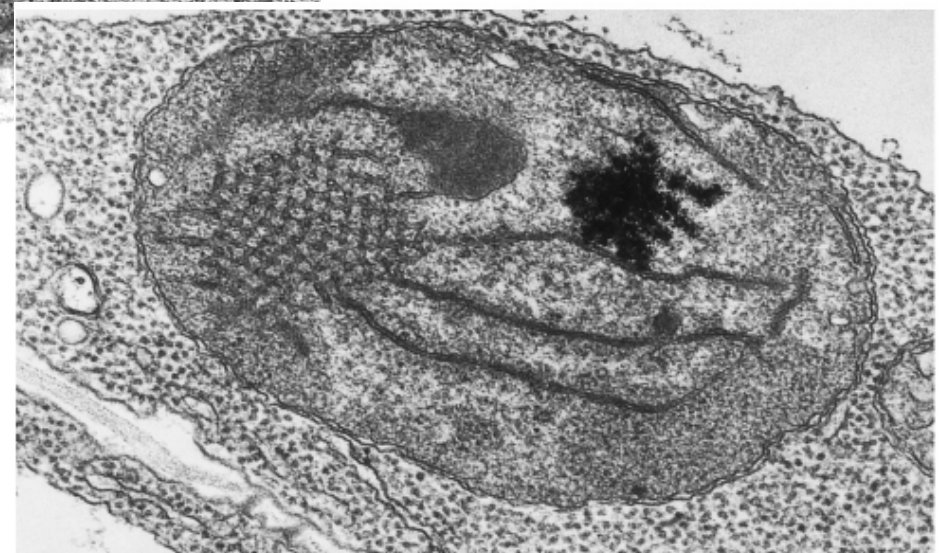
La biogenesi del cloroplasto nelle Angiosperme è regolata dalla luce



ezioplasti al buio:

senza Chl con corpo
prolamellare e
protoclorofillide

cloroplasti alla luce
(fitocromo)



0,25 μ m

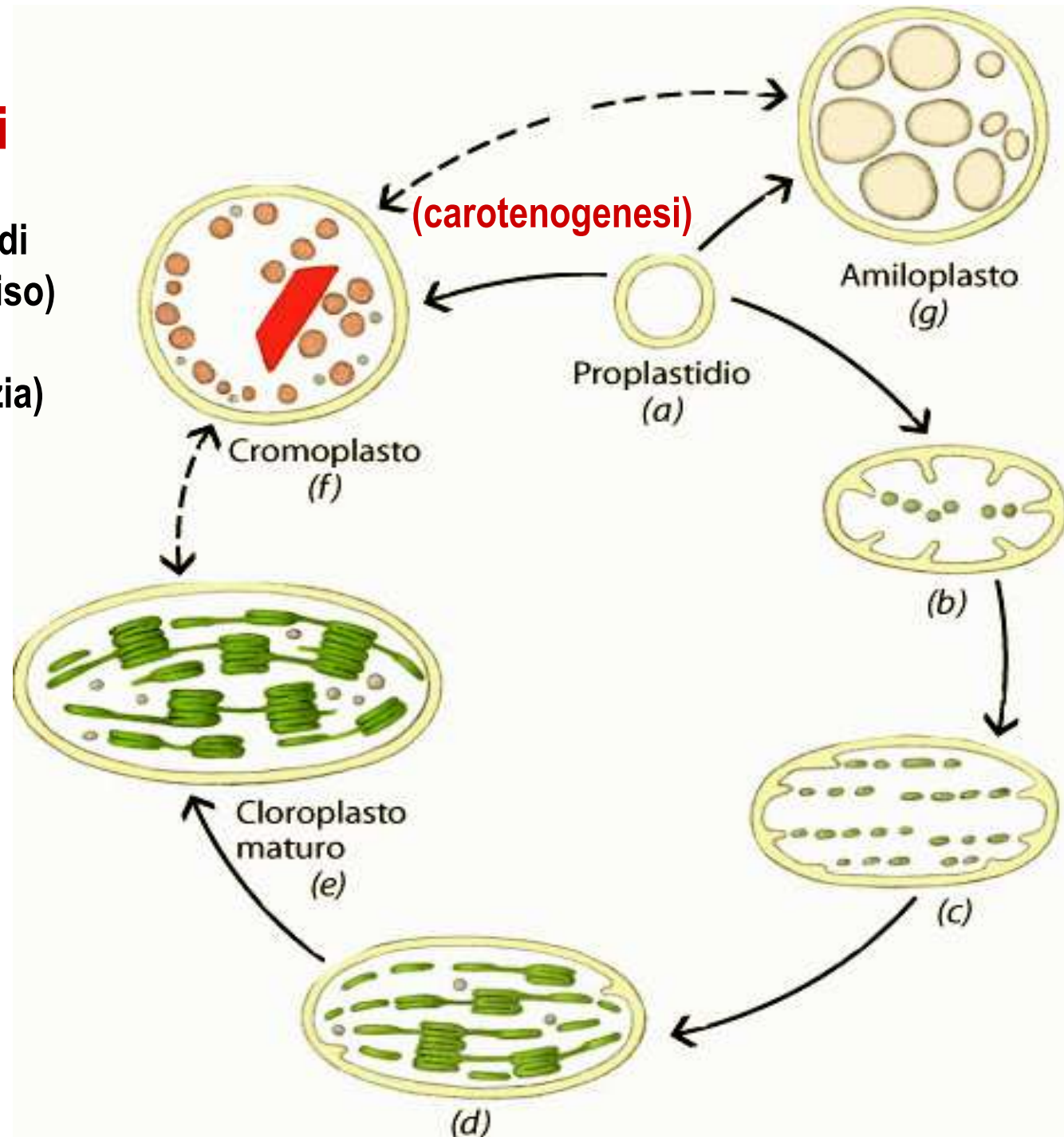
Tipi di cromoplasti

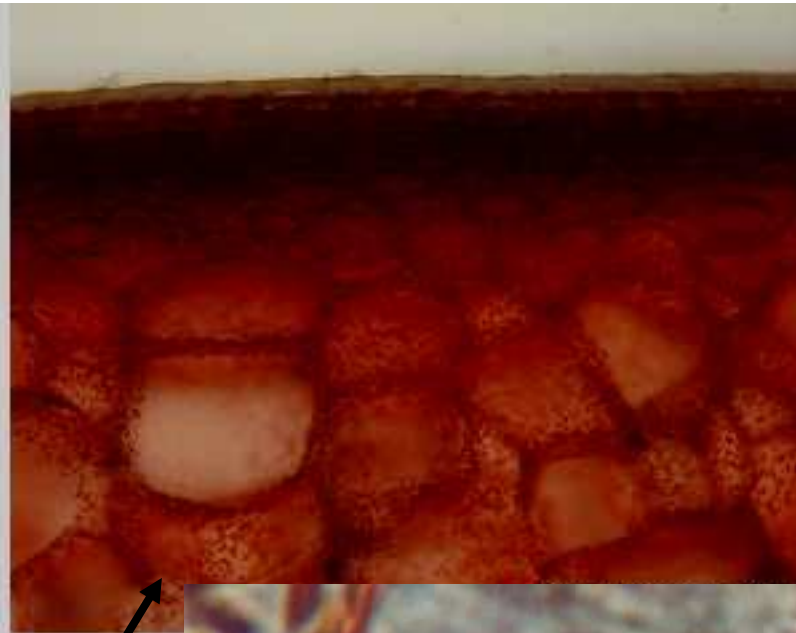
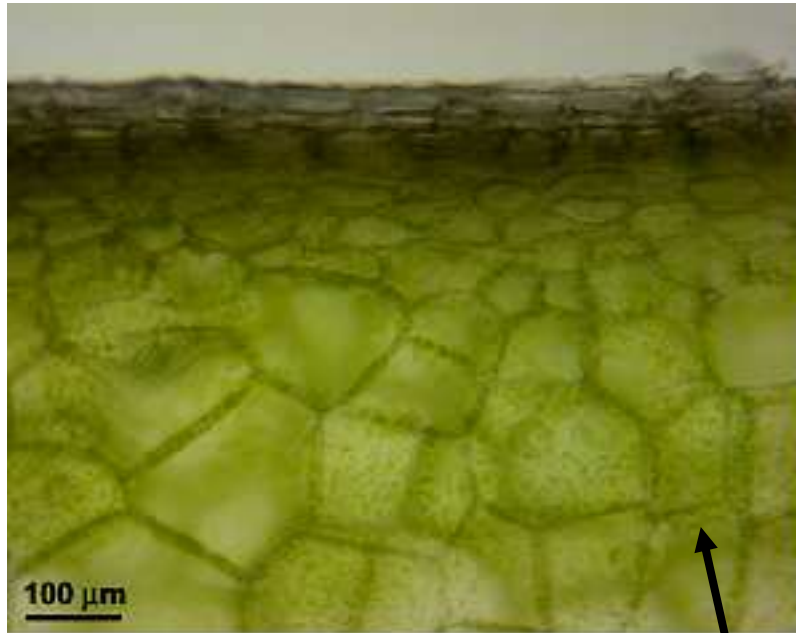
-globulari (fiori di ranuncolo, narciso)

- fibrillari (sterlizia)

-membranosi (peperone)

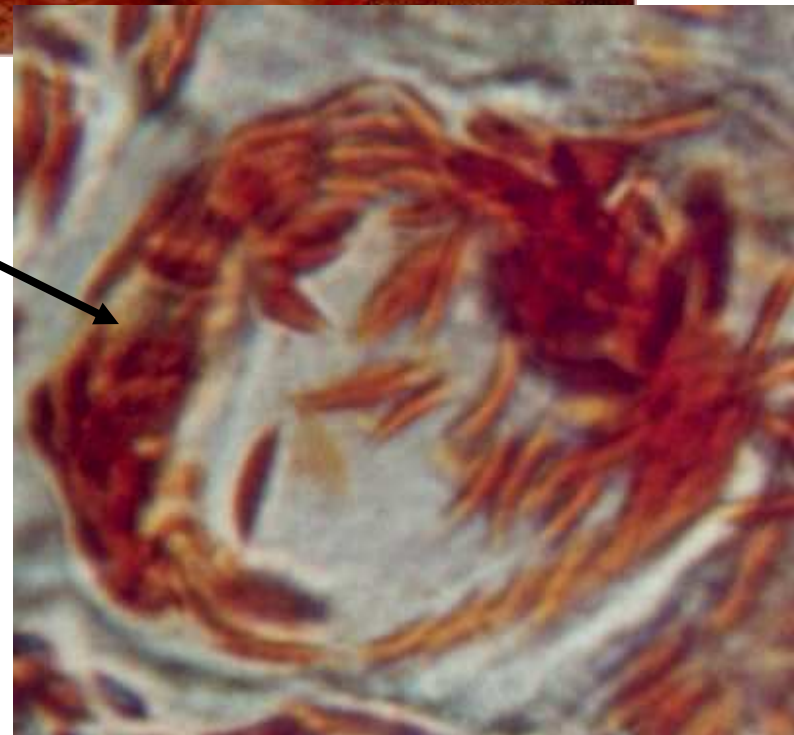
-cristallini (carota)





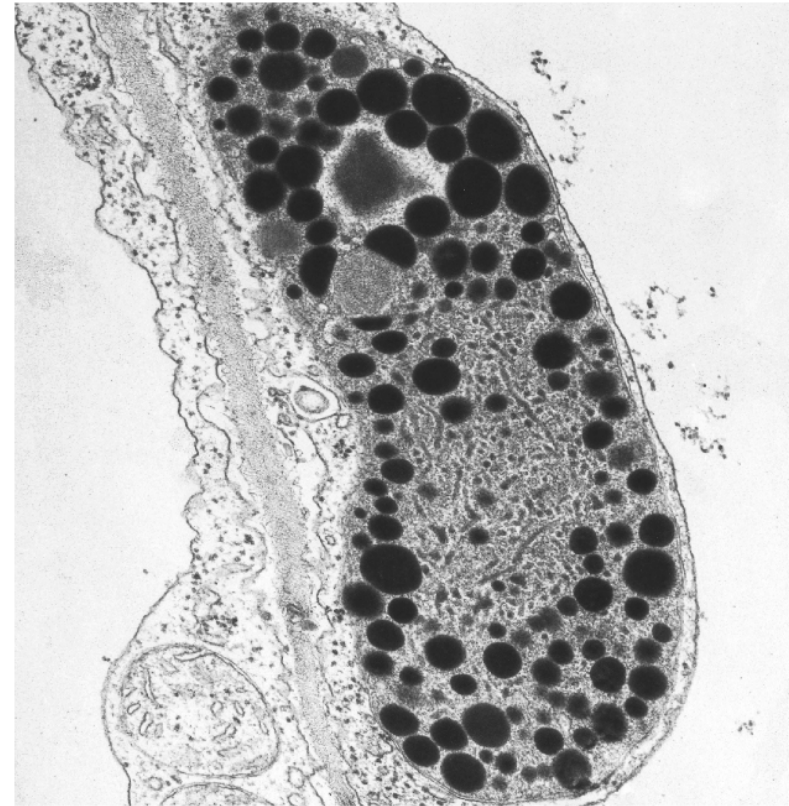
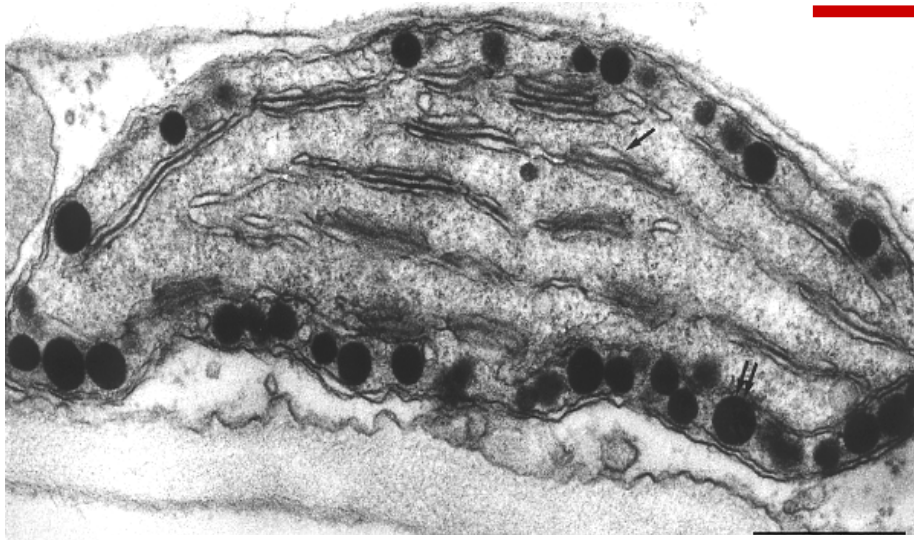
Peperone (*Capsicum annuum*) verde e maturo
Dettaglio di una cellula con cromoplasti

cromoplasti



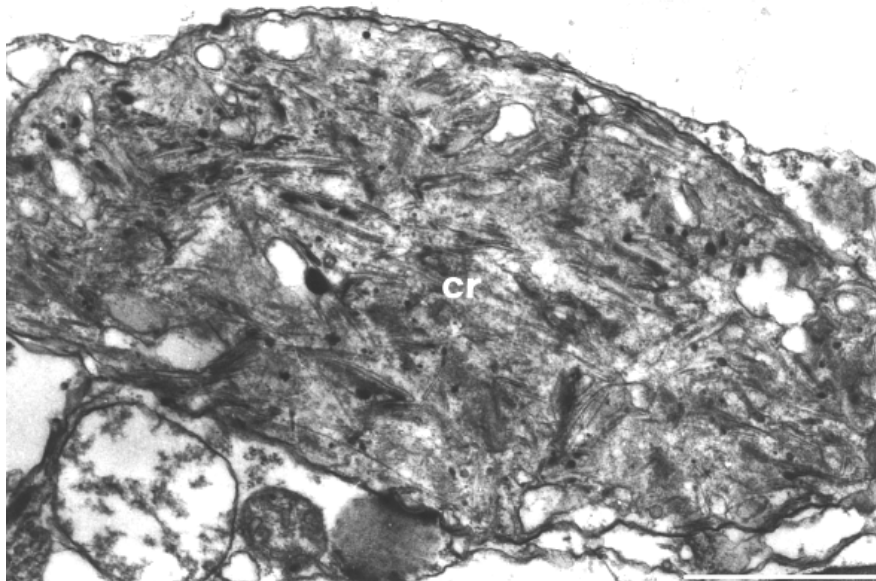
cromoplasti

da cloro- a cromoplasto

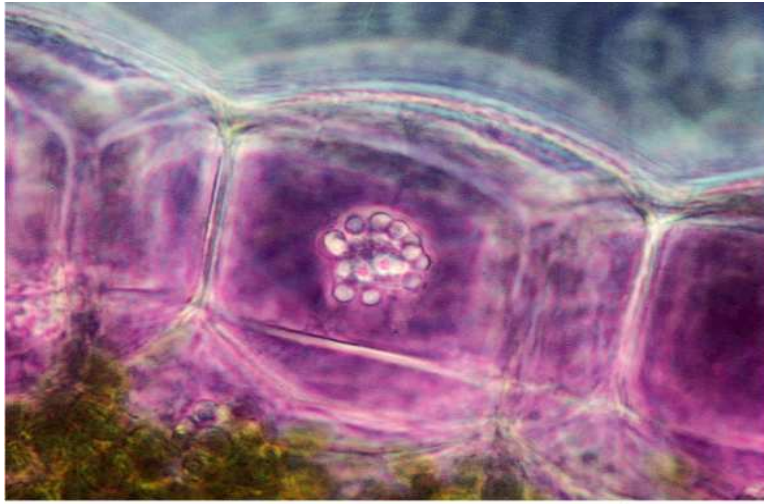


cromoplasto globulare

0,5 μm

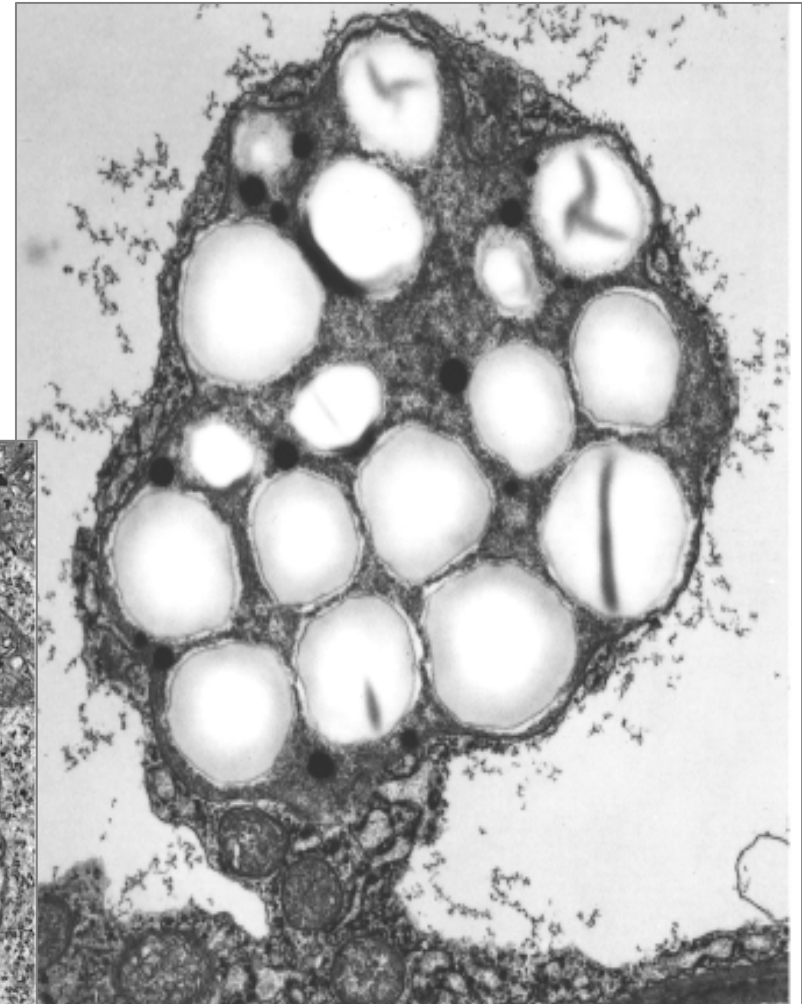


cromoplasto membranoso

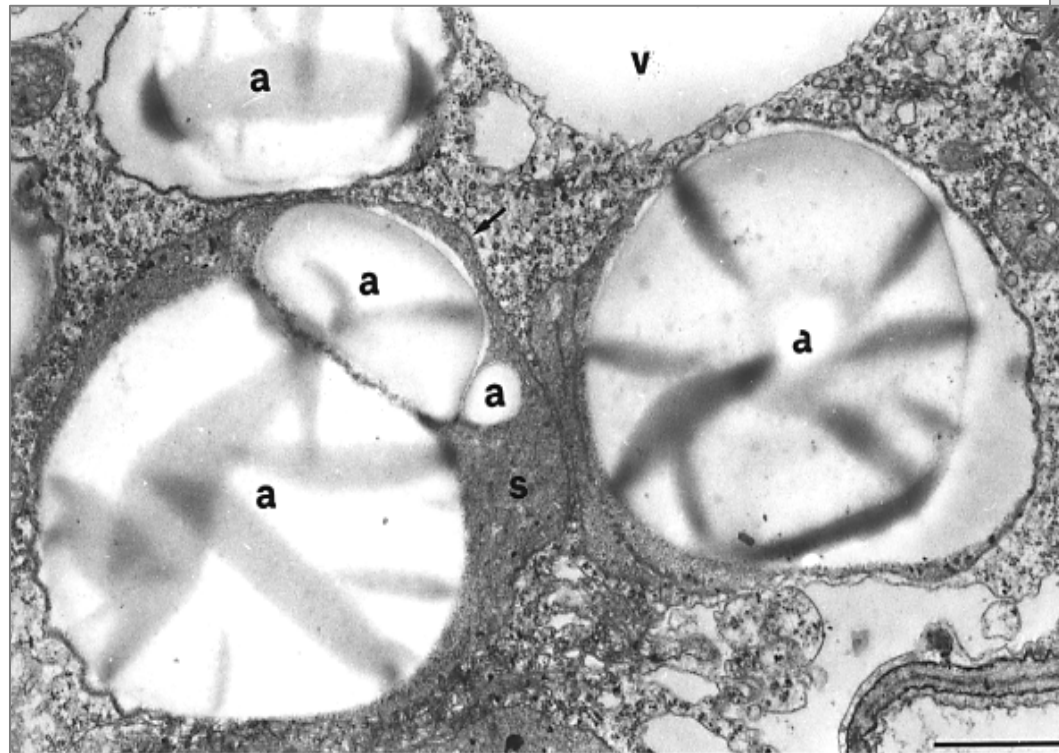


20 μ m

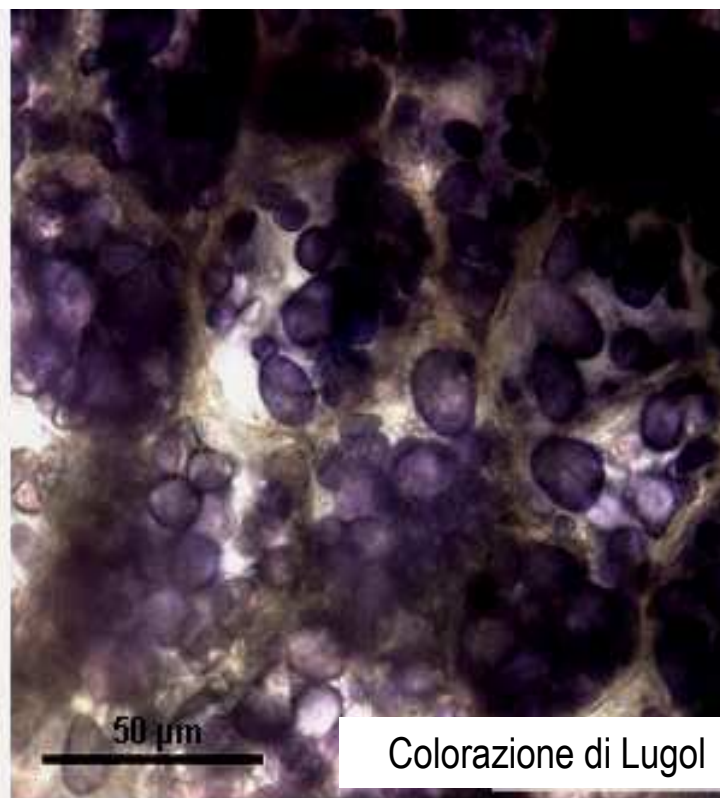
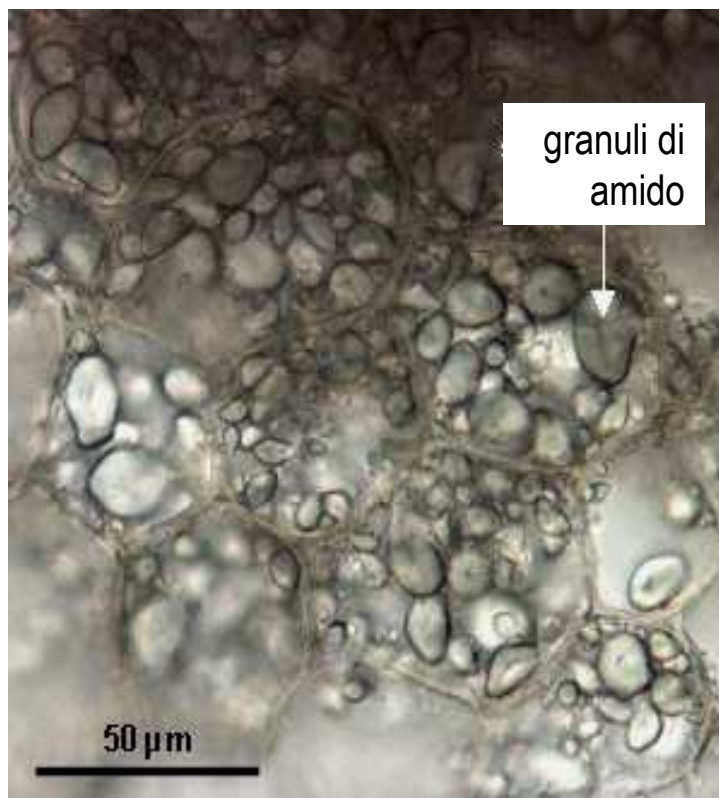
leucoplasti



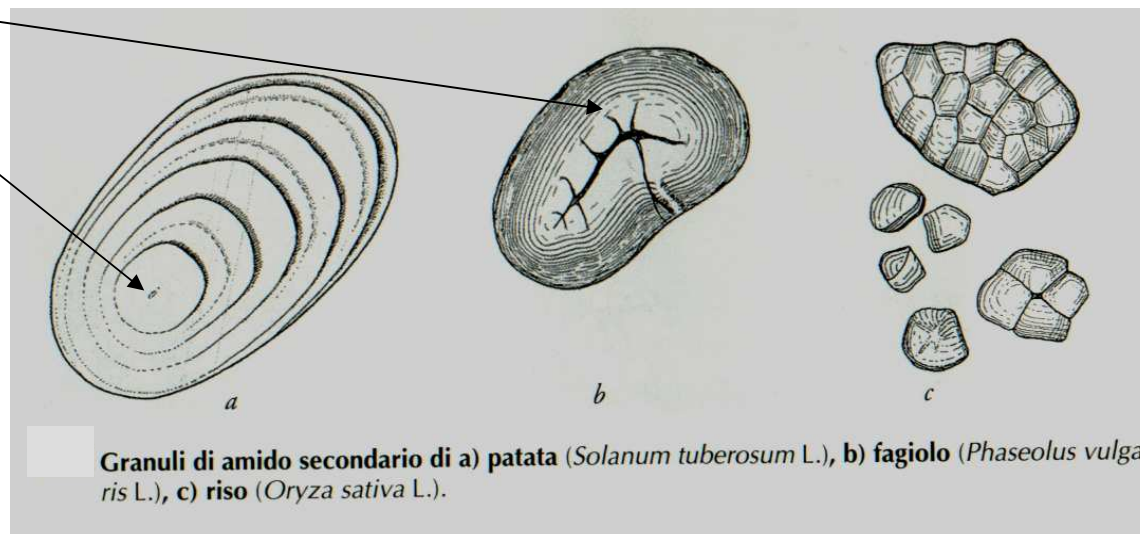
1 μ m



amiloplasti
riserva di amido



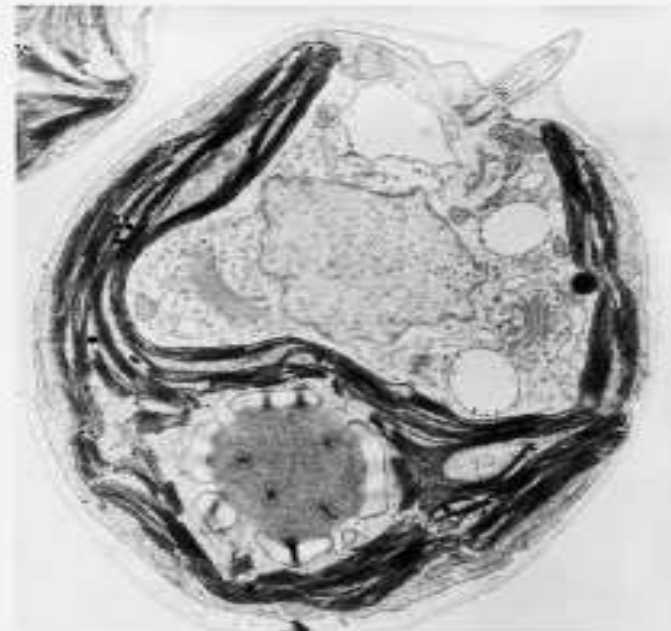
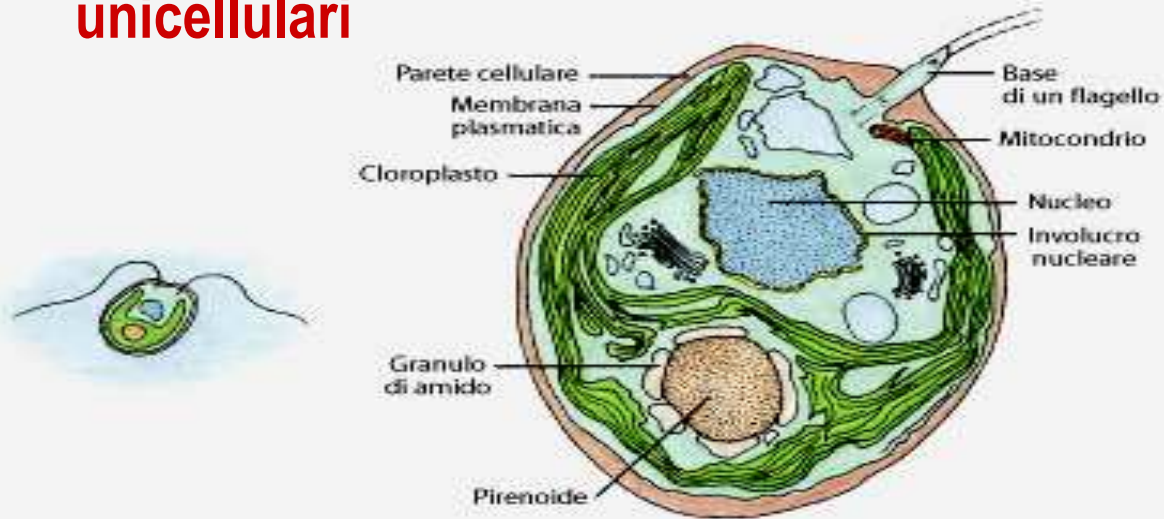
ILO = punto di
inizio deposizione
dell'amido
secondario



TIPI DI PLASTIDI

Amiloplasti	Accumulano amido; sono considerati leucoplasti
Cloroplasti	Svolgono la fotosintesi
Cromoplasti	Contengono grandi quantità di pigmenti lipidici; si trovano nei fiori e nei frutti
Ezioplasti	Uno stadio specifico della trasformazione dei proplastidi in cloroplasti; si formano in tessuti determinati a divenire fotosintetici che crescono in assenza di luce.
Leucoplasti	Plastidi incolori; sintetizzano lipidi ed altre sostanze.
Proplastidi	Plastidi piccoli; indifferenziati

unicellulari



pluricellulari

