



CYTOLOGY

Nucleus, nucleolus

Organelles

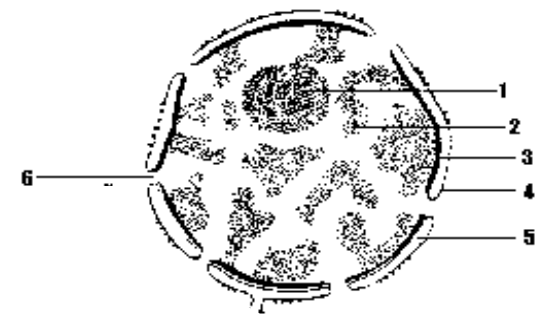
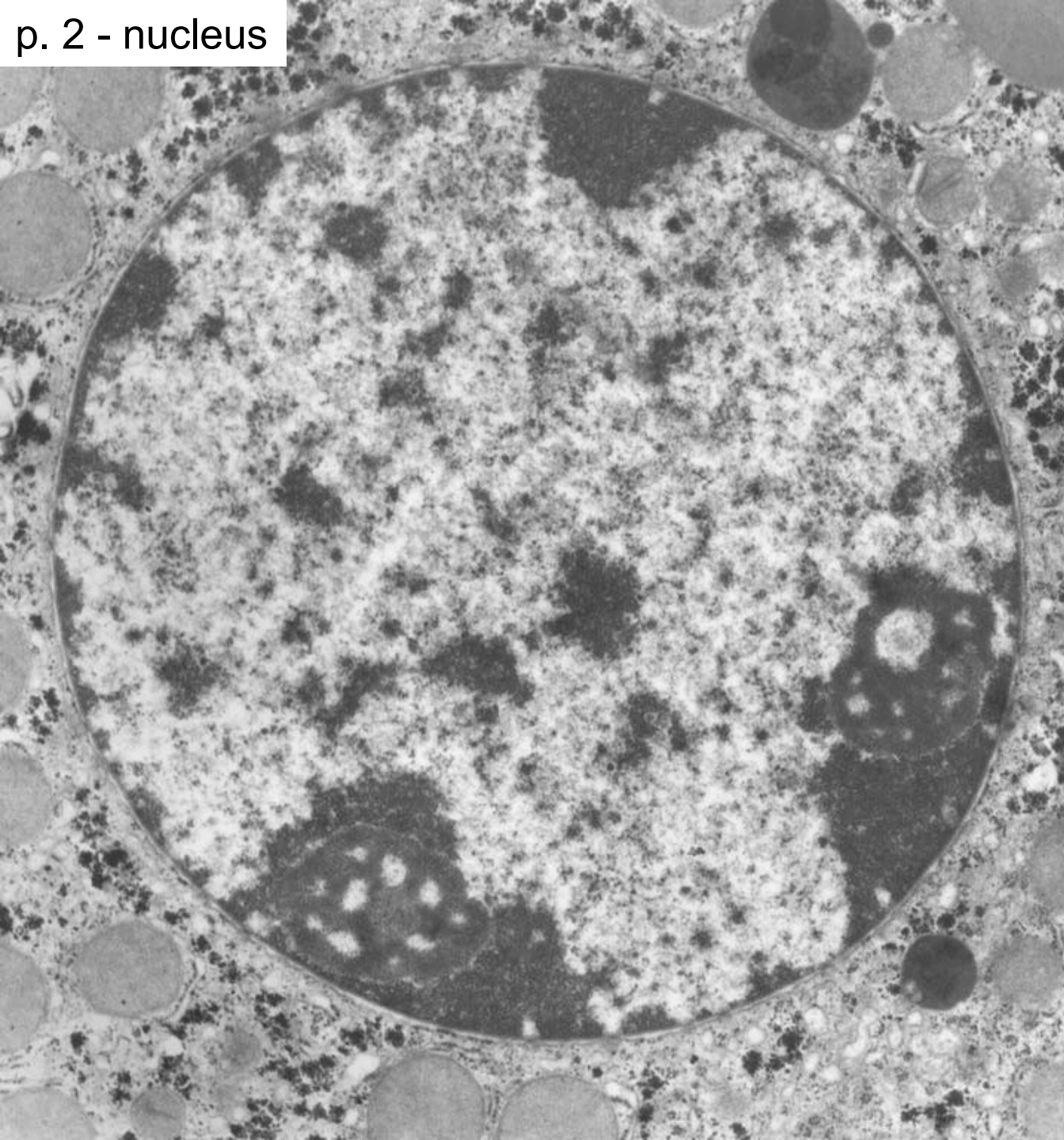
Inclusions

Cytoskeleton

Cell surfaces

Intercellular junctions

p. 2 - nucleus

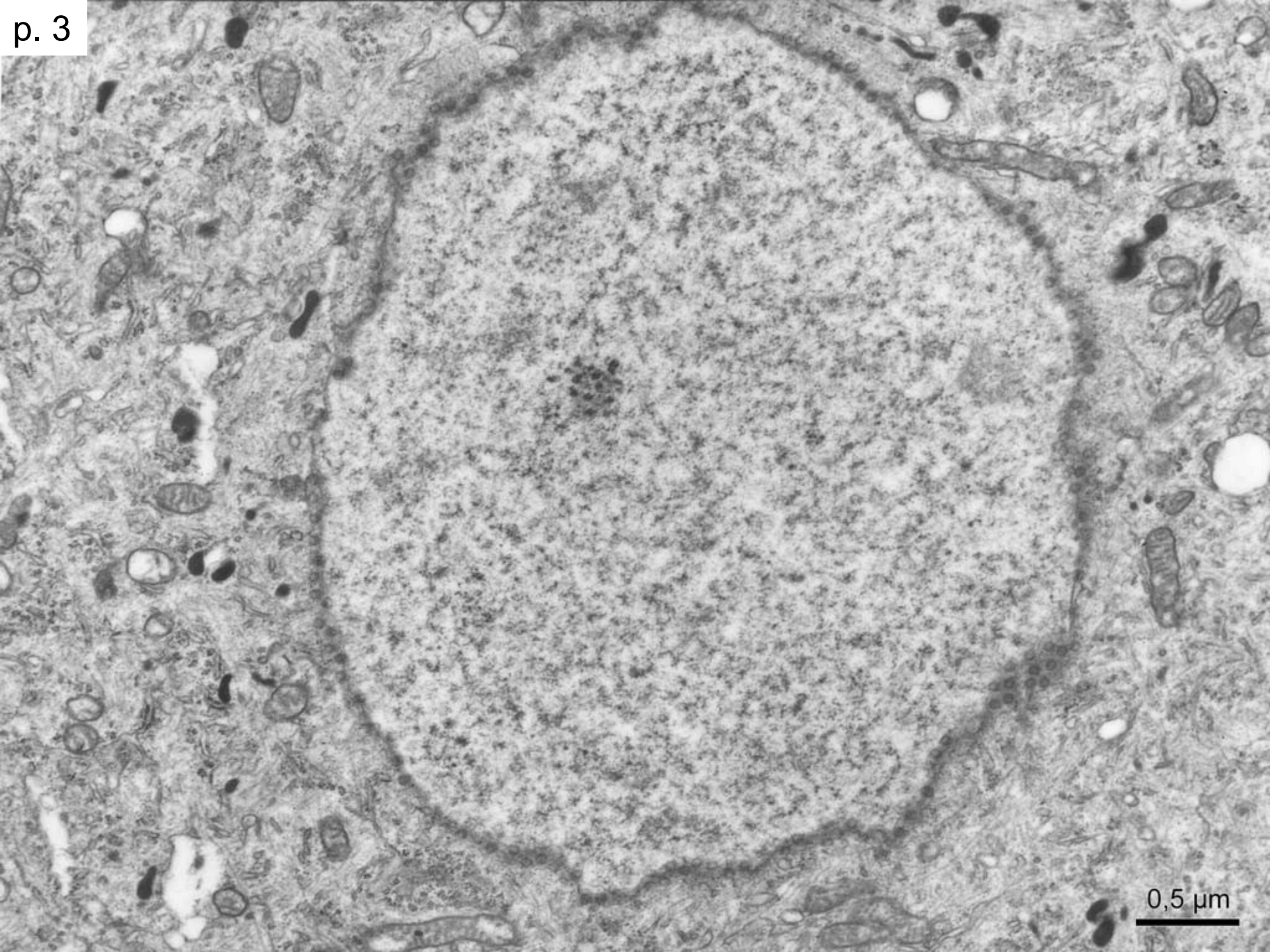


Nuclear envelope:
-outer membrane
-inner membrane
-nuclear pores
-perinuclear space

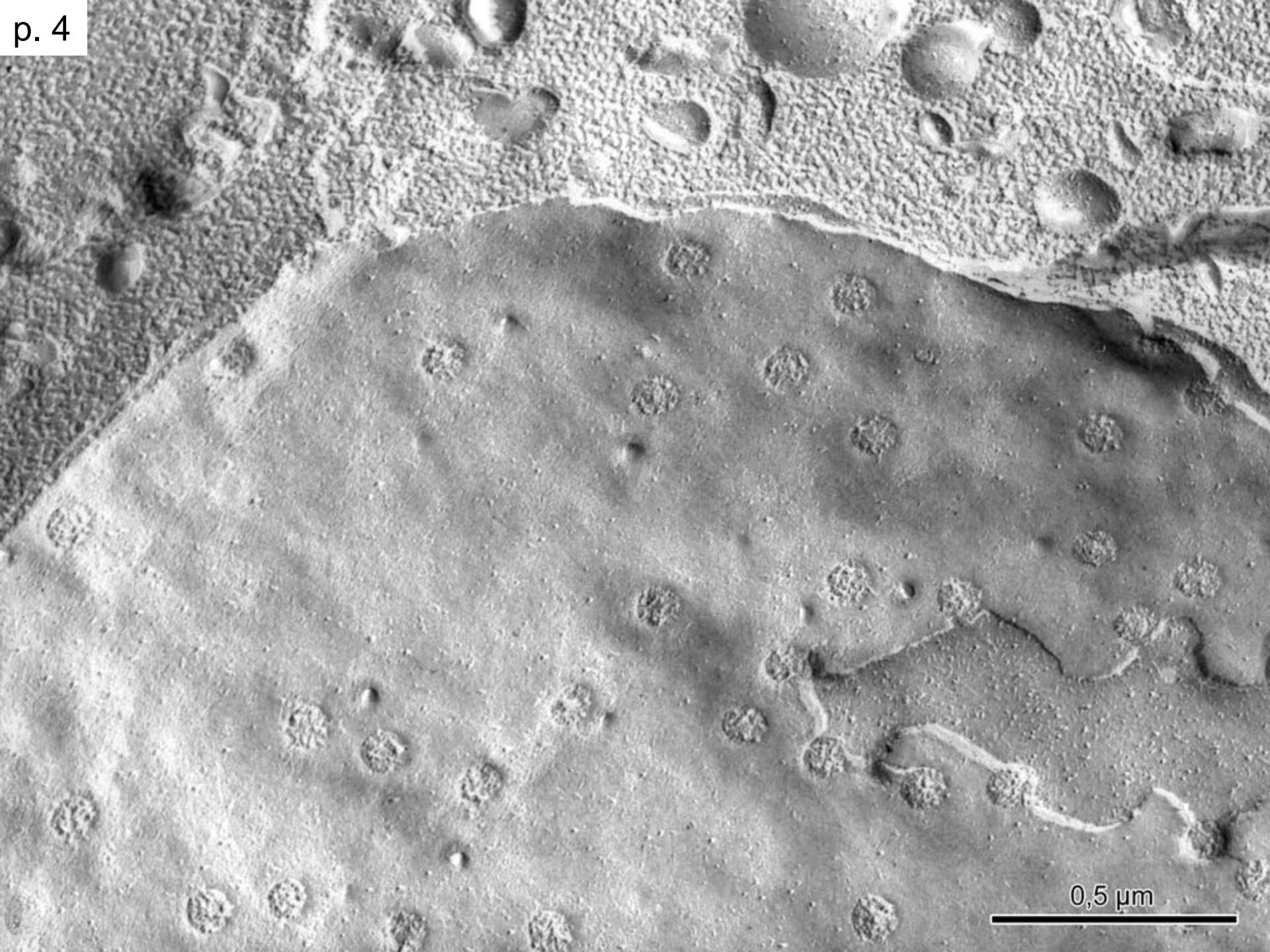
Chromatin:
-heterochromatin
-euchromatin

Nucleolus

1 μm

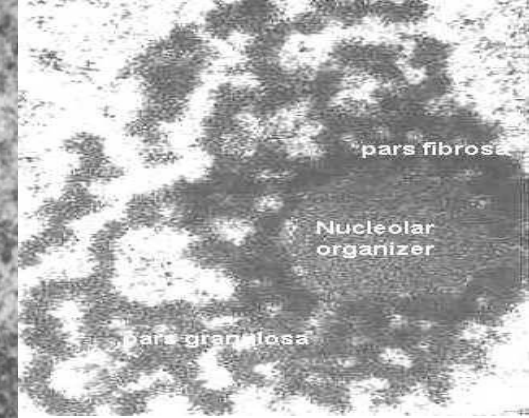
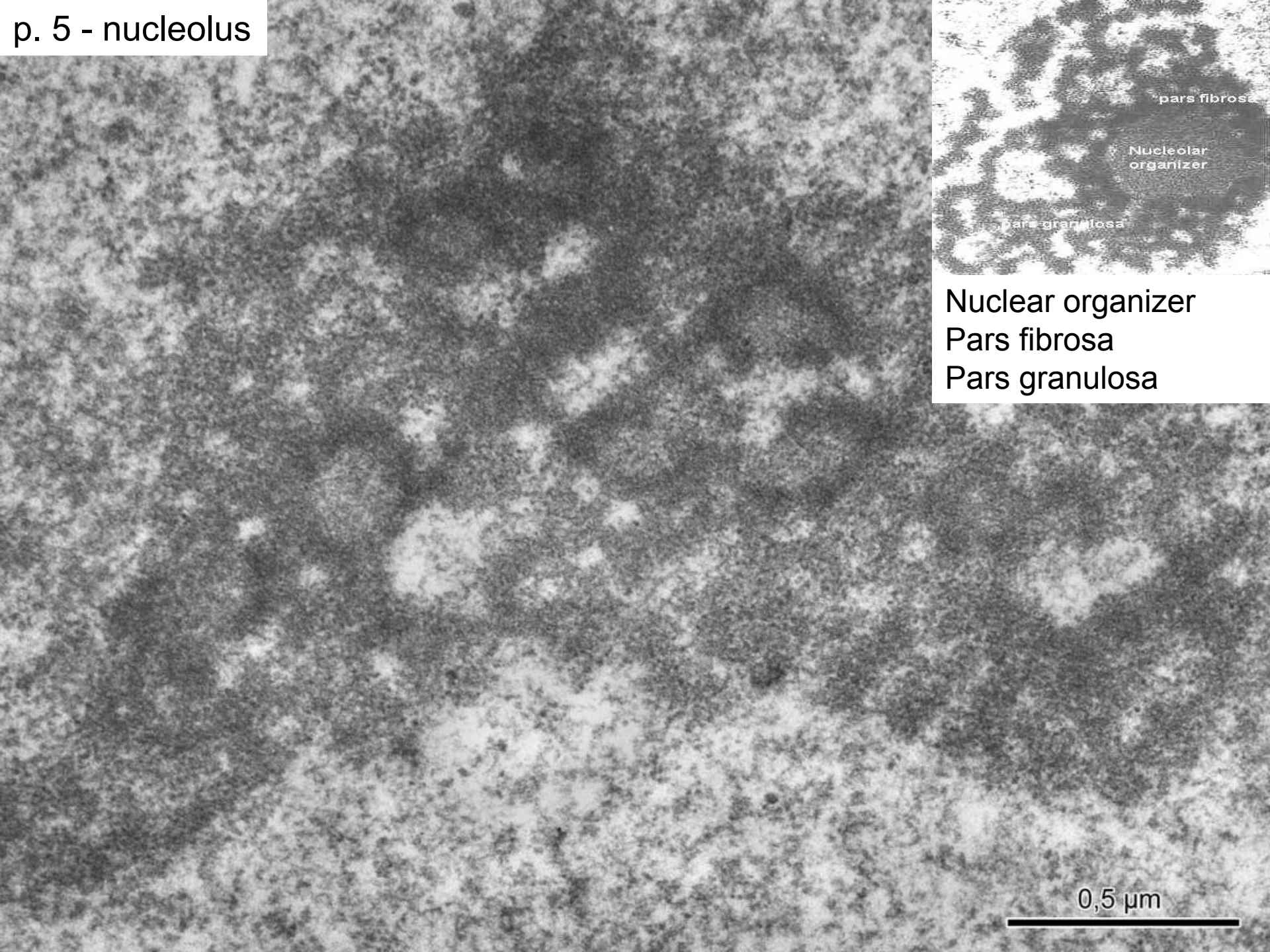


0,5 μm



0,5 μm

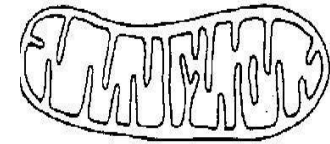
p. 5 - nucleolus



Nuclear organizer
Pars fibrosa
Pars granulosa

0,5 μ m





Membranes:

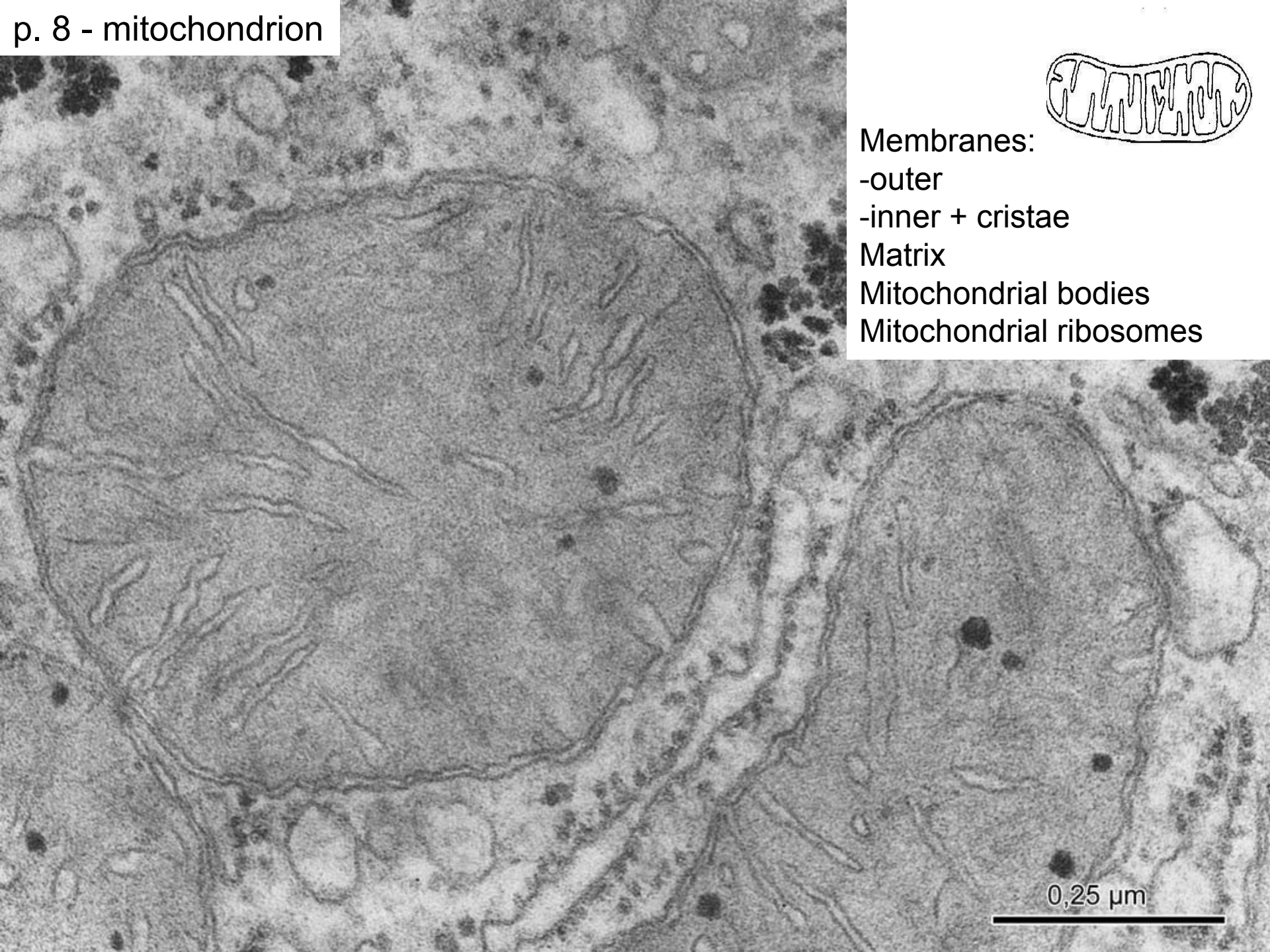
-outer

-inner + cristae

Matrix

Mitochondrial bodies

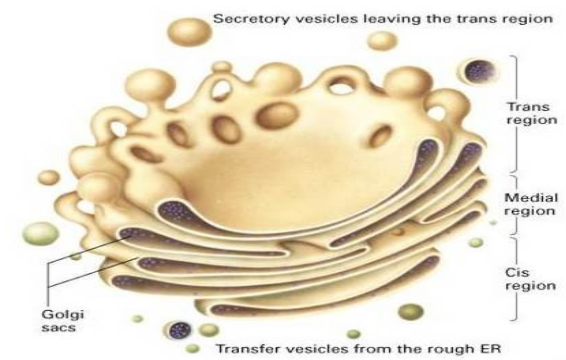
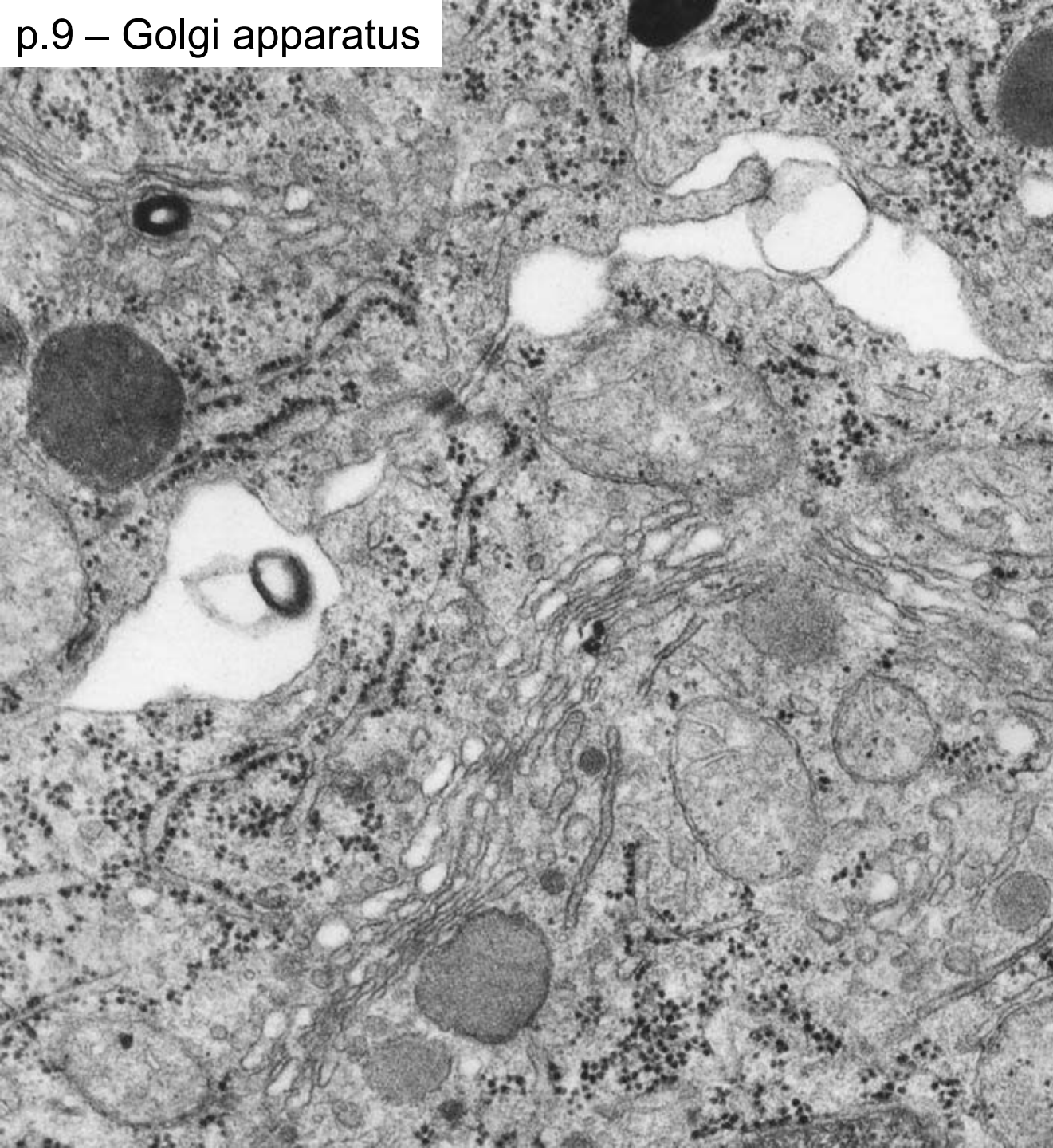
Mitochondrial ribosomes



0,25 μm



p.9 – Golgi apparatus



Cisternae

Vesicles

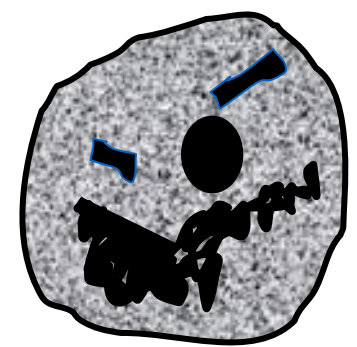
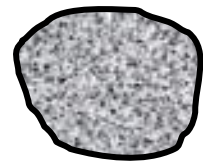
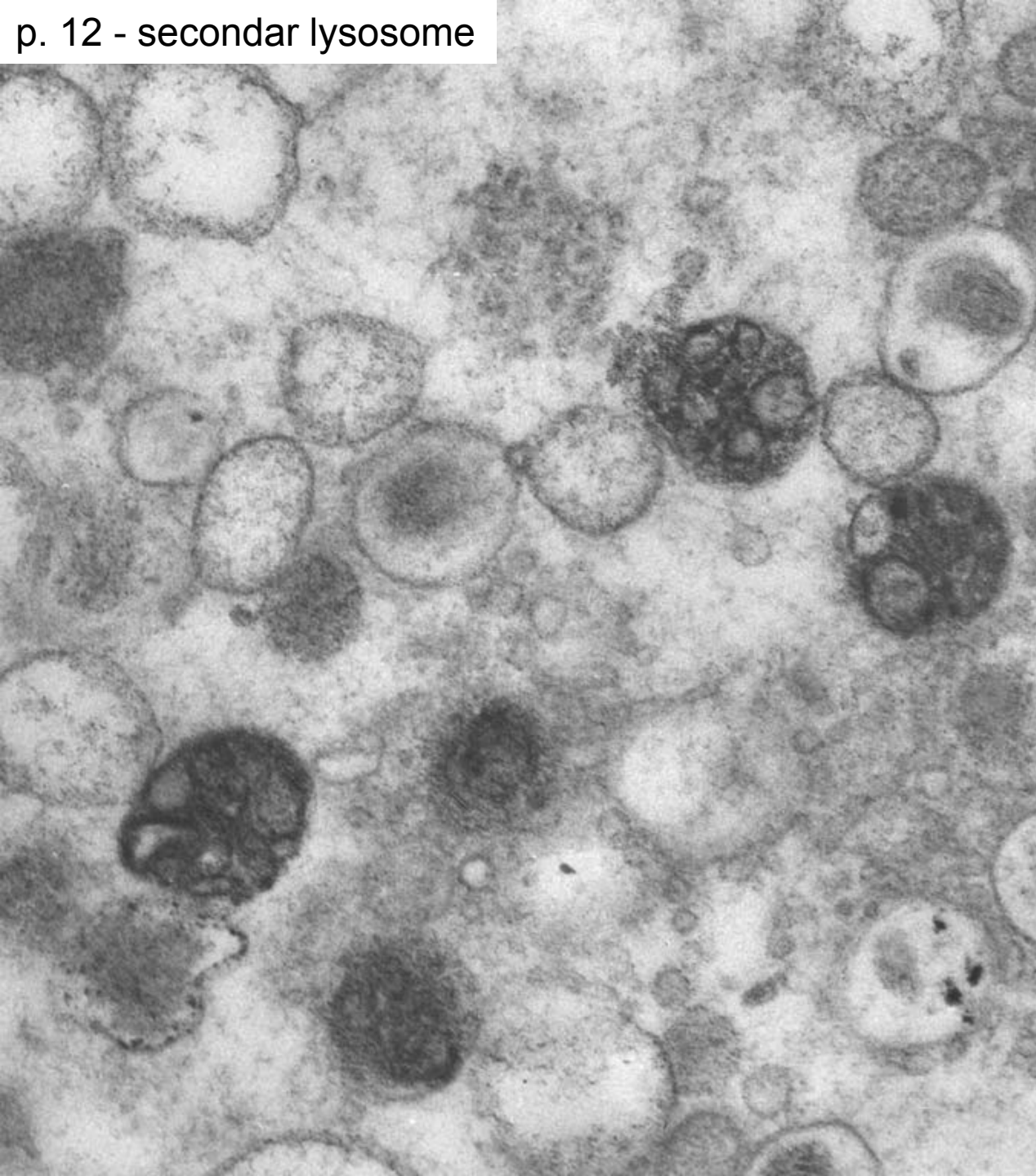
Vacuoles

Cis face

Trans face


0,5 μm



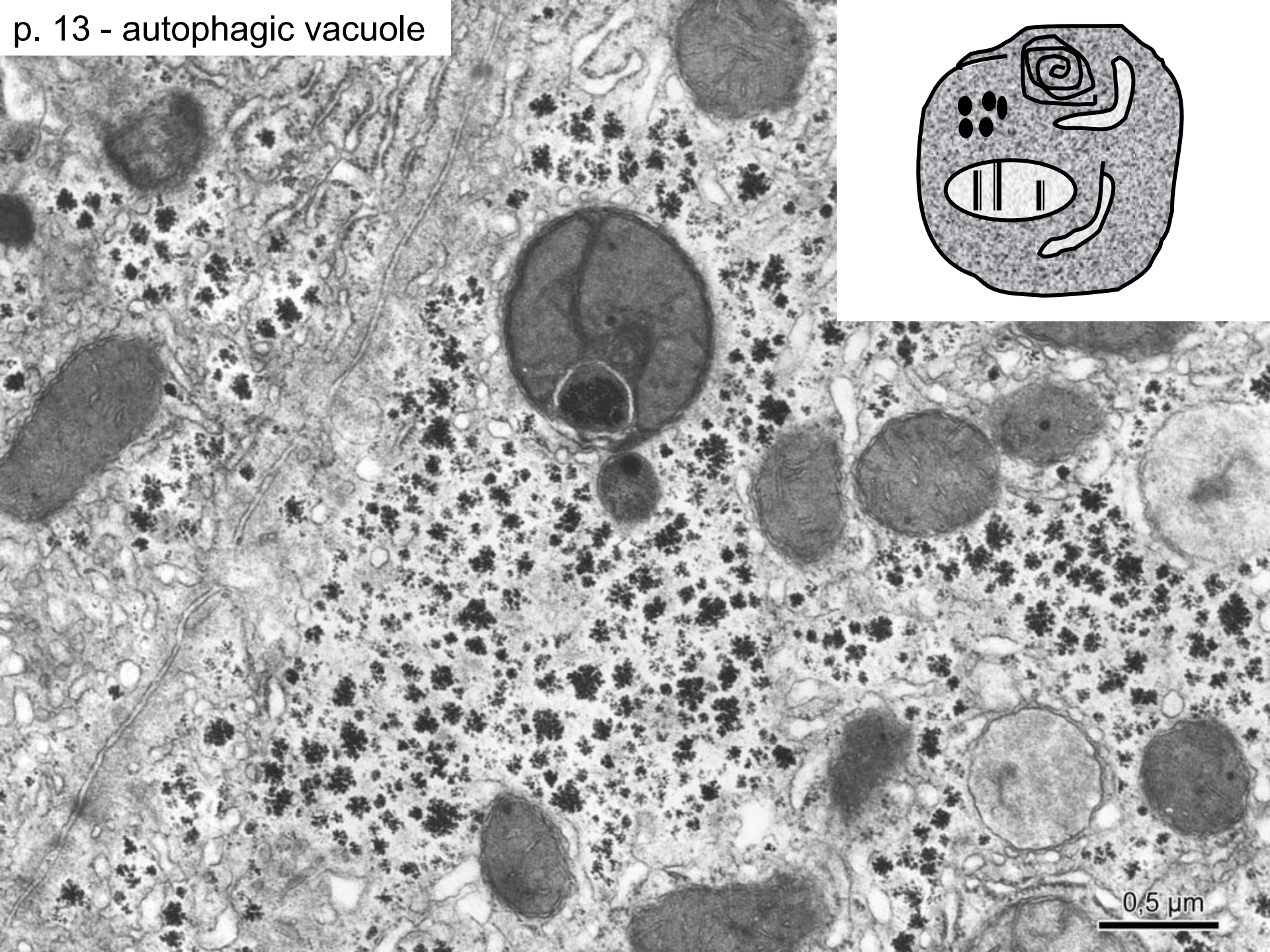


- Lysosomes
- primary
- secondary – phagosomes
– autophagic vacuoles
- residual bodies

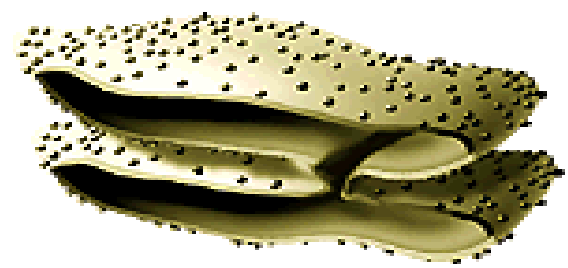
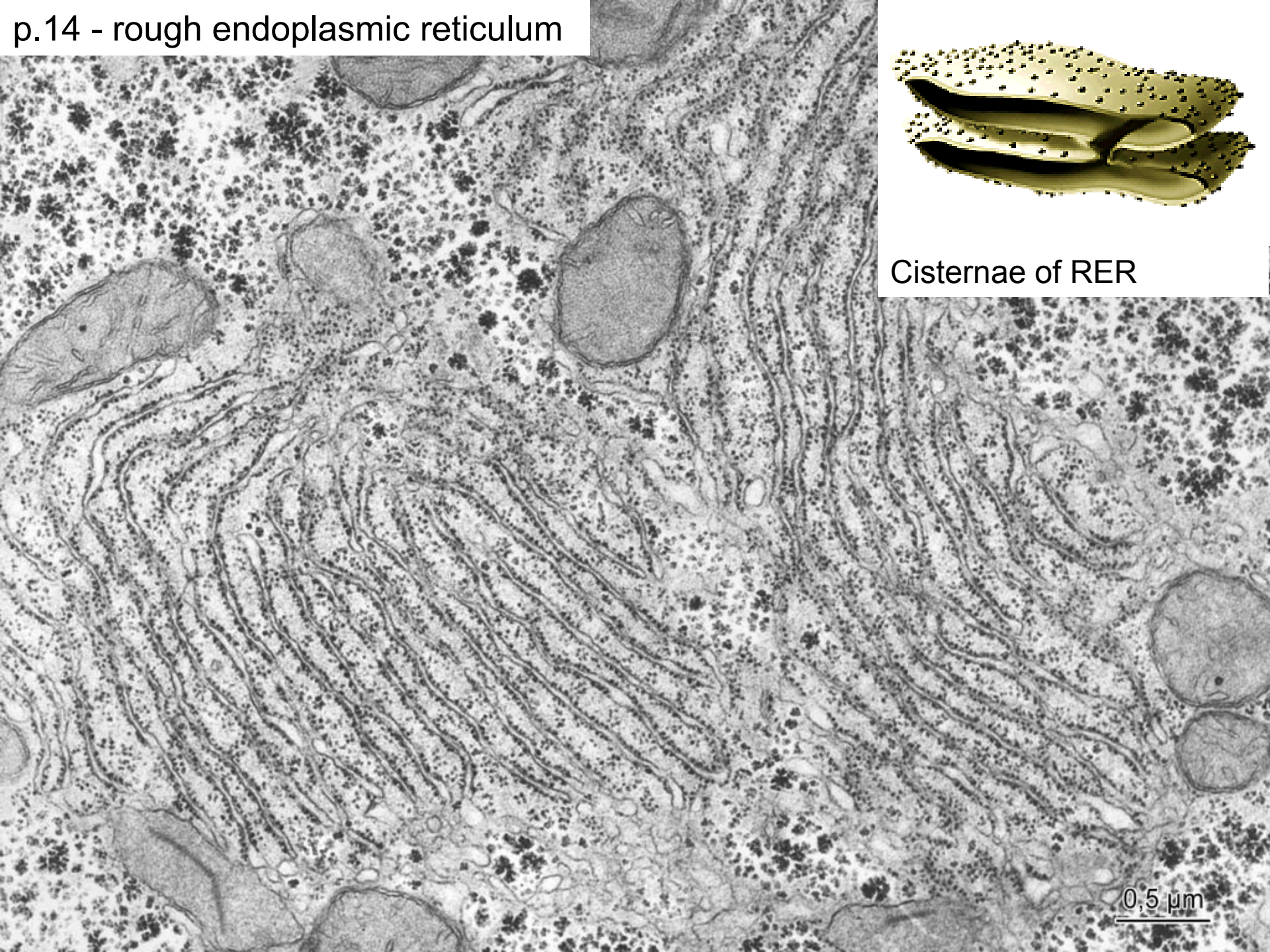
0,5 μ m



p. 13 - autophagic vacuole



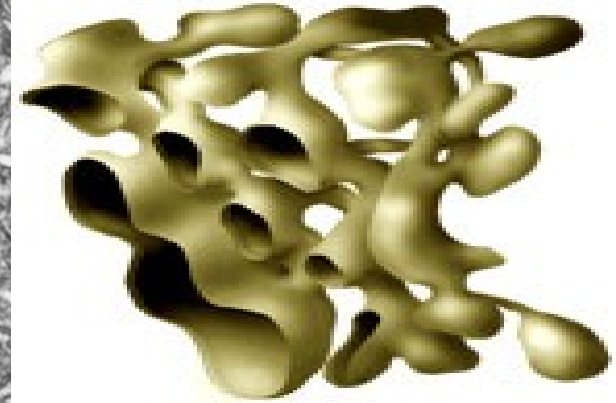
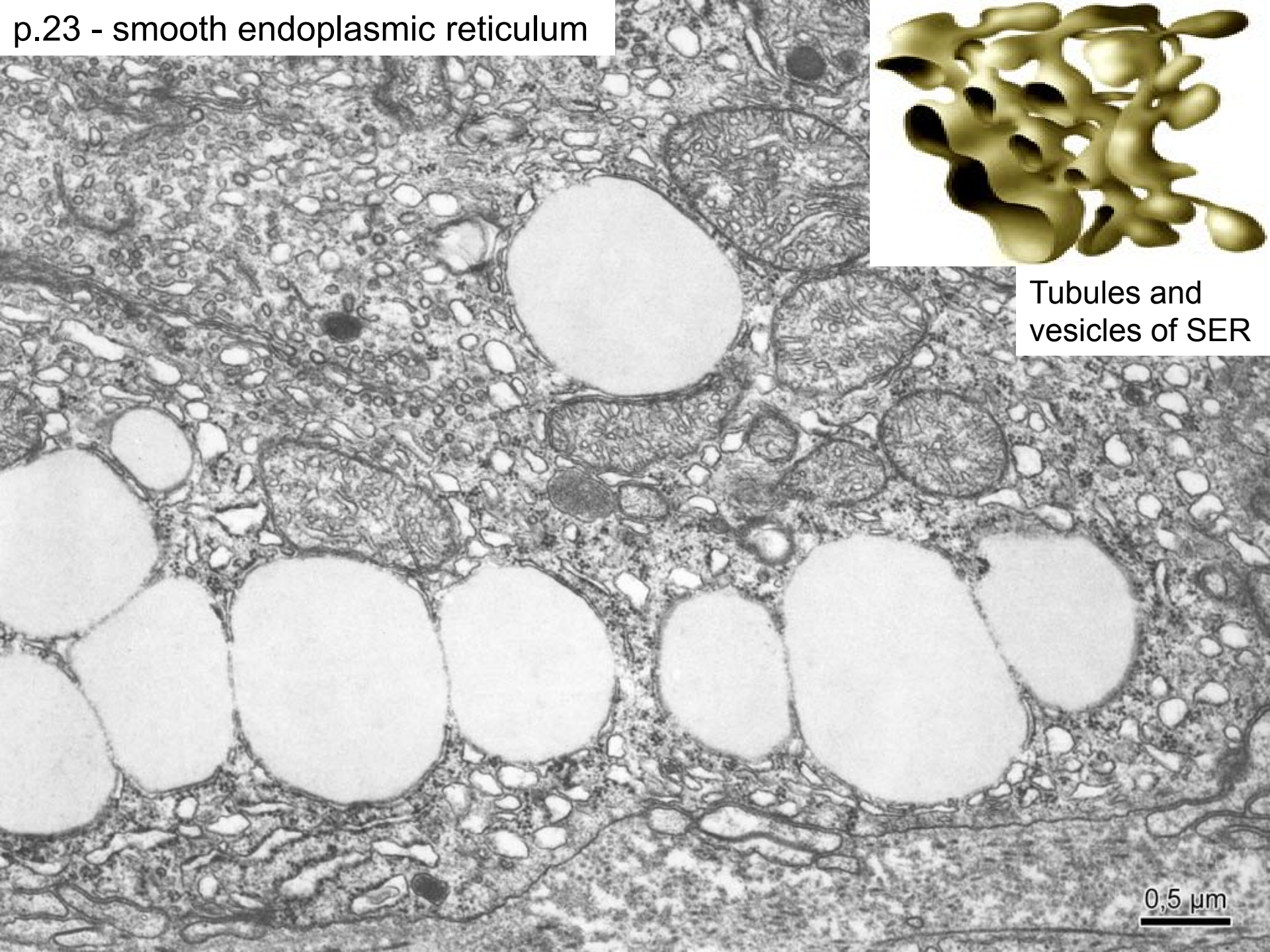
p.14 - rough endoplasmic reticulum



Cisternae of RER

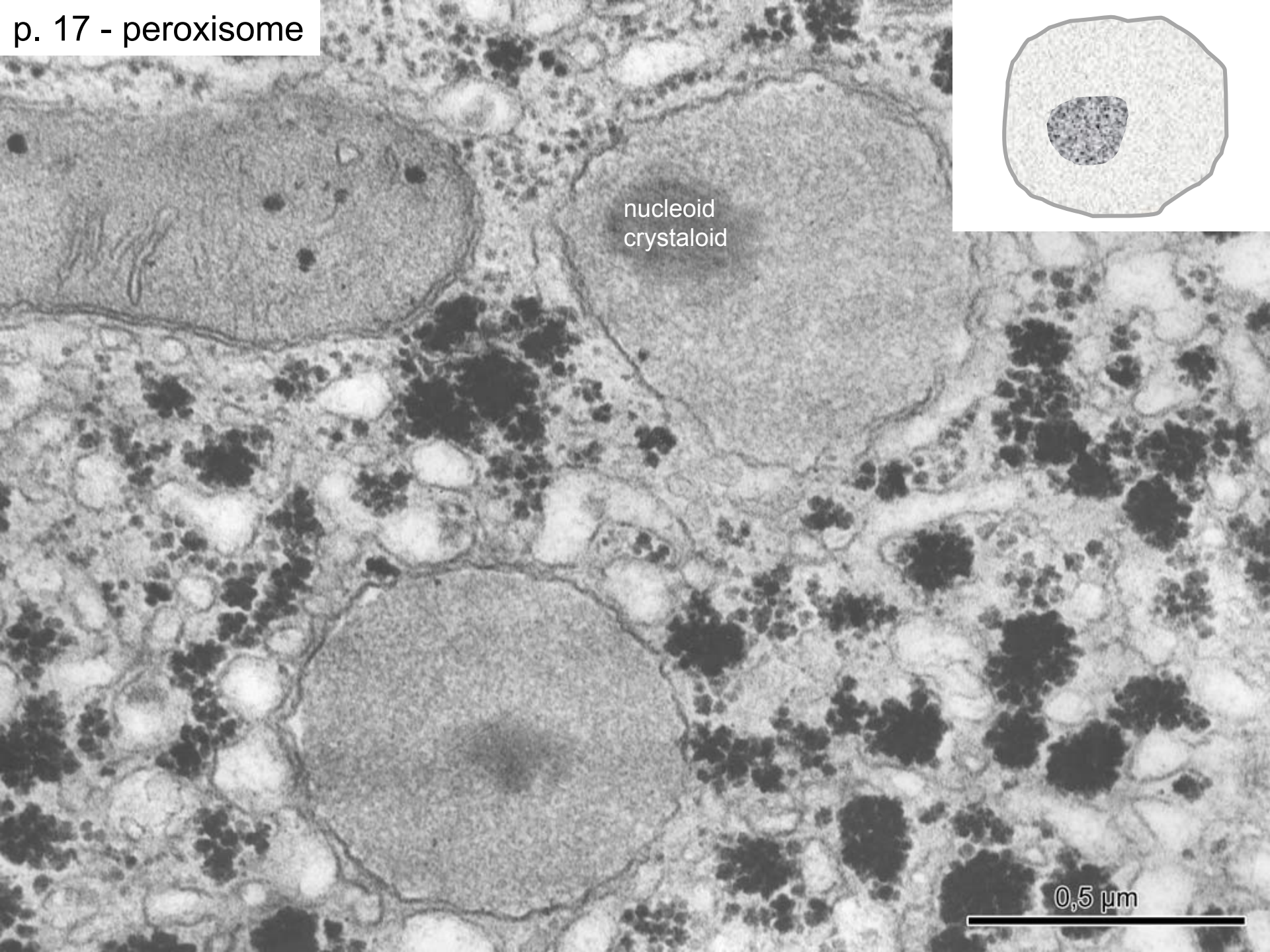
0,5 μ m

p.23 - smooth endoplasmic reticulum

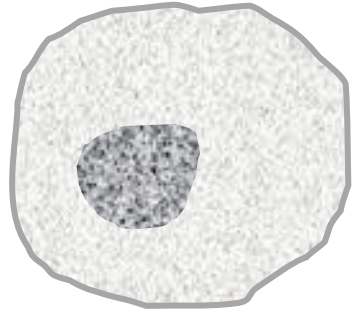


Tubules and vesicles of SER

0,5 μ m



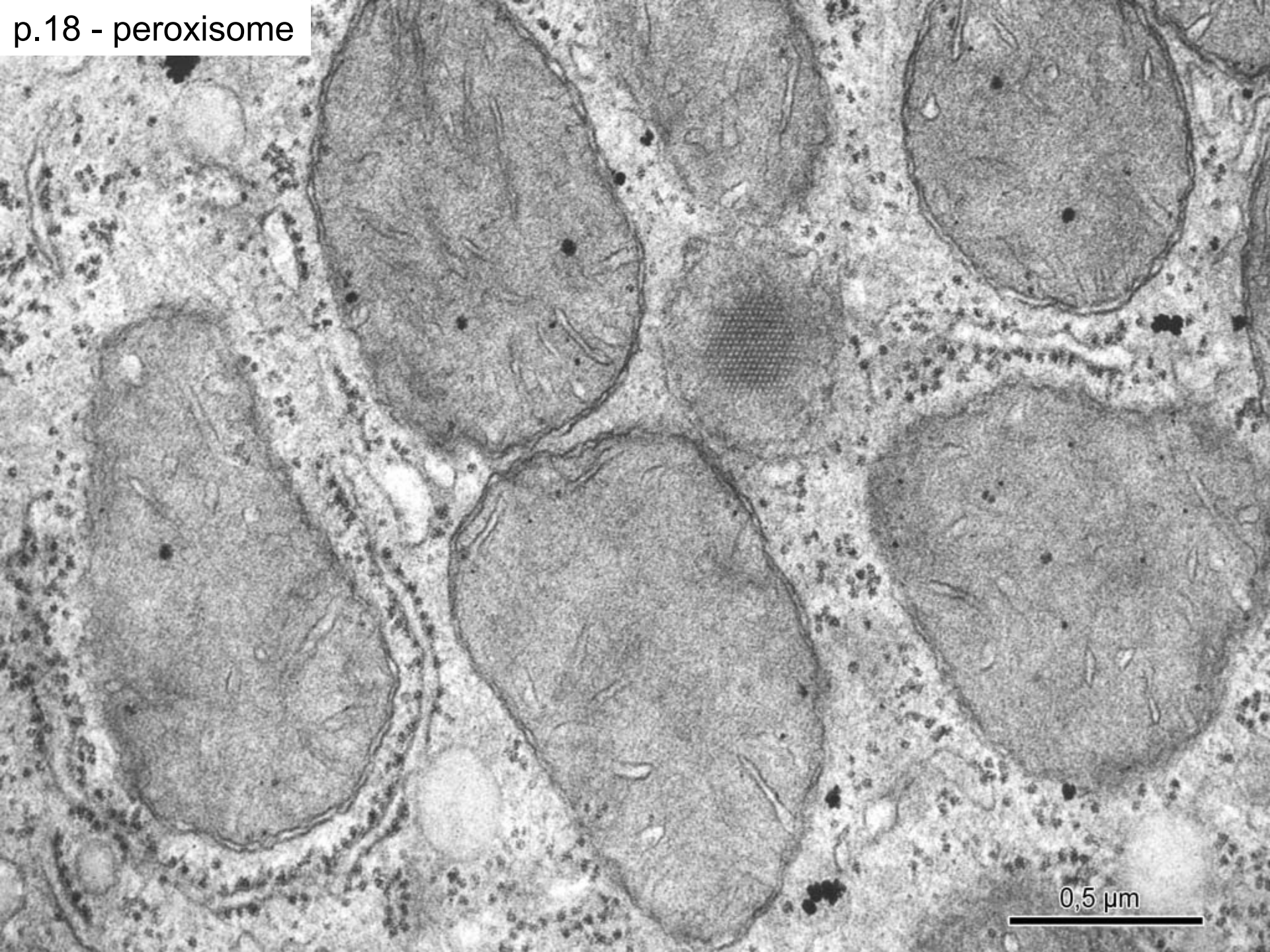
nucleoid
crystalloid



0,5 μm

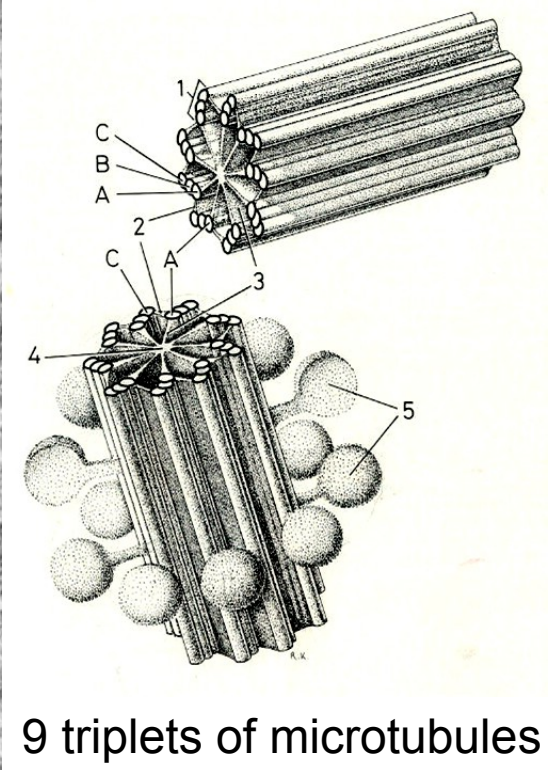
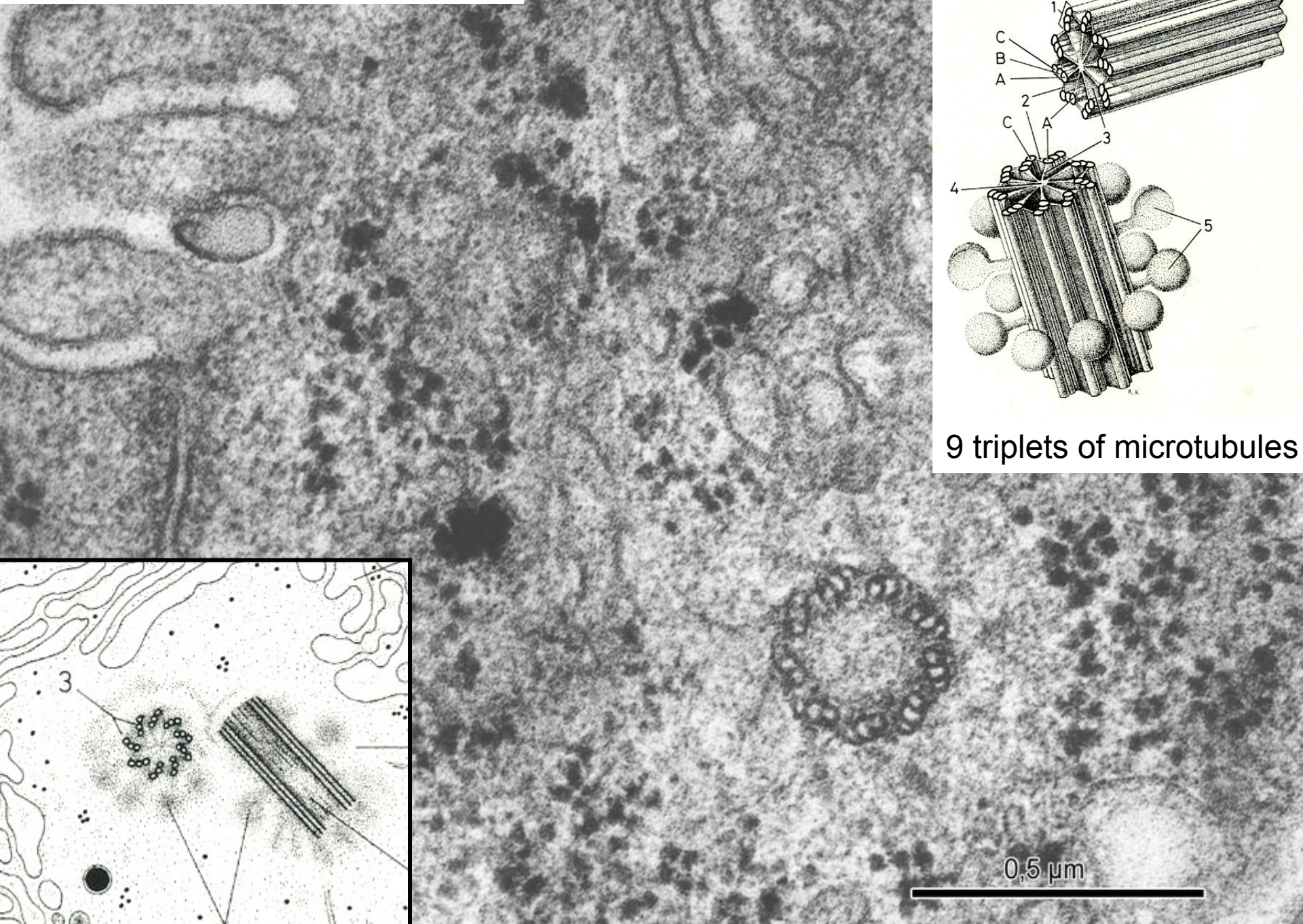


p.18 - peroxisome

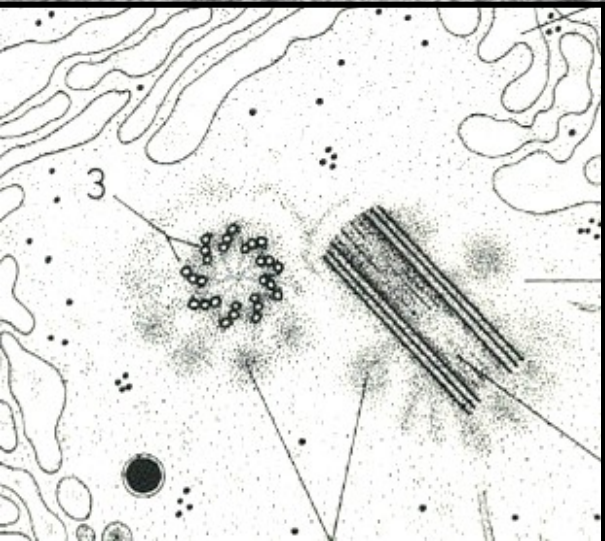


0,5 μ m

p.20 – centriole (cross section)



9 triplets of microtubules



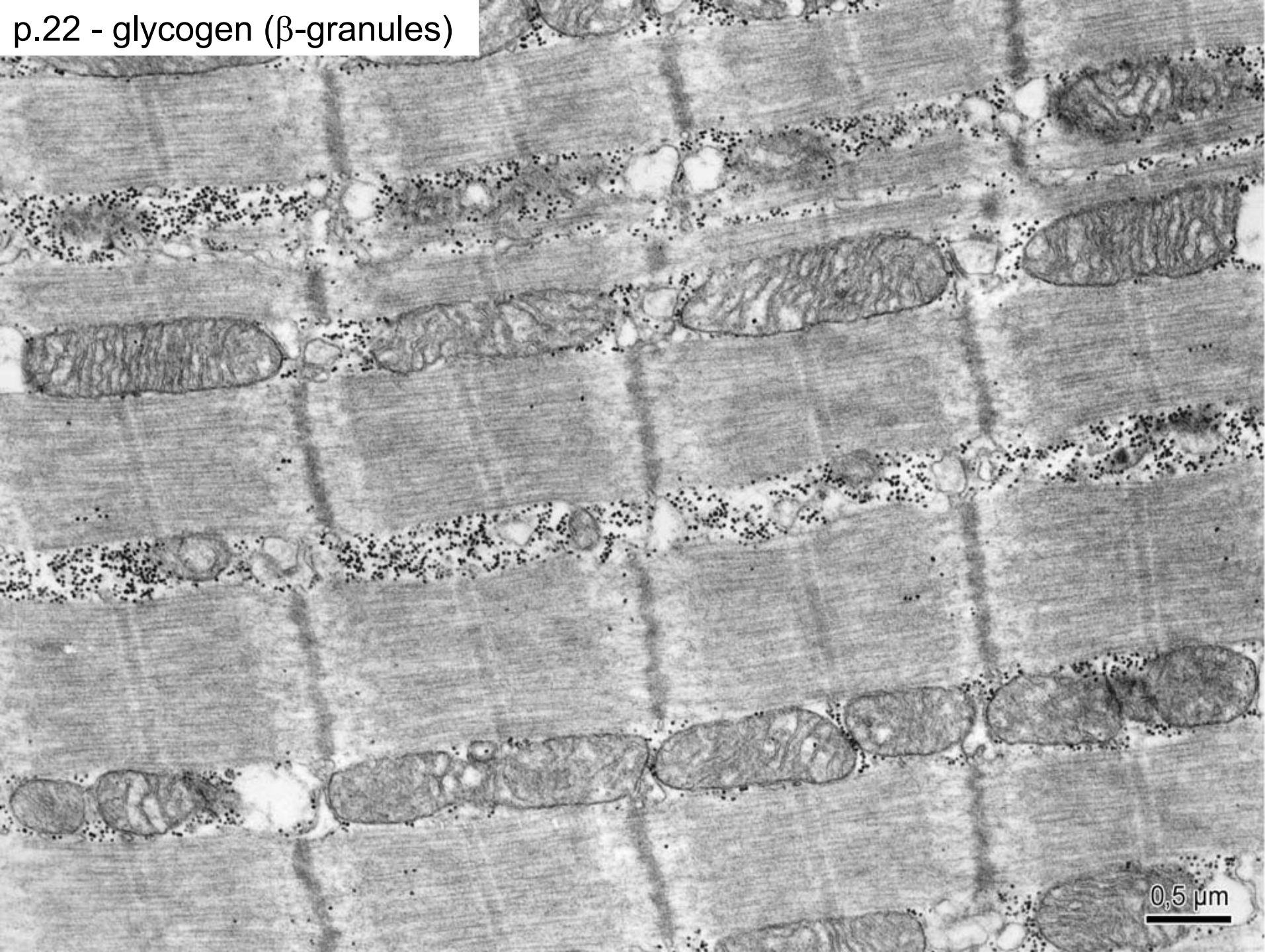
0,5 μm

p.21 – centriole (*longit. section*)



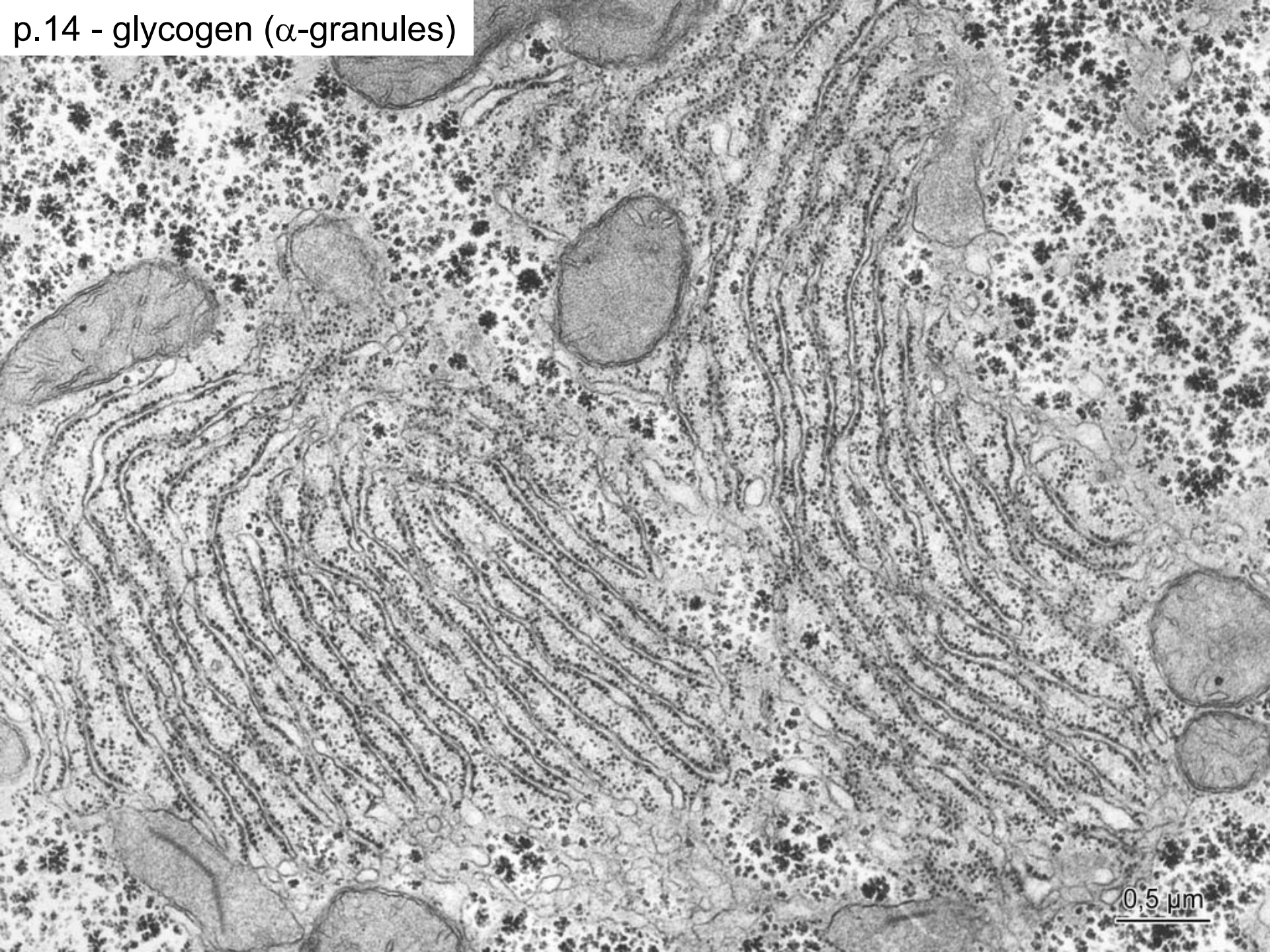
0,5 μm

p.22 - glycogen (β -granules)



0,5 μm

p.14 - glycogen (α -granules)



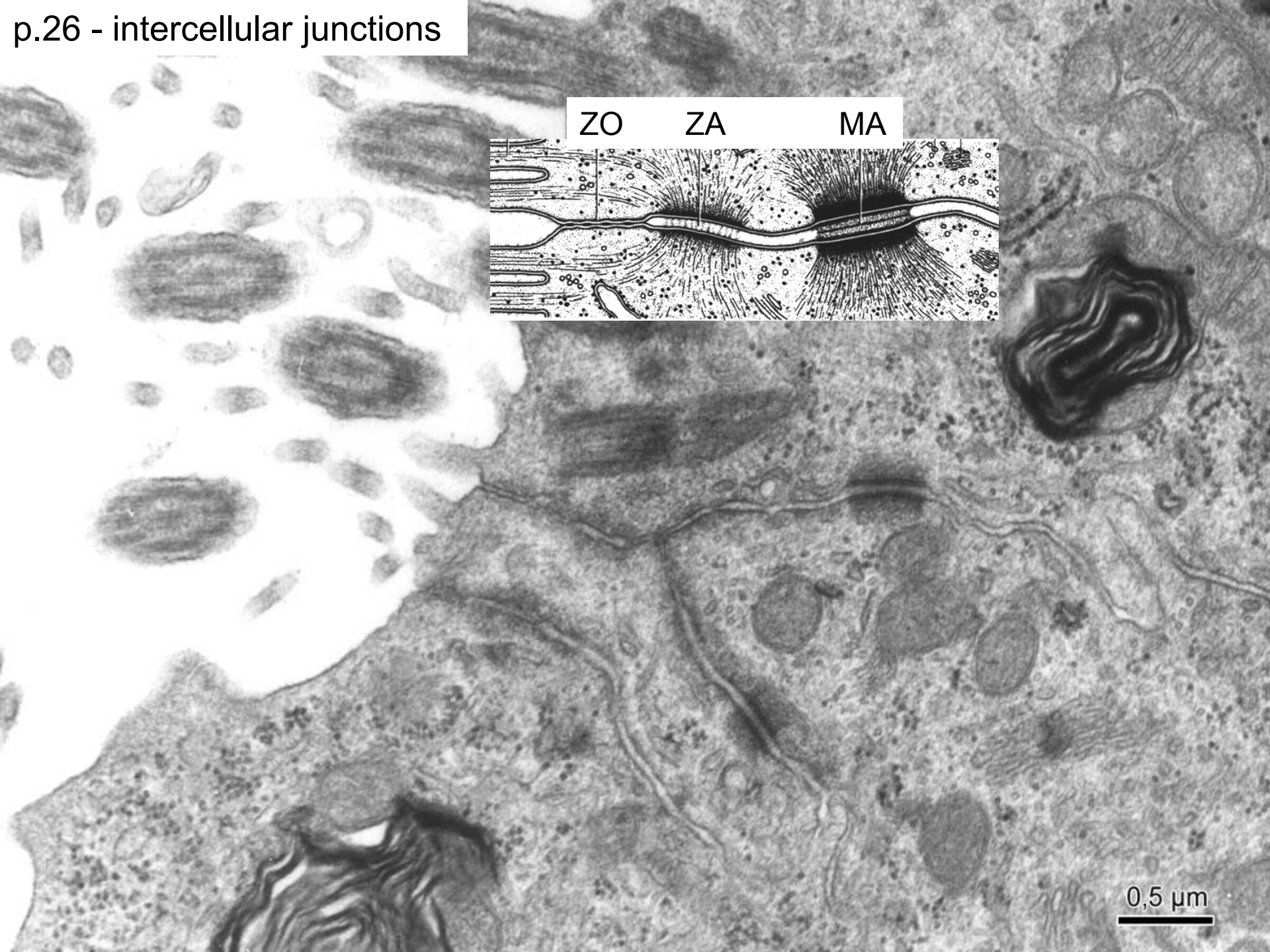
0,5 μ m

p.23 - lipid droplets



0,5 μ m

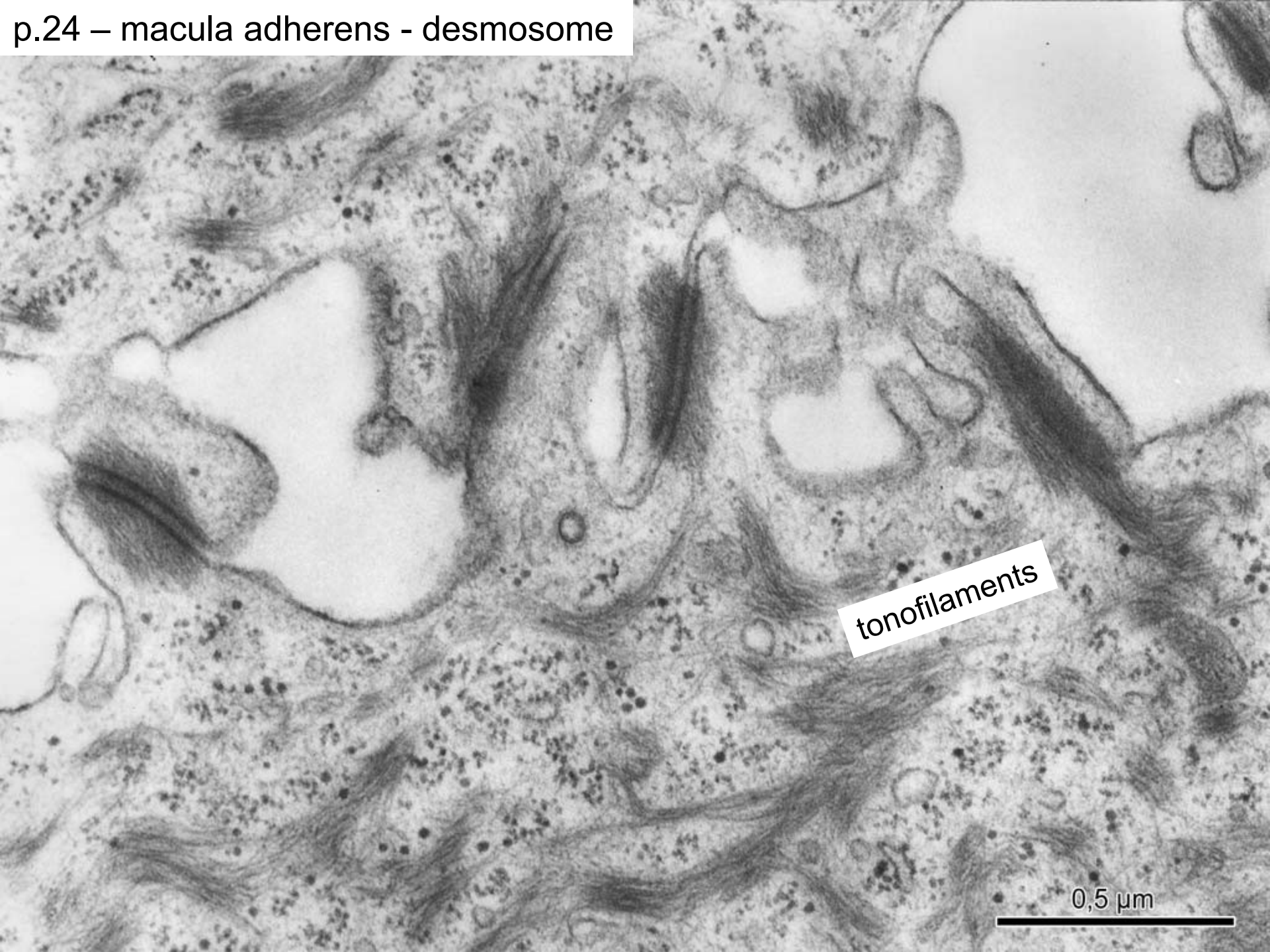
p.26 - intercellular junctions



ZO ZA MA

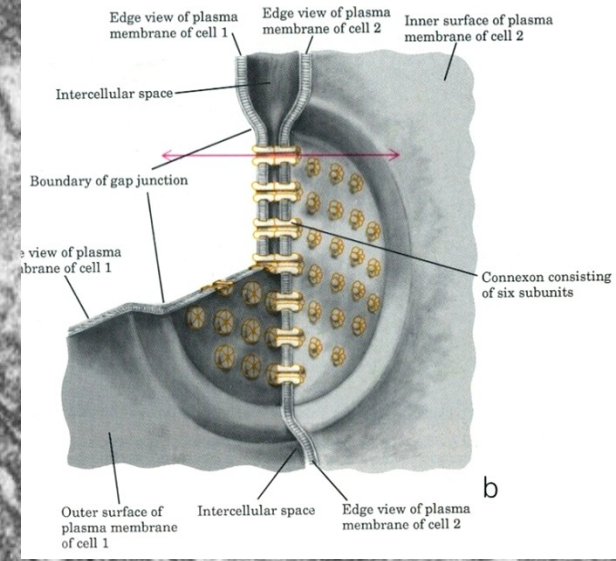
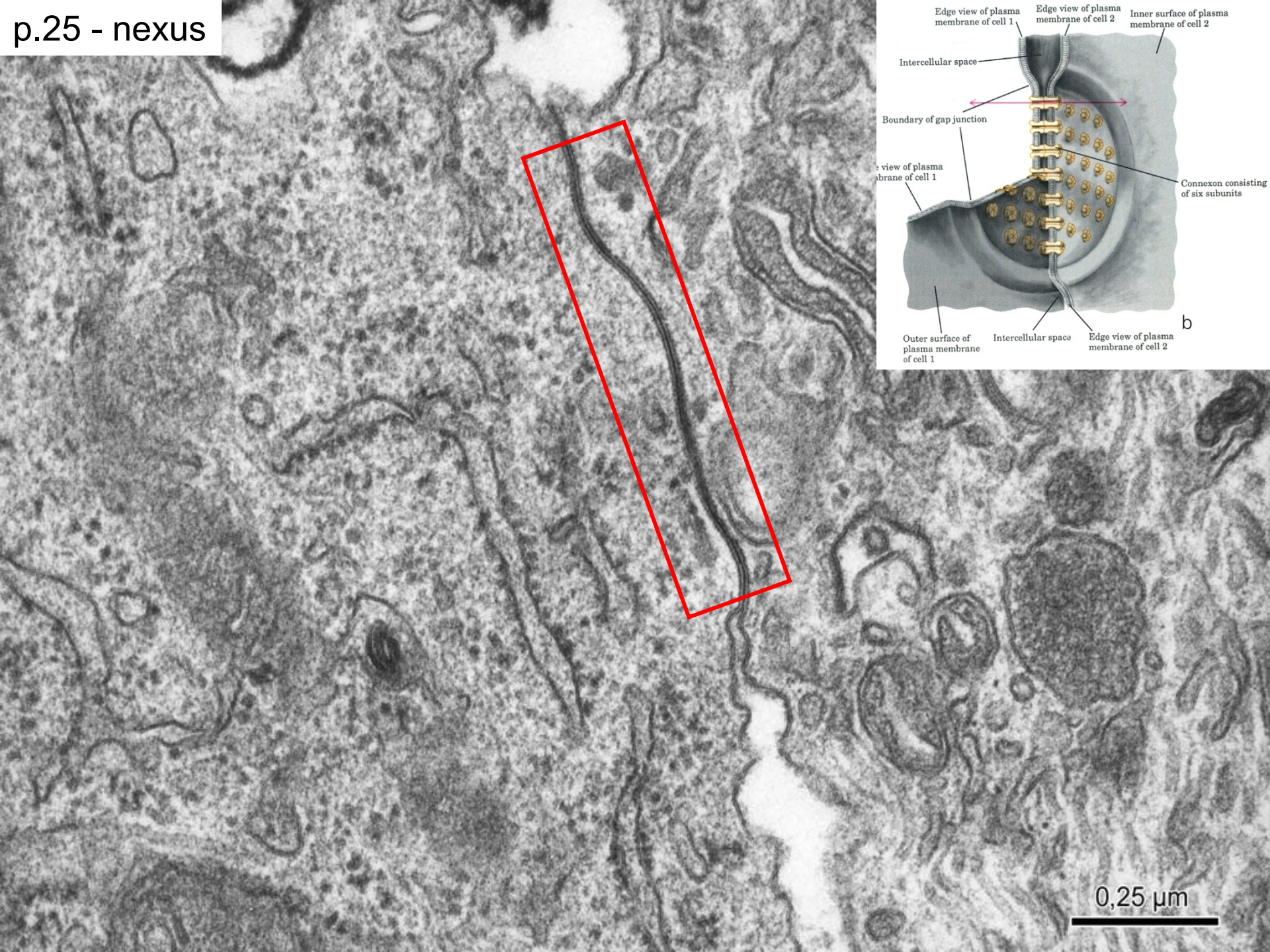
0,5 μ m

p.24 – macula adherens - desmosome

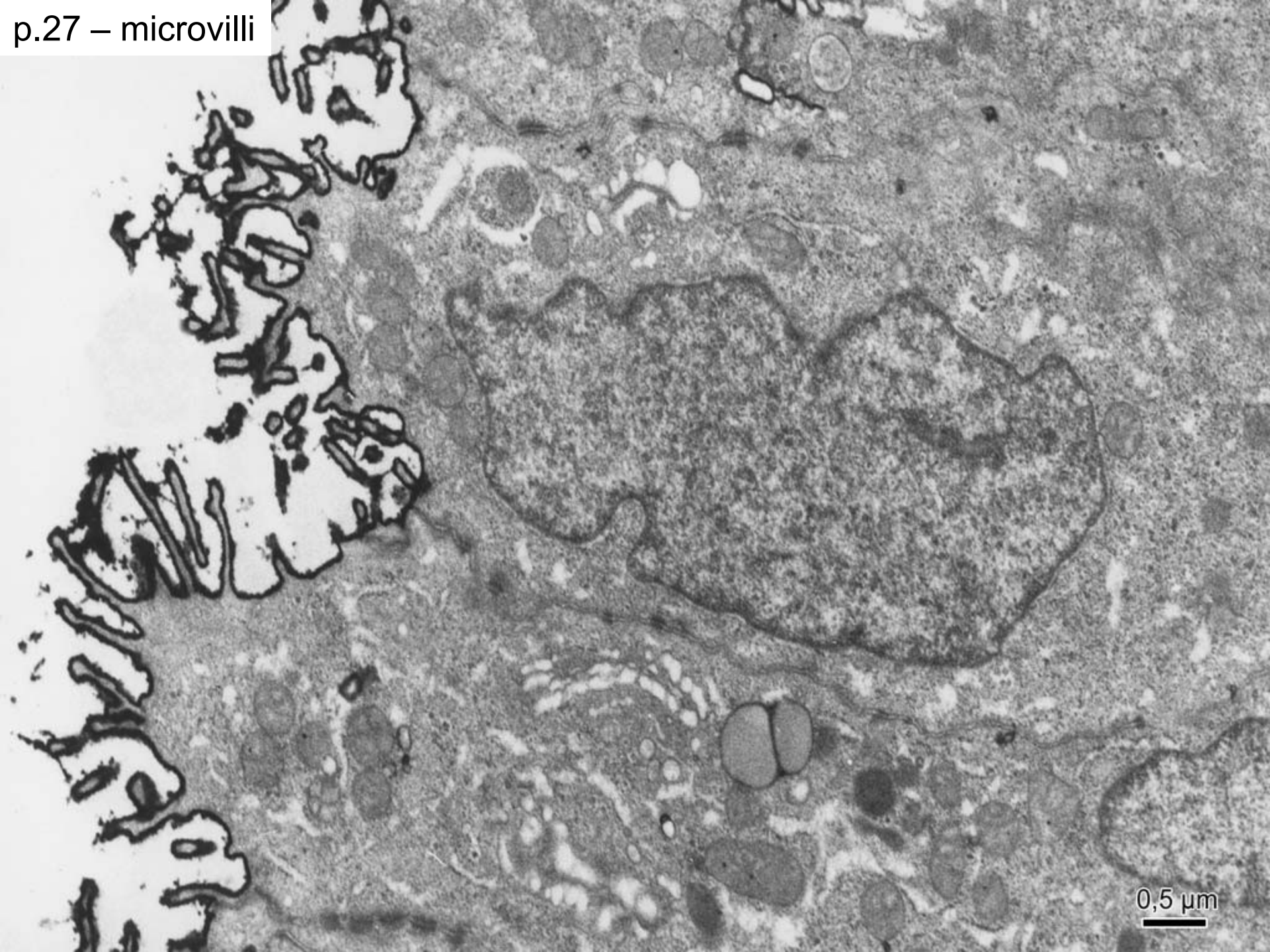


tonofilaments

0,5 μ m

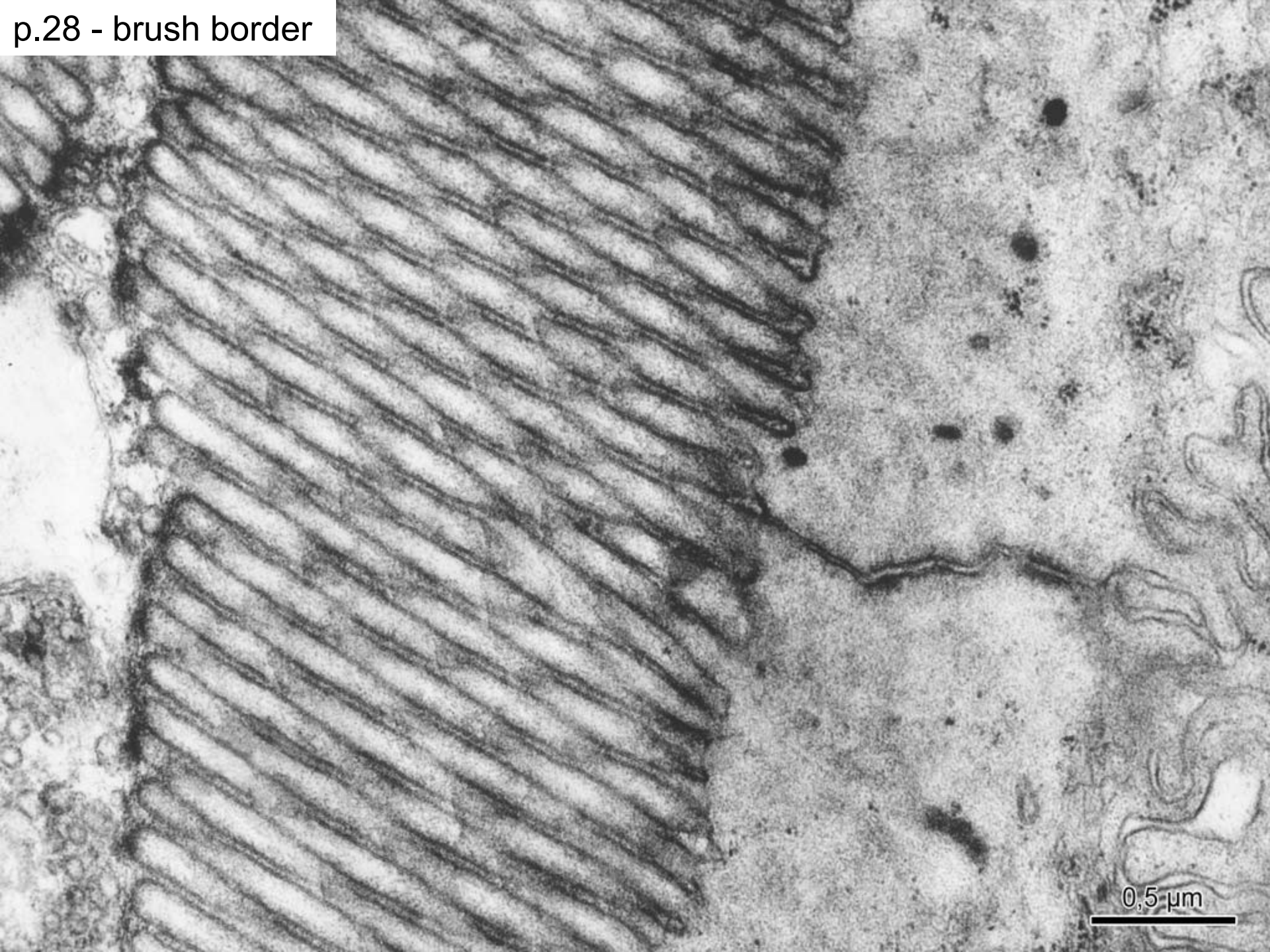


0,25 μ m

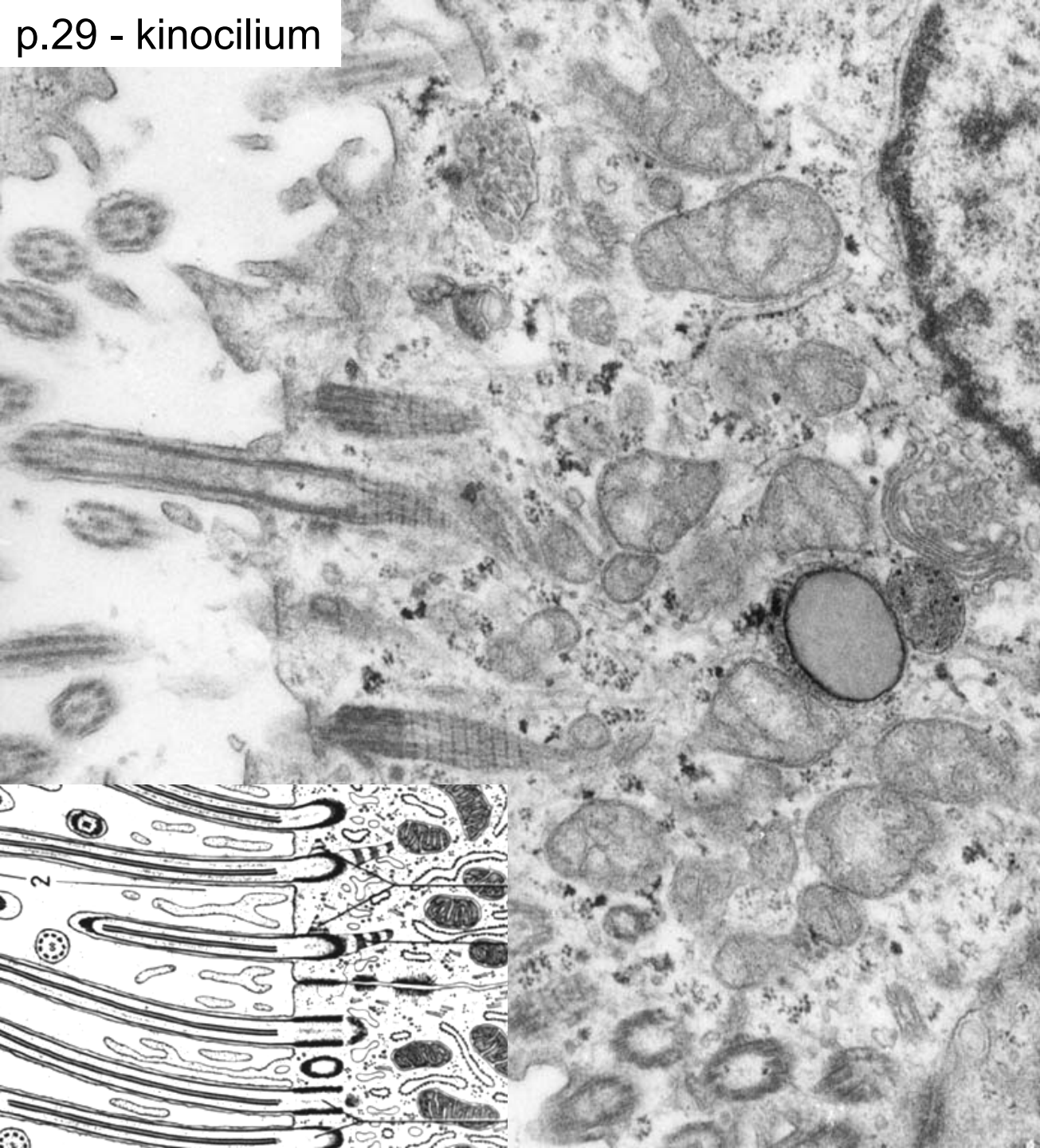


0,5 μ m

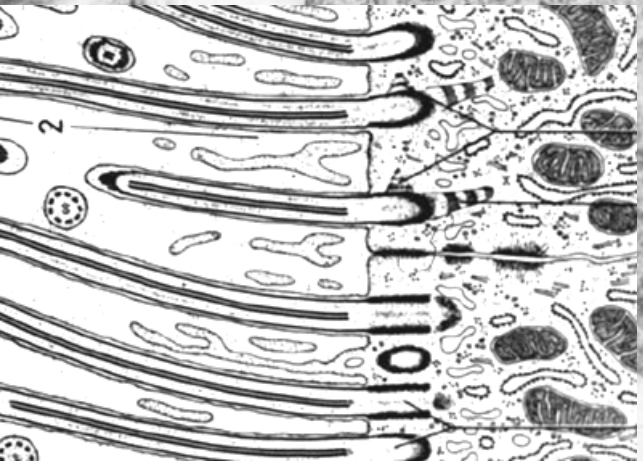
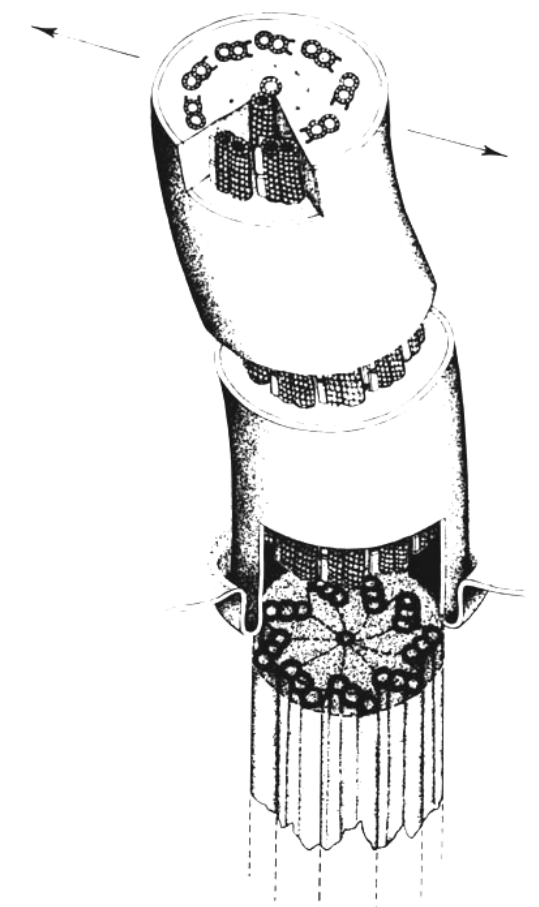
p.28 - brush border



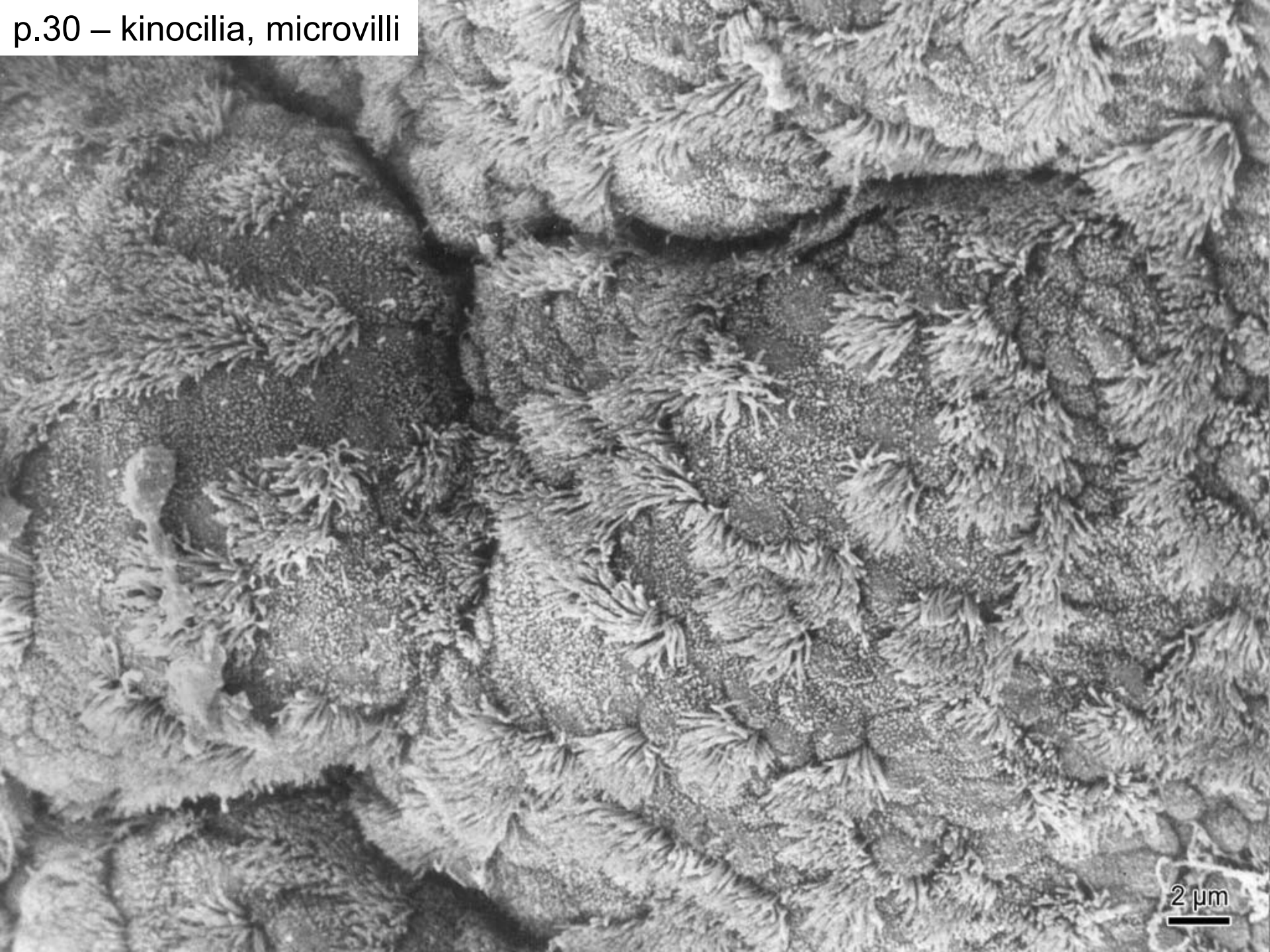
0,5 μm



Axoneme – complex of 9 doublets + 1 central pair of microtubules



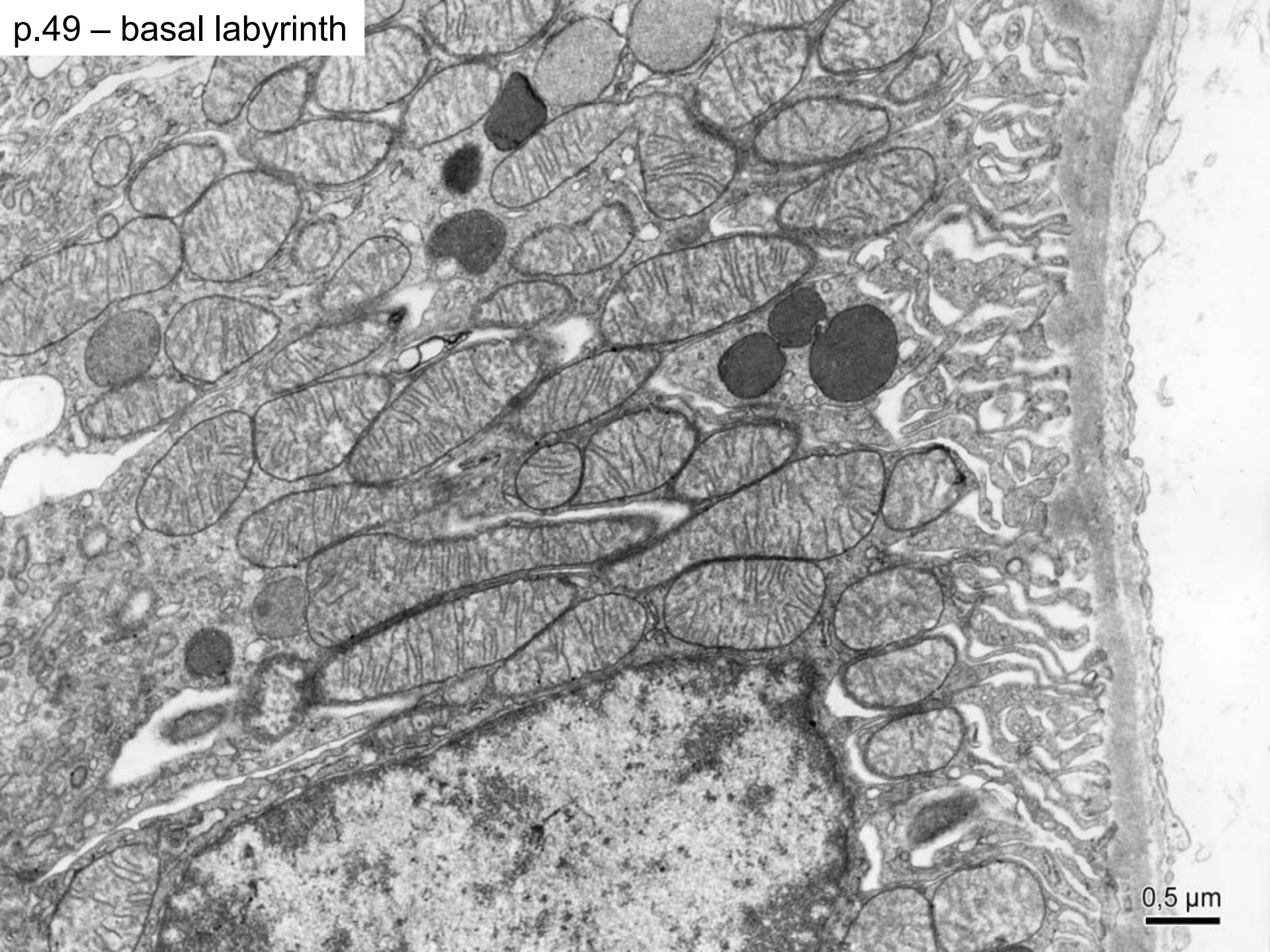
p.30 – kinocilia, microvilli



2 μm



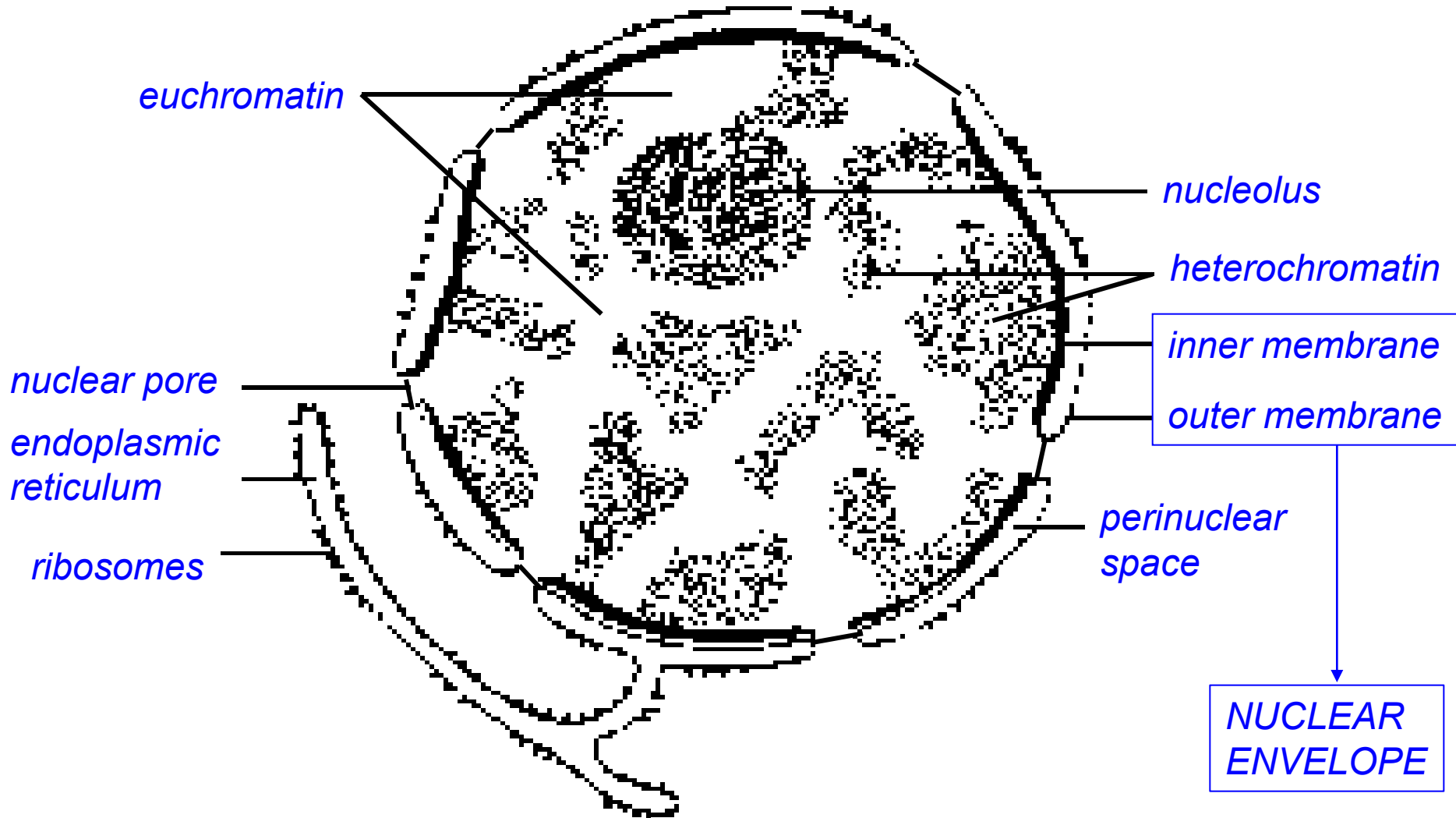
0,5 μm



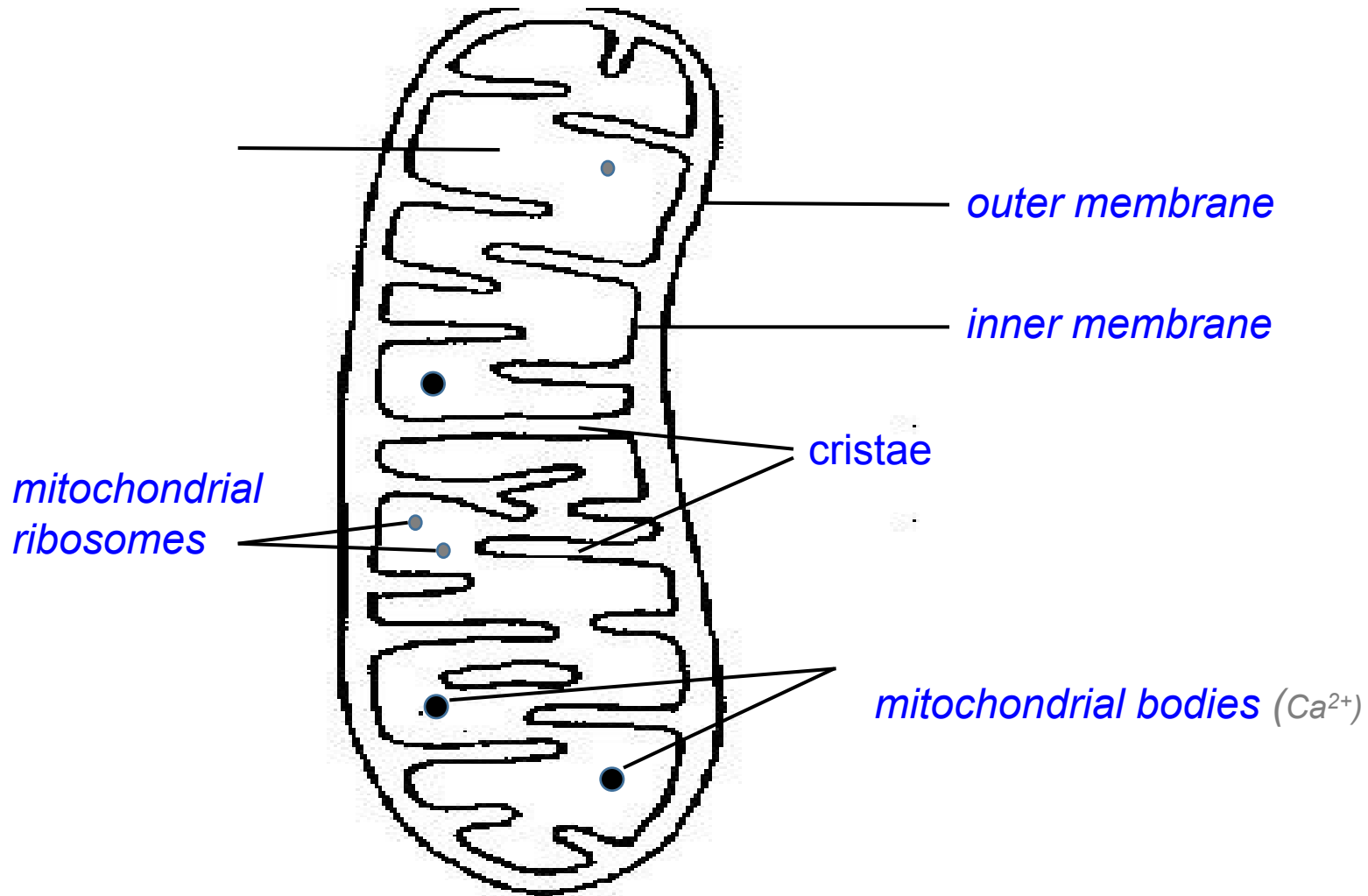
0,5 μm

How to draw pictures from EM atlas?

NUCLEUS (Atlas EM: pp. 1, 2, 3, 4, 21, 33, 40, 50)



Mitochondrion (Atlas EM: pp. 8, 10, 18, 22, 23, 49)



Endoplasmic Reticulum

Figure 1

