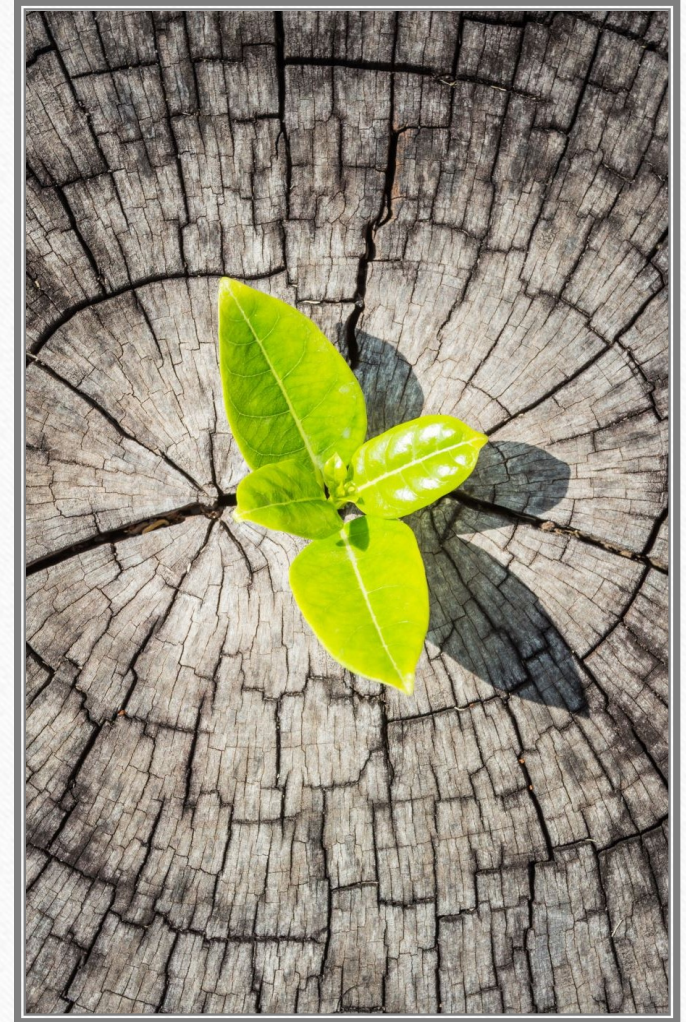
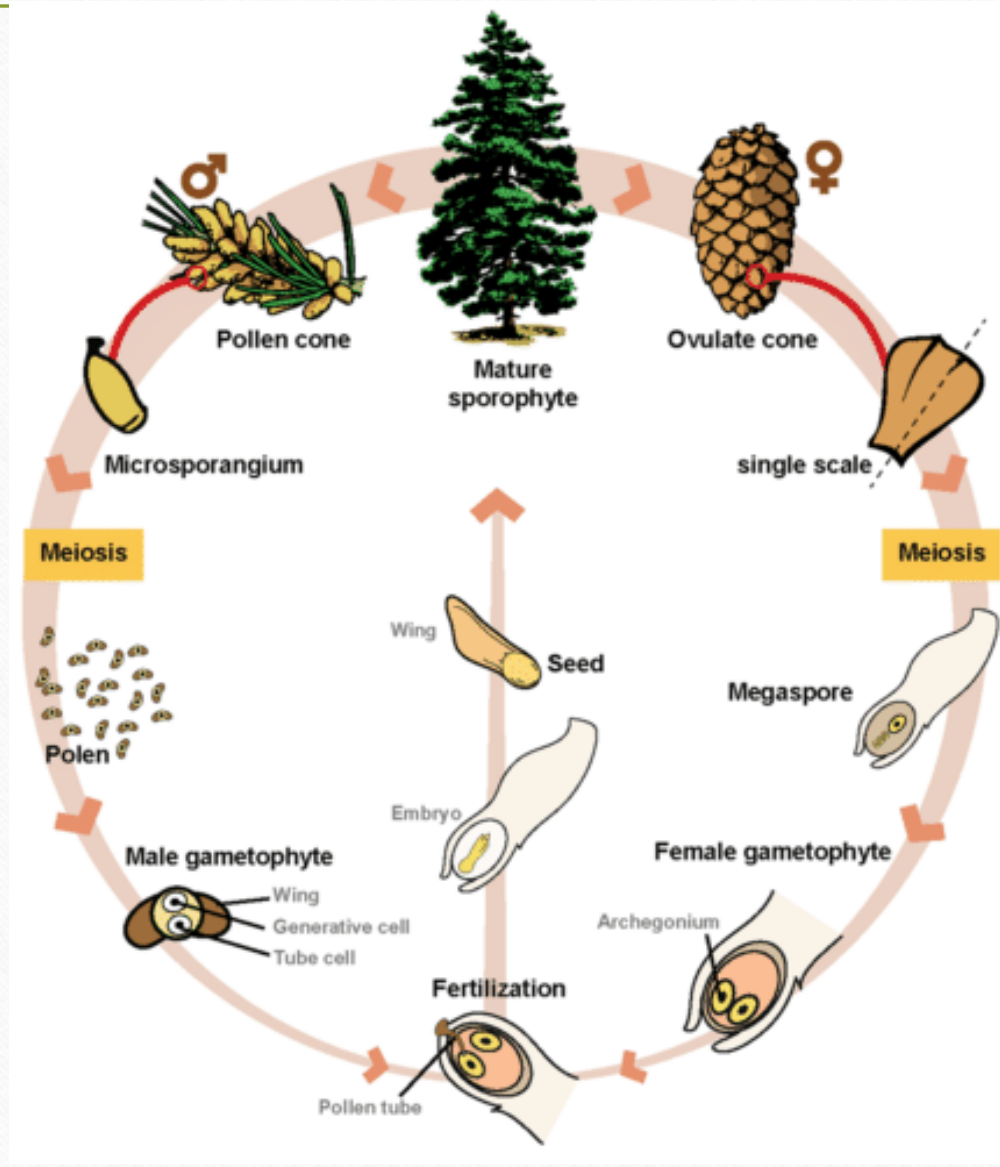


Vývoj samčího a samičího gametofytu, opylení, oplodnění, embryogeneze u nahosemenných

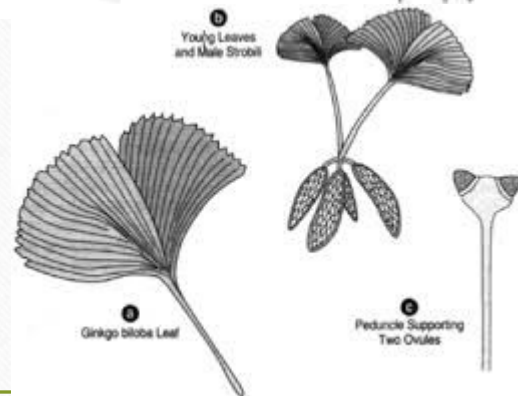
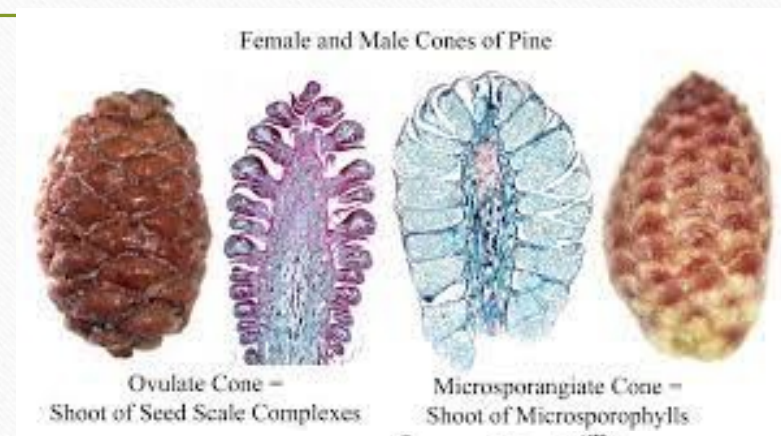
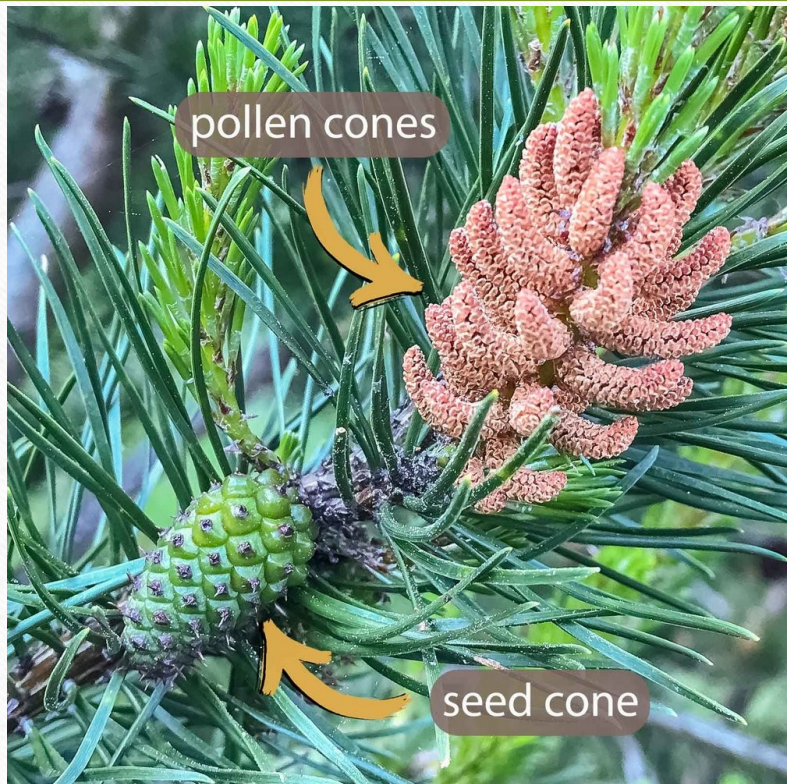
Mgr. Hana Cempírková, Ph.D.,

Rostlinná embryologie, podzimní semestr 2022

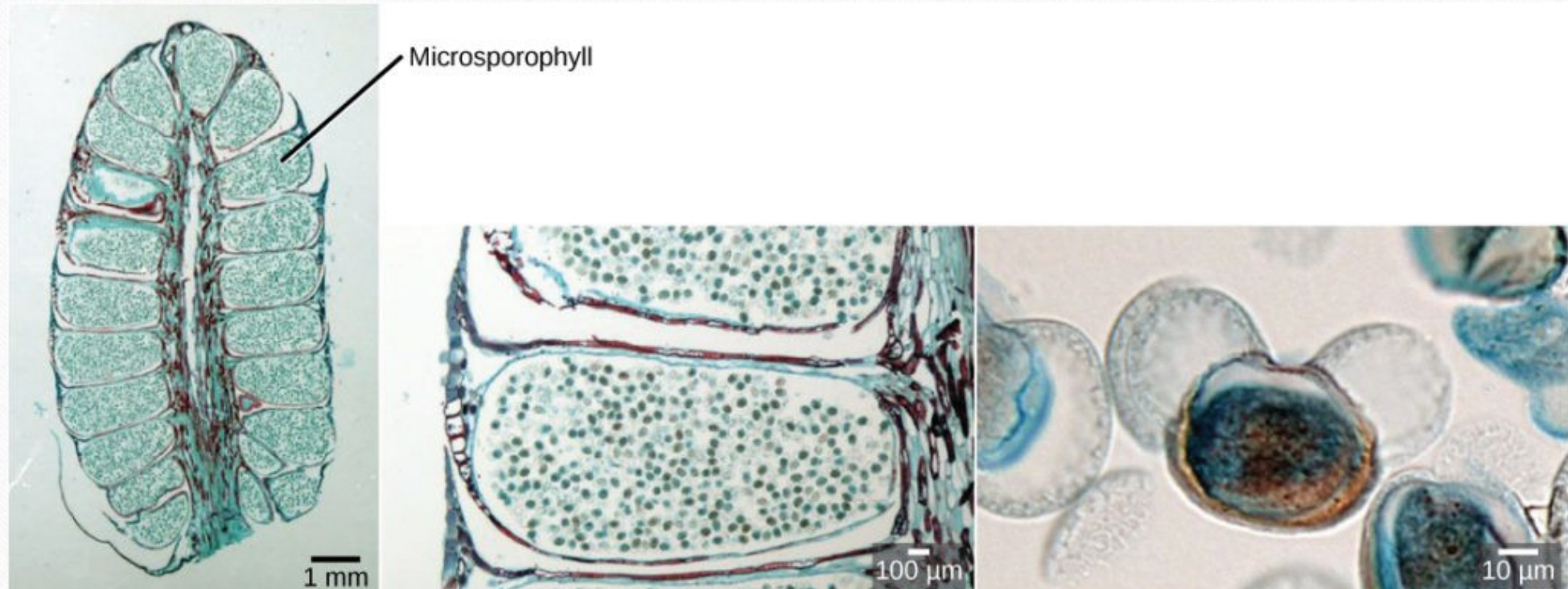




Šišťice (strobilus) – místo vývoje gamatofytů a embrya

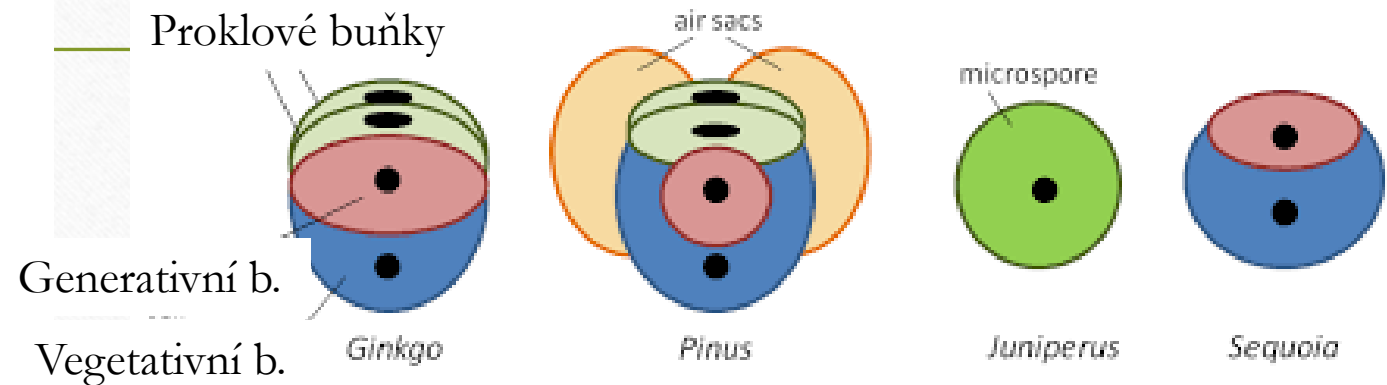
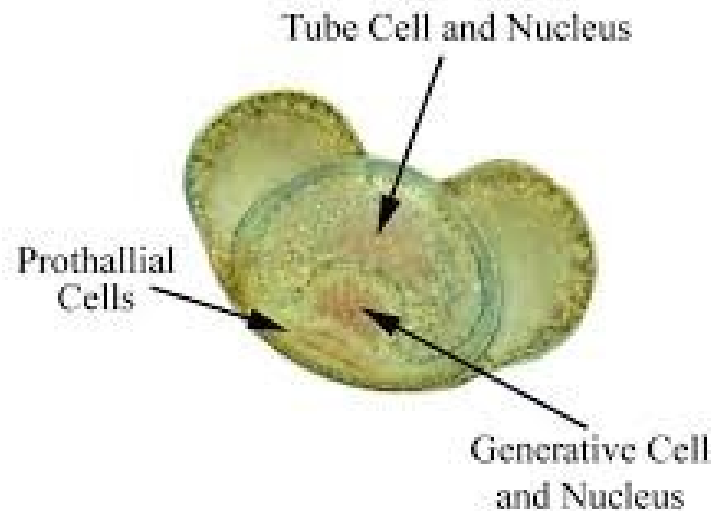


Samčí gametofyt



Mikrosporocyty v mikrosporangiu → mikrospory → pylové zrno (samčí gametofyt)

Vývoj pylového zrna nahosemenných



4 až 5 mitóz v různých stádiích (před a po opylení)

- Mikrospora → prothalliové (proklové) buňky (degenerují) a antheridiová buňka
- Antheridiová buňka → vegetativní a generativní buňka
- Generativní buňka (po opylení) → dvě spermatické buňky

Vývoj pylového zrna borovice (Pinus)

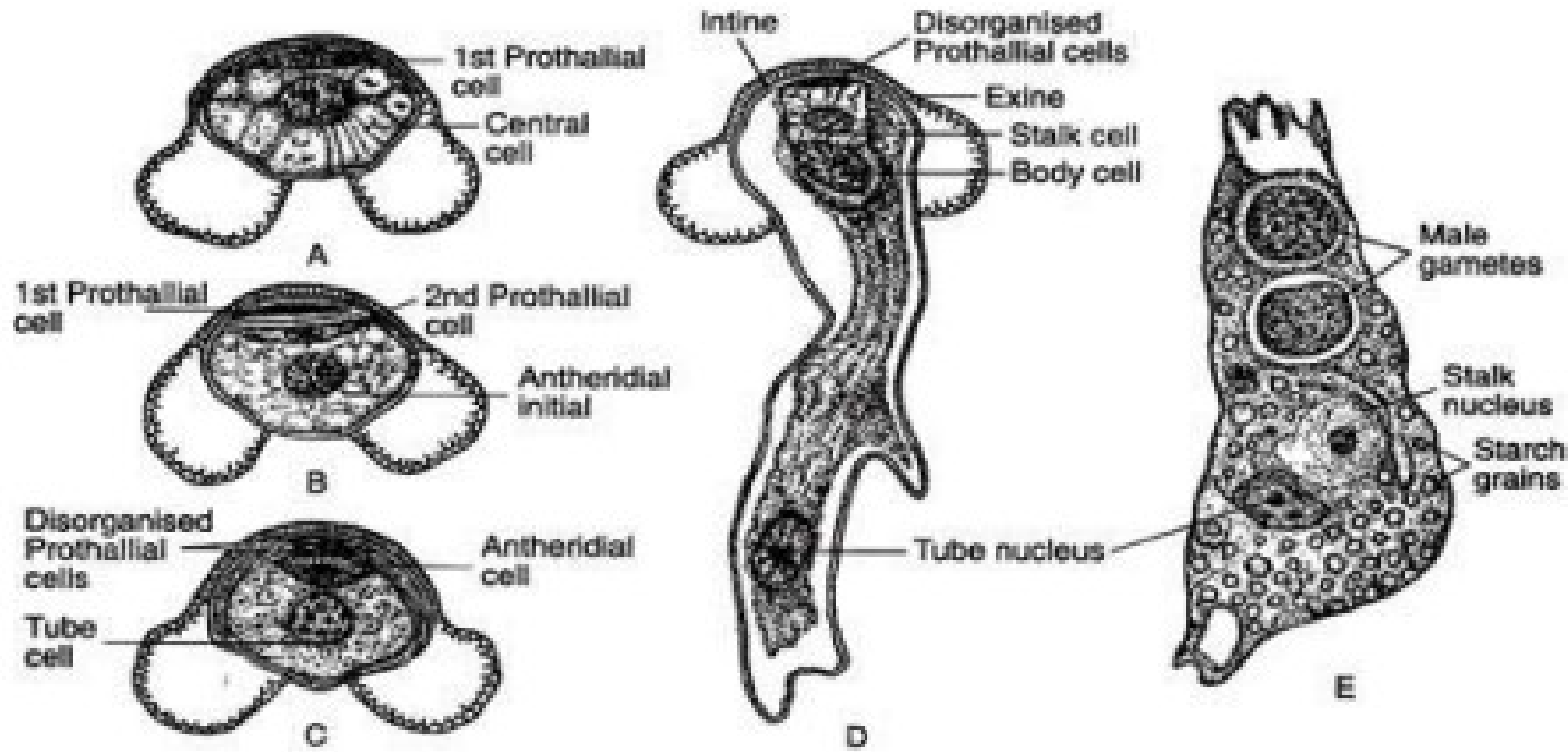
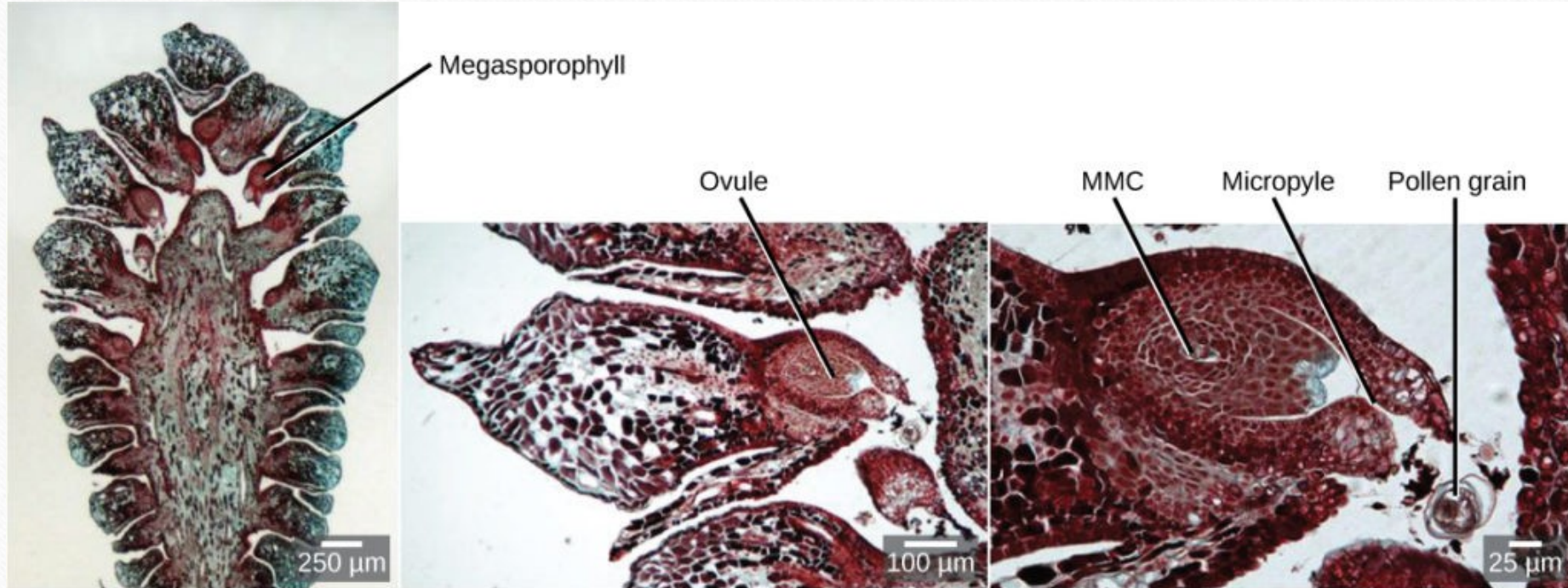
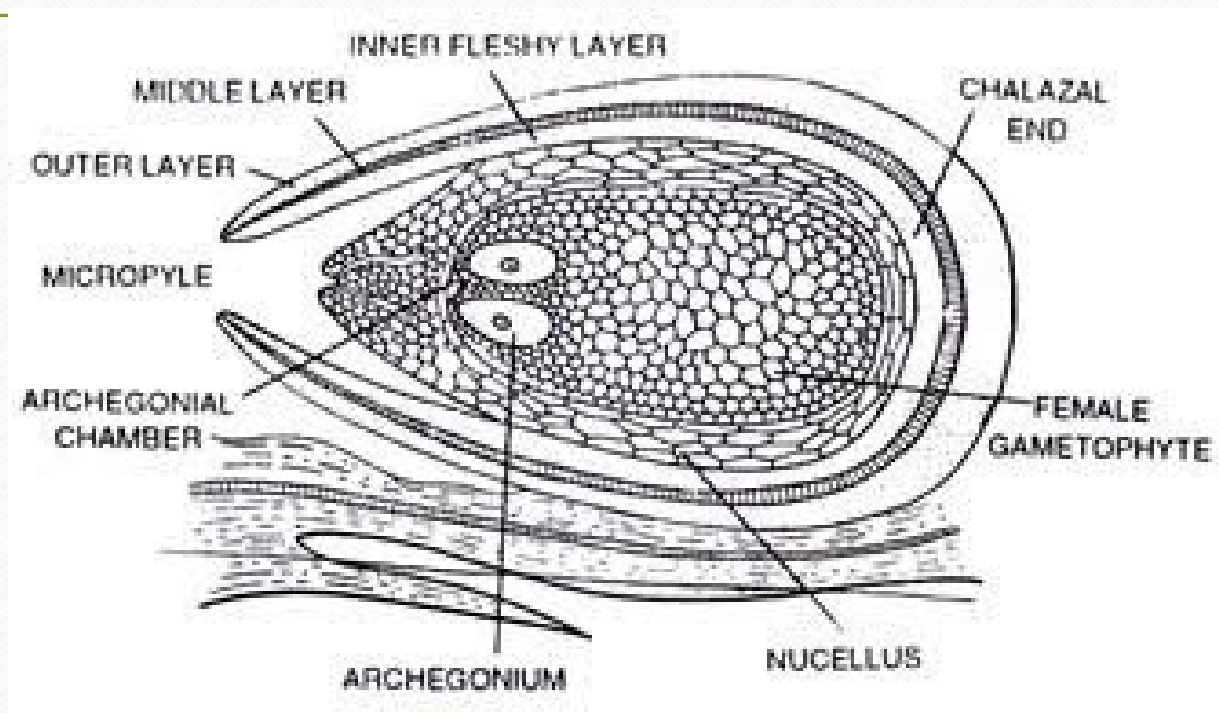


Fig. 1.65 : *Pinus* : A-E. The stages in the development of male gametophyte

Samičí gametofyt

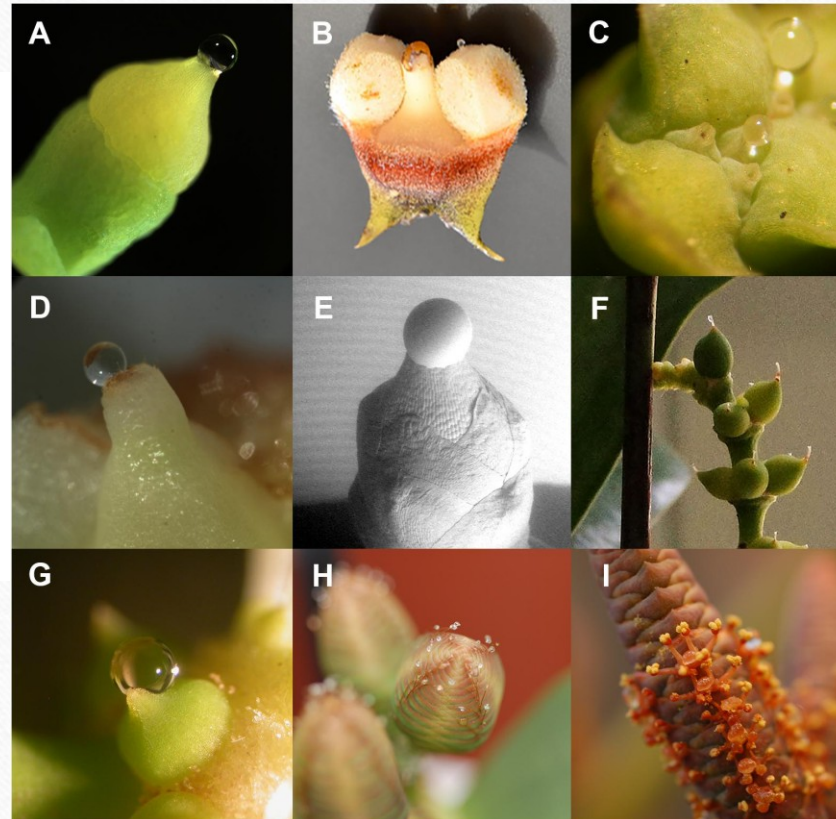
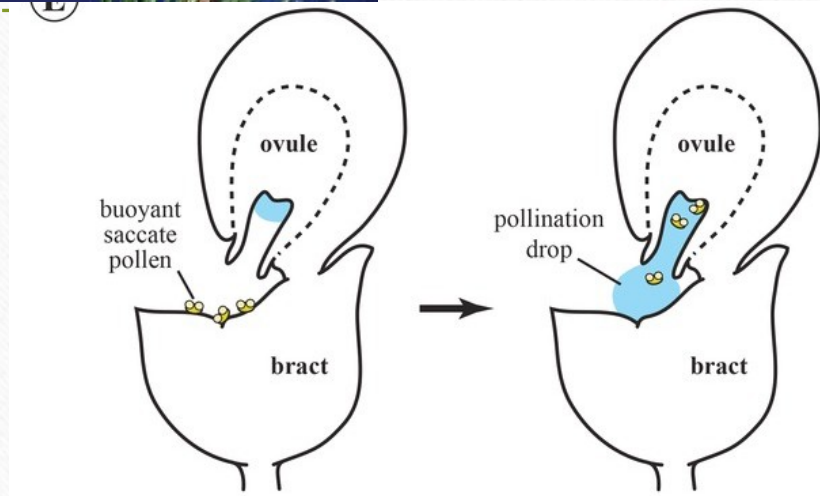


Zralé vajíčko borovice





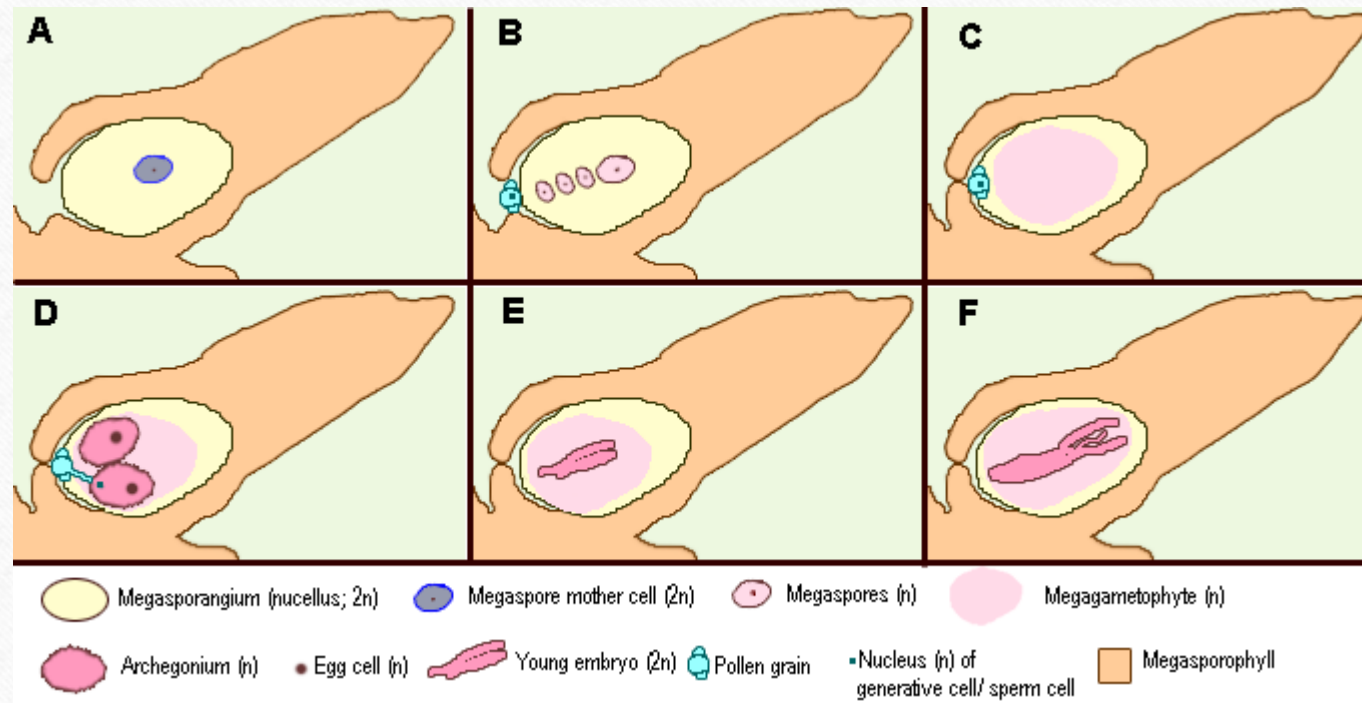
Opylení u nahosemenných



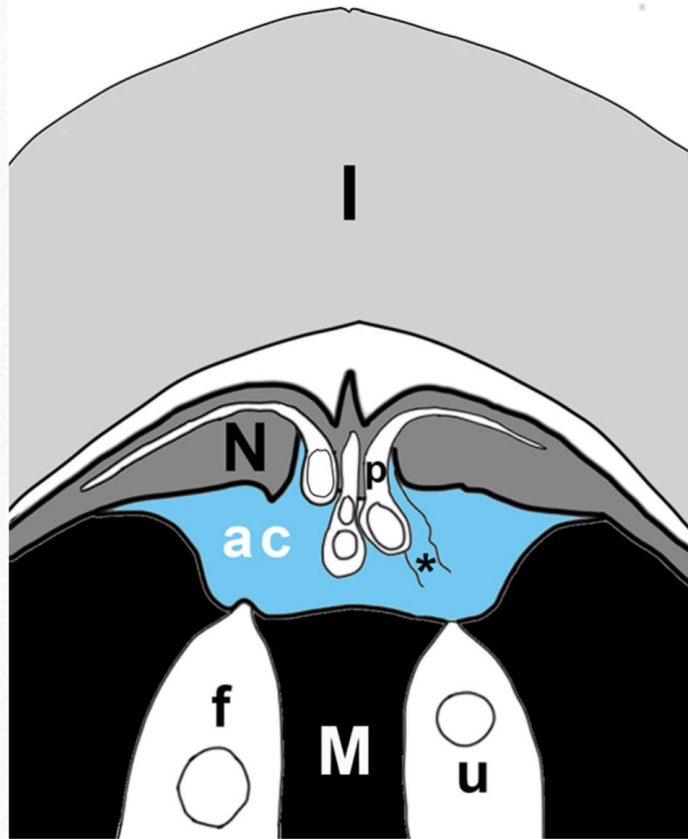
Polinační kapky

Opylení a oplodnění

- krátká vzdálenost mezi opylením a oplozením
- dlouhá doba mezi opylením a oplozením



Oplození



I = integument

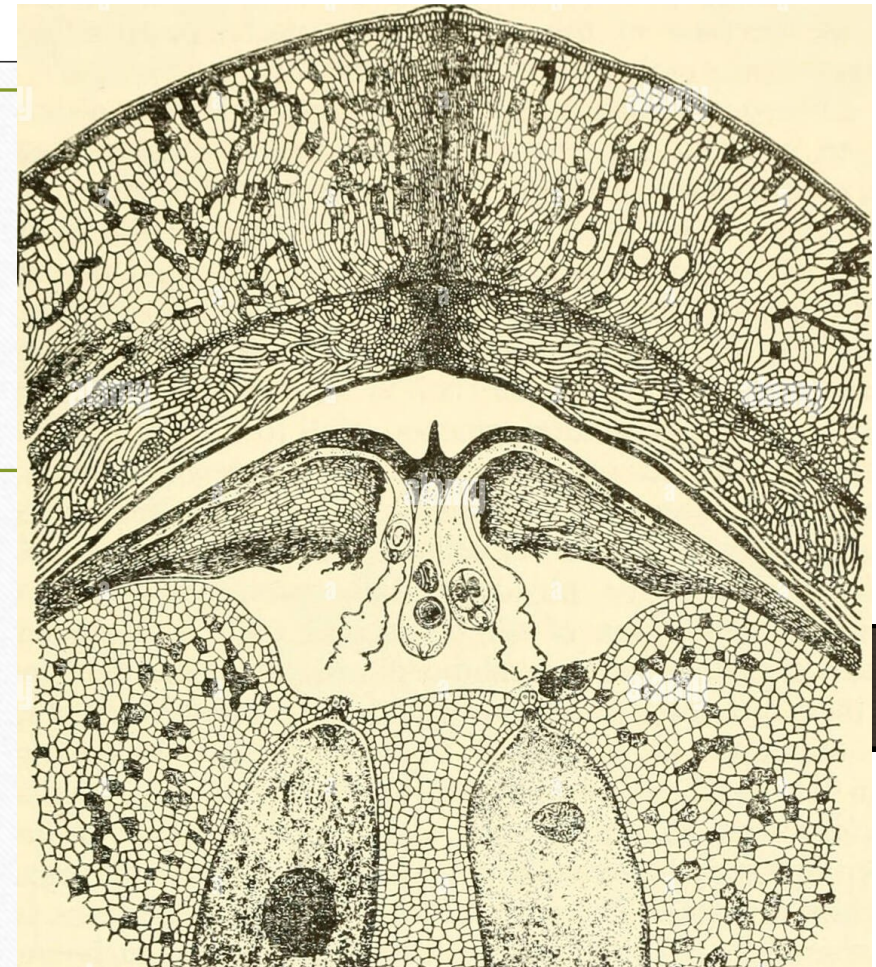
N = nucellus

M = megagametofyt

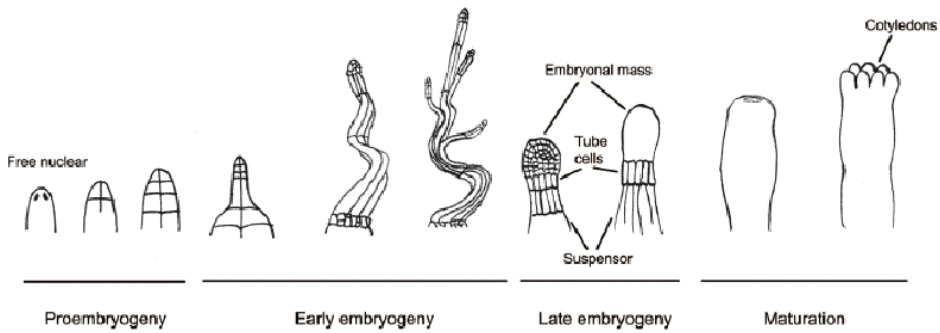
f, u = oplodněné (fert.) a
neoplodněné (unfert.)
archegonium

ac = archegoniální komůrka

p = pylová láčka



Cleavage polyembryony



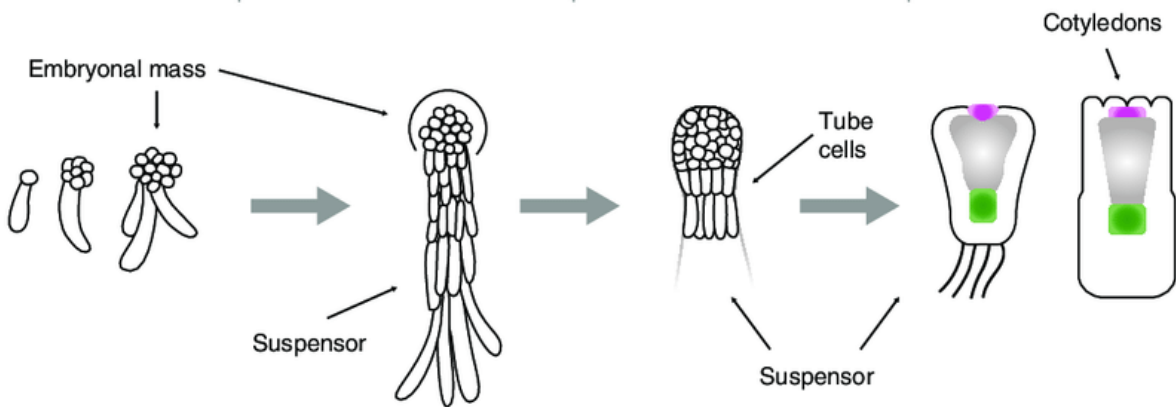
Vývoj embrya

PROEMBRYOGENESIS

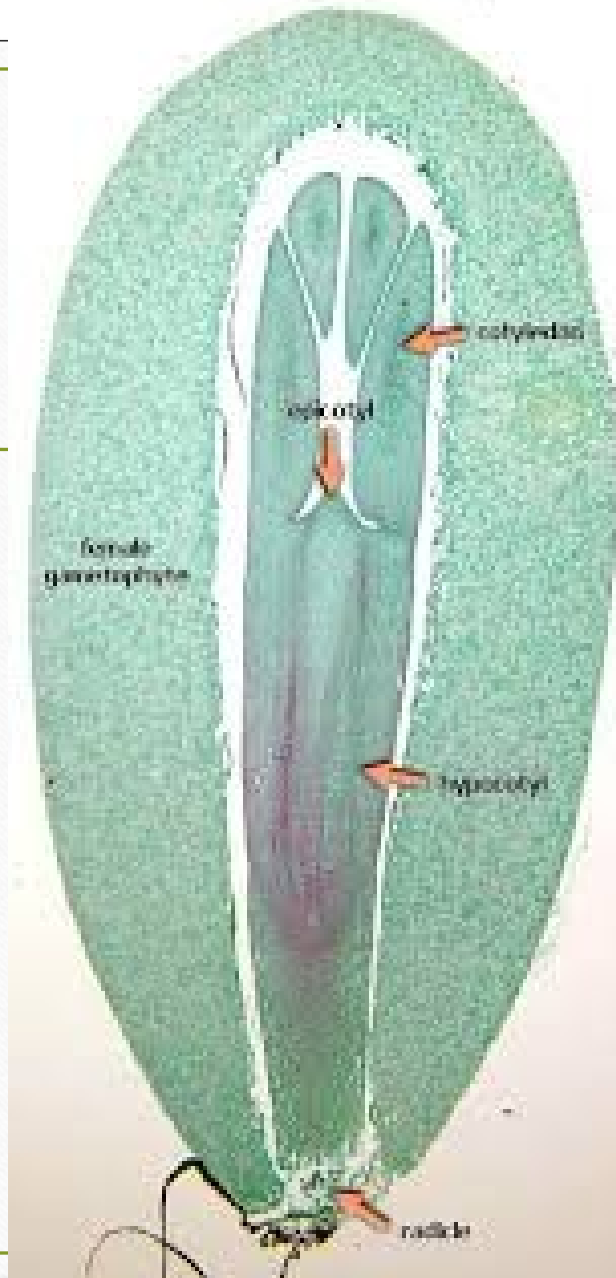
EARLY EMBRYOGENESIS

LATE EMBRYOGENESIS

MATURATION



- Shoot apical meristem
- Vascular tissue
- Root apical meristem



Dozrávání semen v šiškách



Semena



Smrk



Piniové oříšky



Ginkgo biloba



Jedle

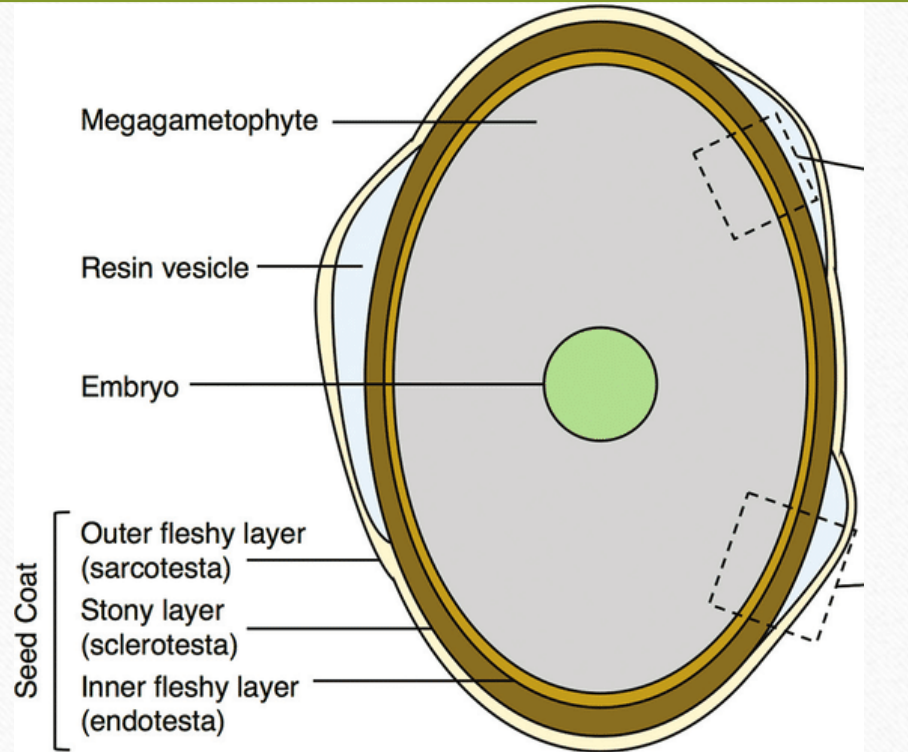


Araucarie

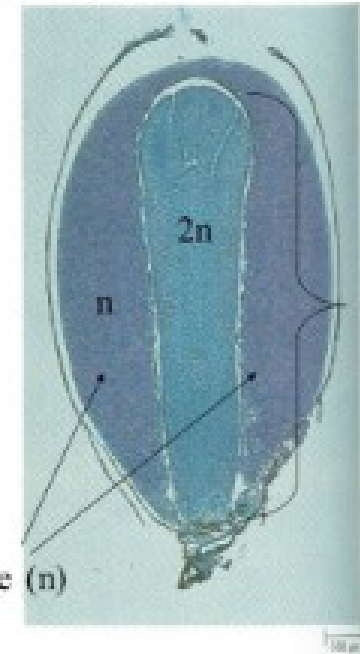
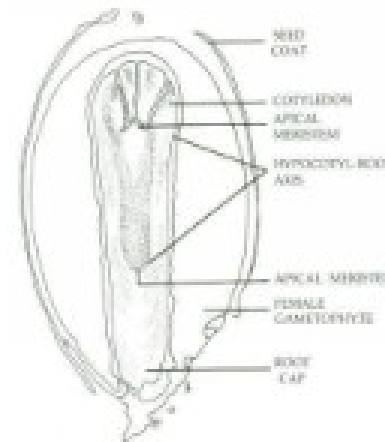


Tis

Stavba semene



Pine seed showing embryo (baby sporophyte) within nutritive tissue, surrounded by a seed coat



Shrnutí

