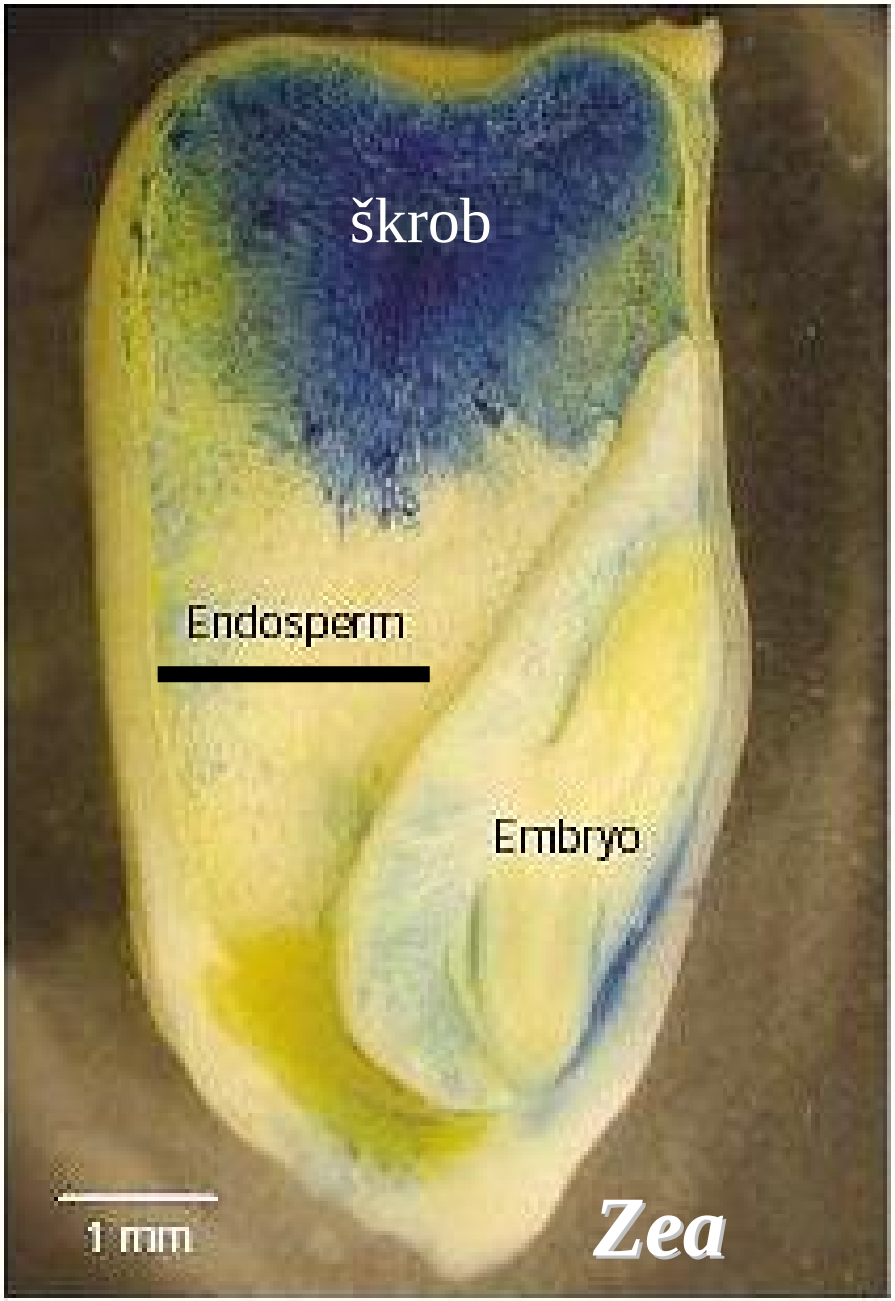
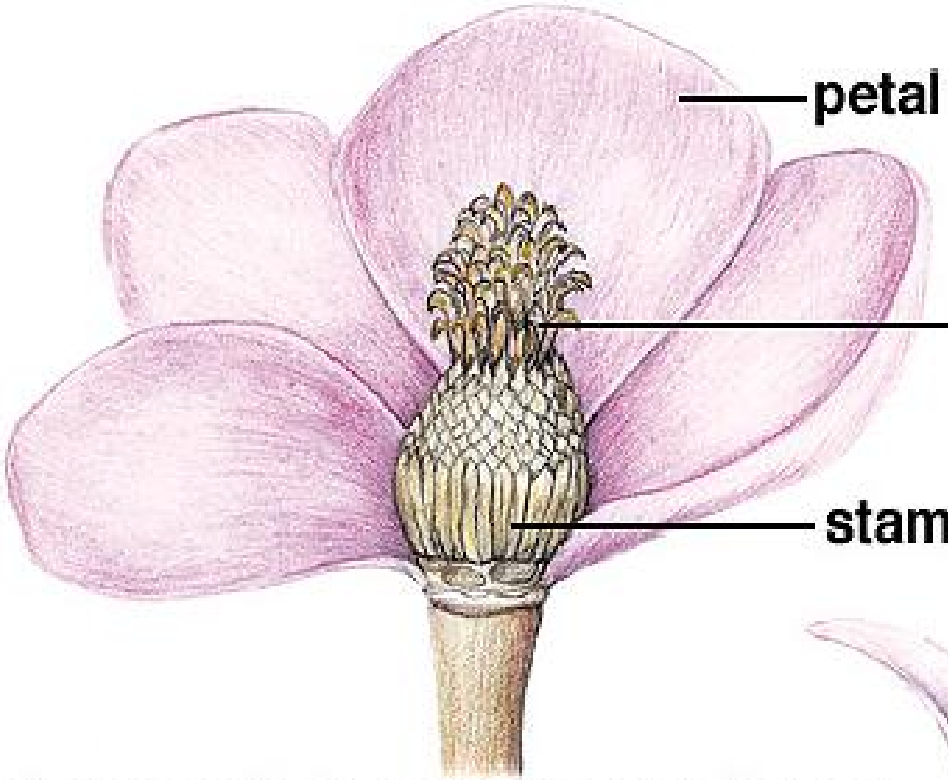

rostliny jednoděložné

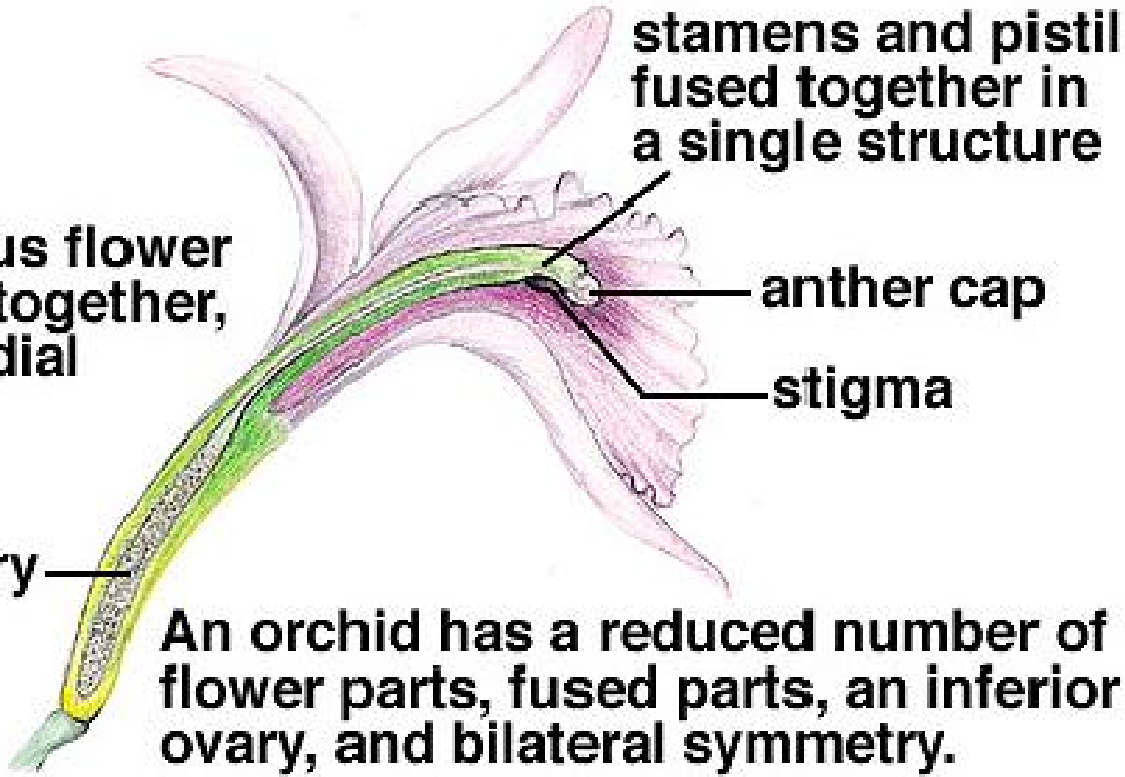


Podíl embrya a endospermu ve zralém semenu

Primitive and Advanced Flowers



A magnolia has numerous flower parts that are not fused together, superior ovaries, and radial symmetry.



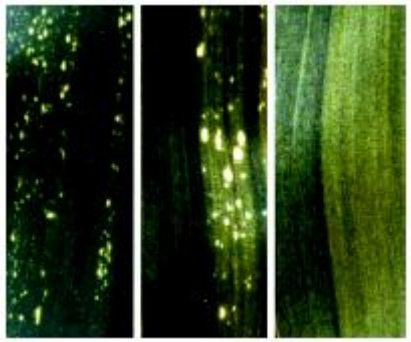
An orchid has a reduced number of flower parts, fused parts, an inferior ovary, and bilateral symmetry.

paramutace, mobilní genetické elementy, telomery, genetika, …

kukuřice

Barbara McClintock – Nobelova cena 1983

DNA metyltransferázy zajišťují stabilitu genomu inaktivací parazitických mobilních elementů



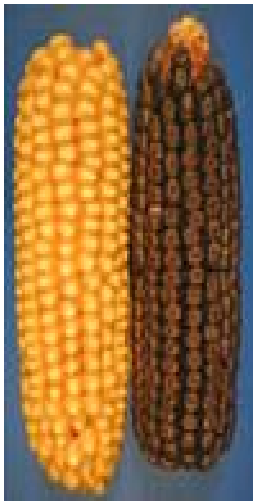


Barbara McClintock (1902–1992)

Nina Fedoroff (Pennsylvania 1993)

Rob Martienssen (Cold Spring 2001)

Tim Bestor (NY 1998)



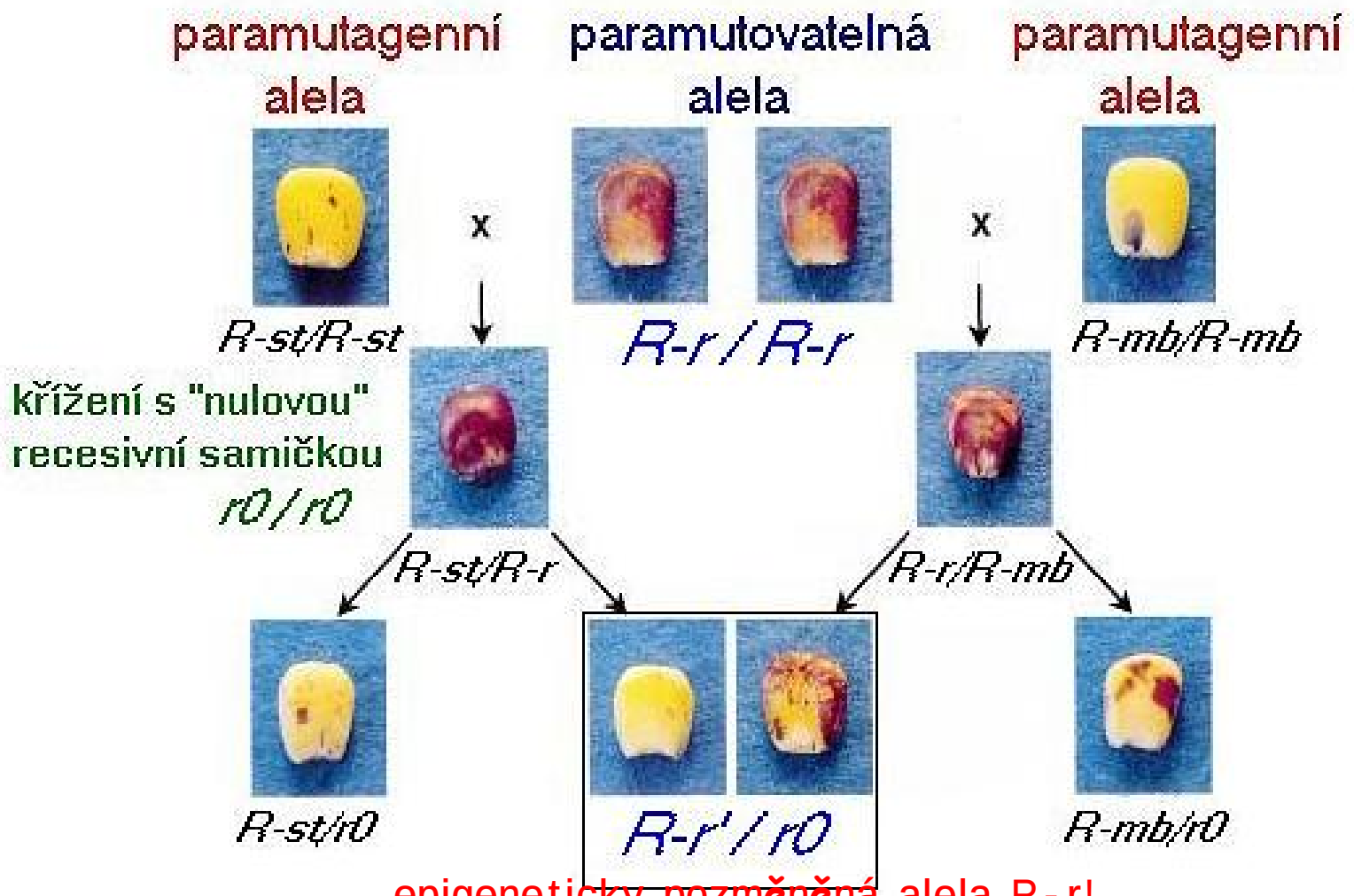
Alex Brink
(Madison 1956

Mary Alleman
(Duquesne U)

Vicki Chandler
(Arizona)

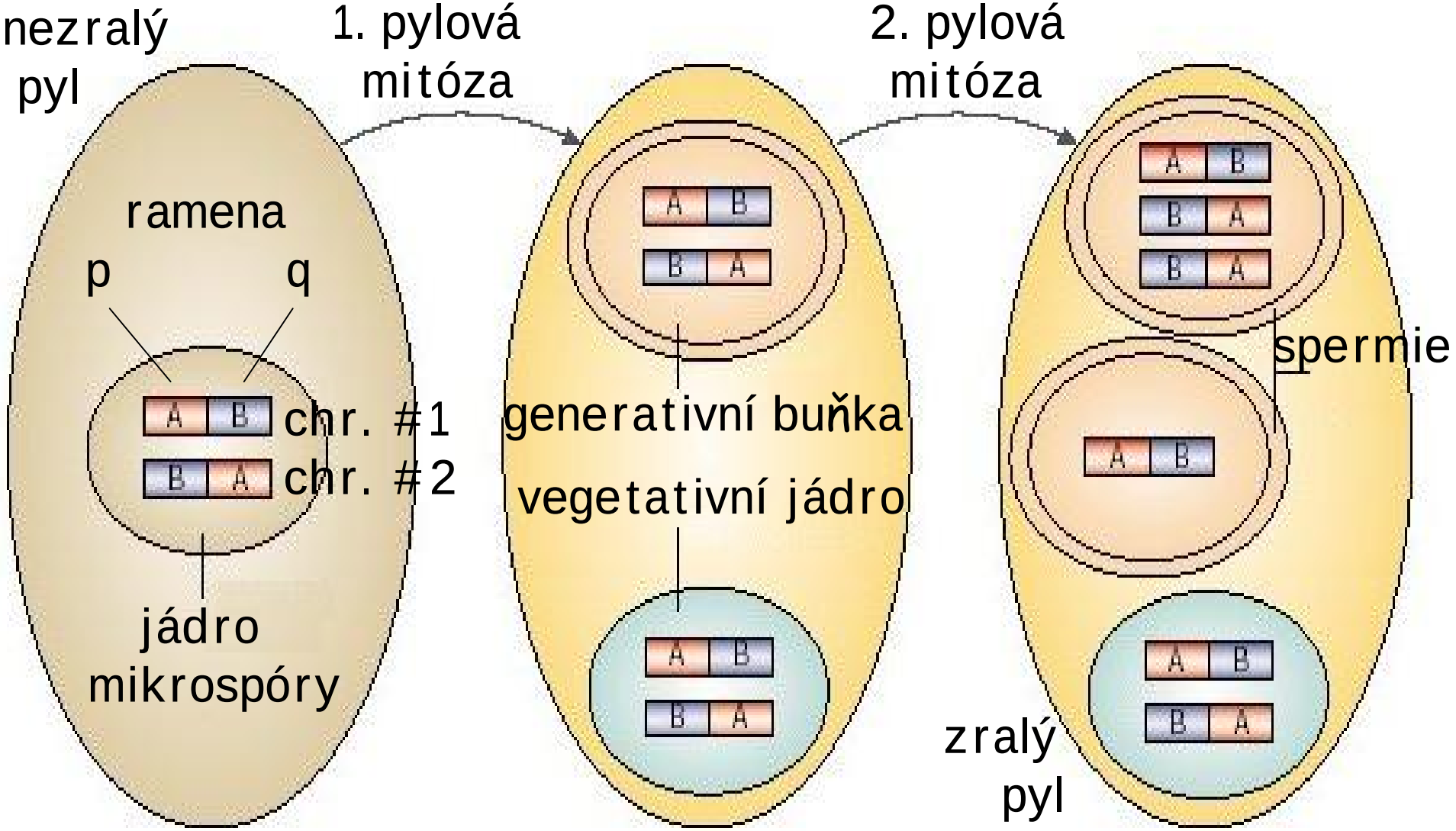
PARAMUTACE

(ne) stabilně dědičné alelické interakce



epigeneticky pozměněná alela R-r!

Kukuřice - model imprintingu a fertilizace



translokace akcesorických chromozomů B a standardních A

Oryza sativa

“ To the People,
Food is heaven ”

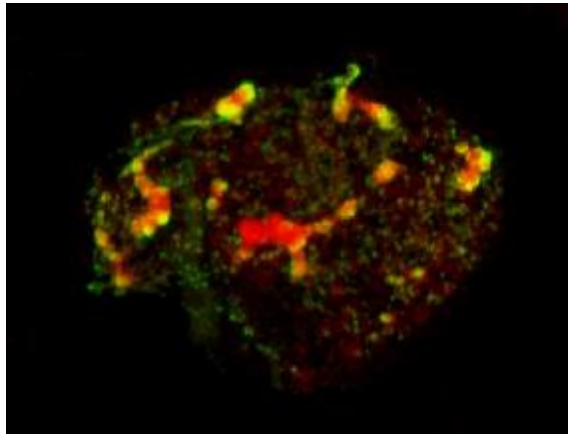
ancient Chinese proverb

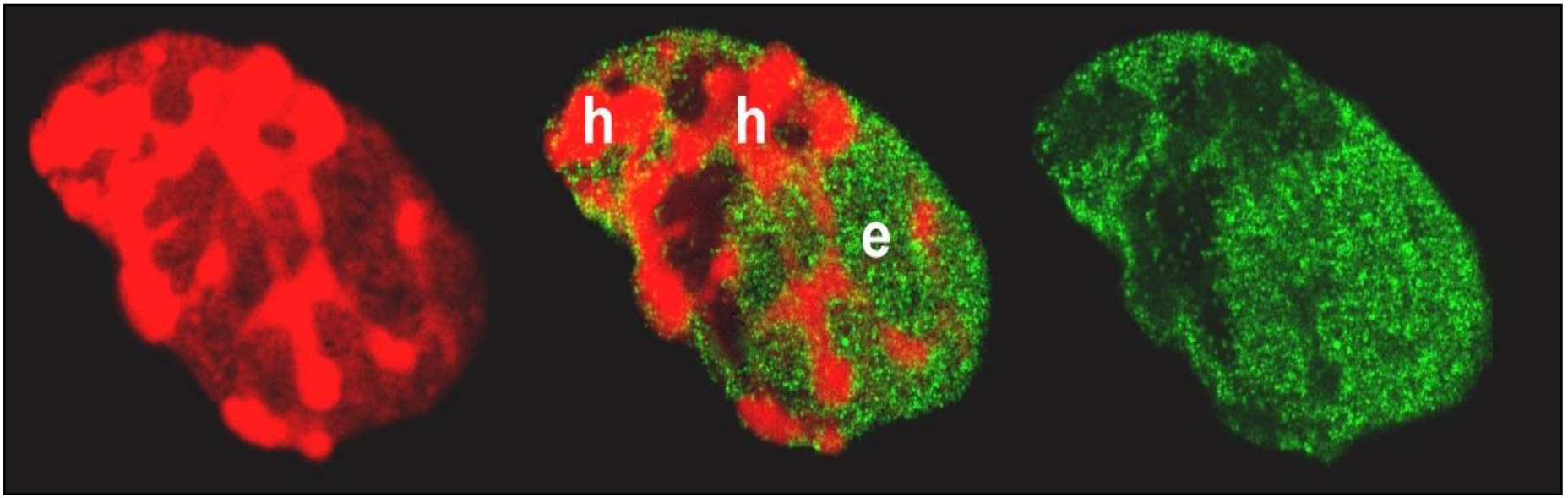
民以食为天

Gagea lutea (Liliaceae)
křivatec žlutý

model studia tetrasporického zárodečného vaku (Fritillaria) endospermu a fakultativního heterochromatinu

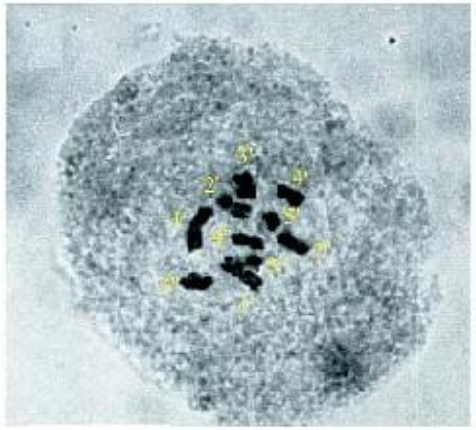
5n = 180

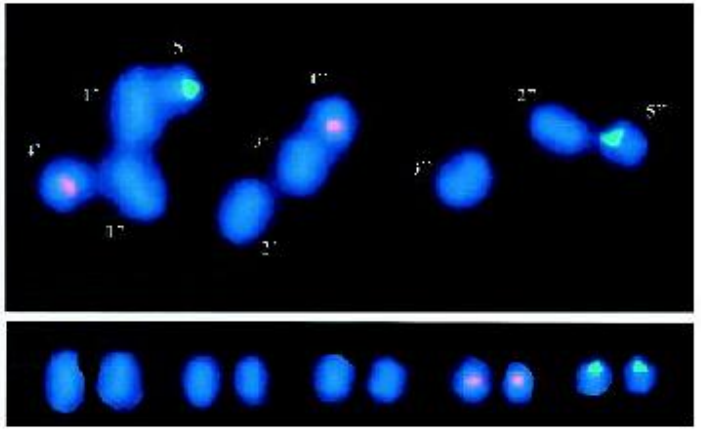


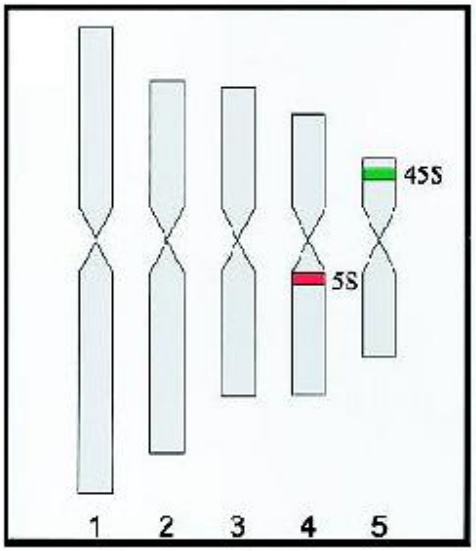


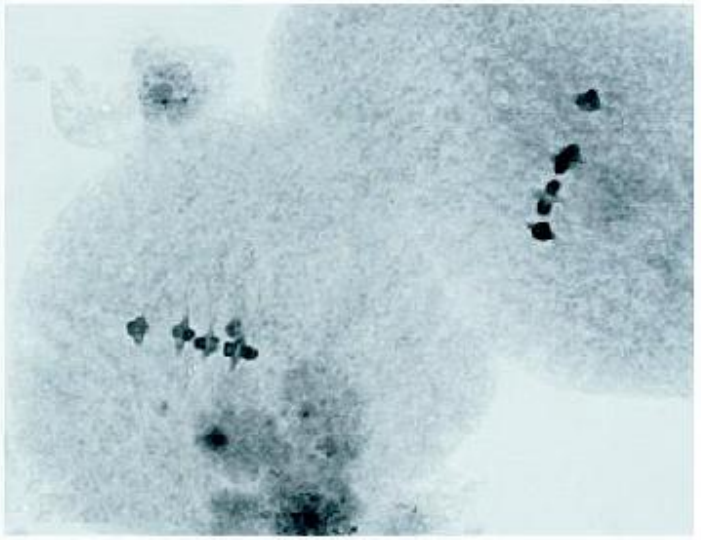
Brachypodium distachyon

válečka, Poaceae, 1děložné rostliny,
nový model funkční genomiky trav (n = 5, C = 0,41 pg)

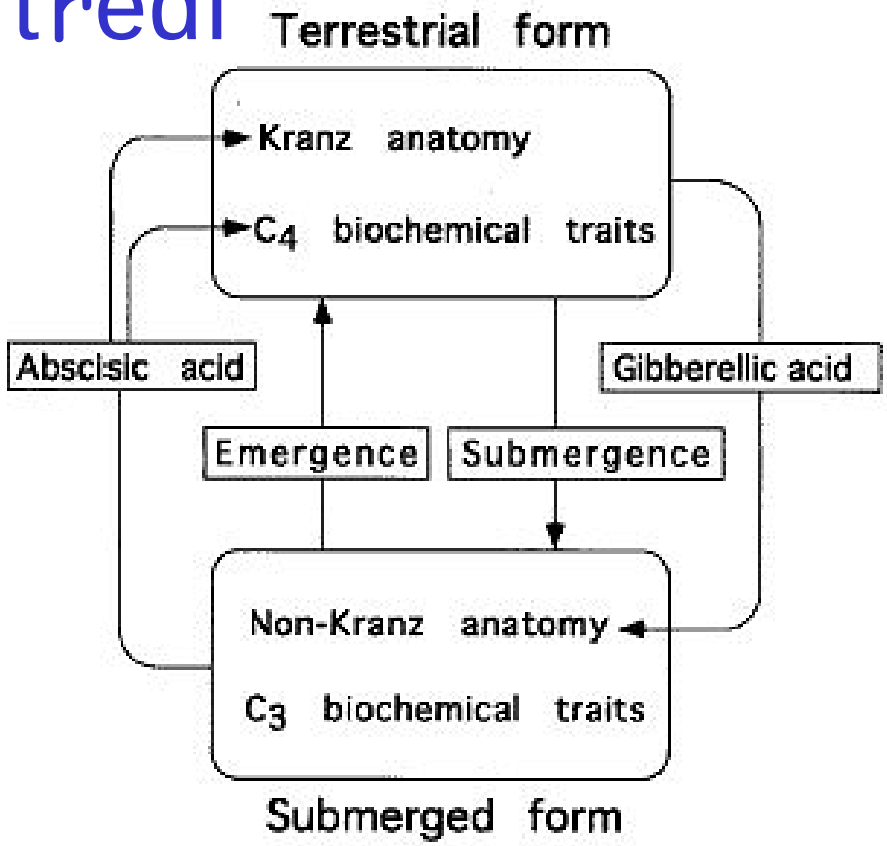








Eleocharis vivipara
(Bahnička živorodá
Cyperaceae, Šáchorovité 1-dĕložné)
- studium typu fotosyntézy
x vodní či suché prostředí



Eleocharis vivipara

Bahnička živorodá

orchidea
Phalaenopsis
model studia
reprodukční
biologie rostlin

Unique Orchid Characteristics

One of the most striking features of the orchid flower is one (often) showy, large petal, call the lip or labellum (Fig 1). Another key character of the orchid family is known as the column (Fig. 2). The column is a fusion of reproductive parts (anthers, filaments, stigmas and styles) that are normally separate in other plants. Orchids, like all monocots, have their parts in three and veins parallel. Pollen is not dusty, but massed together in hard or waxy structures called pollinia. They ovary is located below the petals. Seed capsules produce 1,000 to over 1,000,000 tiny dust-like seeds (Fig. 3), which have no endosperm (stored food). In the wild, nutrition is provided by mycorrhiza(e), which is a symbiotic relationship between plant and fungus. The mycorrhizae invades the developing orchid embryo, and provides sugars and carbohydrates necessary for the orchid seed to grow. Without the mycorrhizae, orchid seeds cannot germinate in the wild.

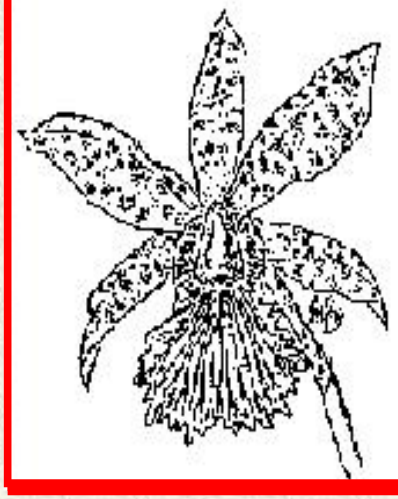
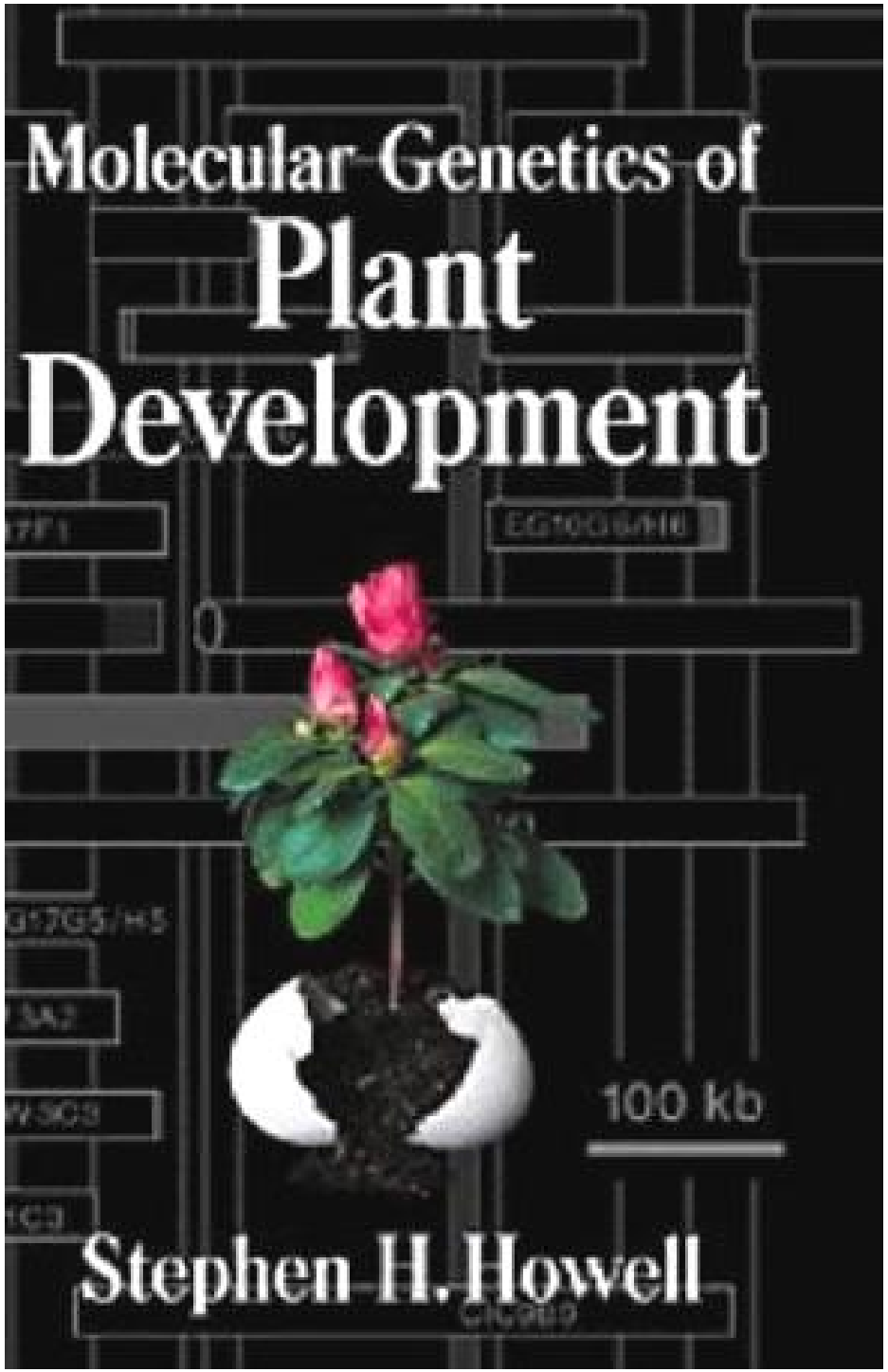


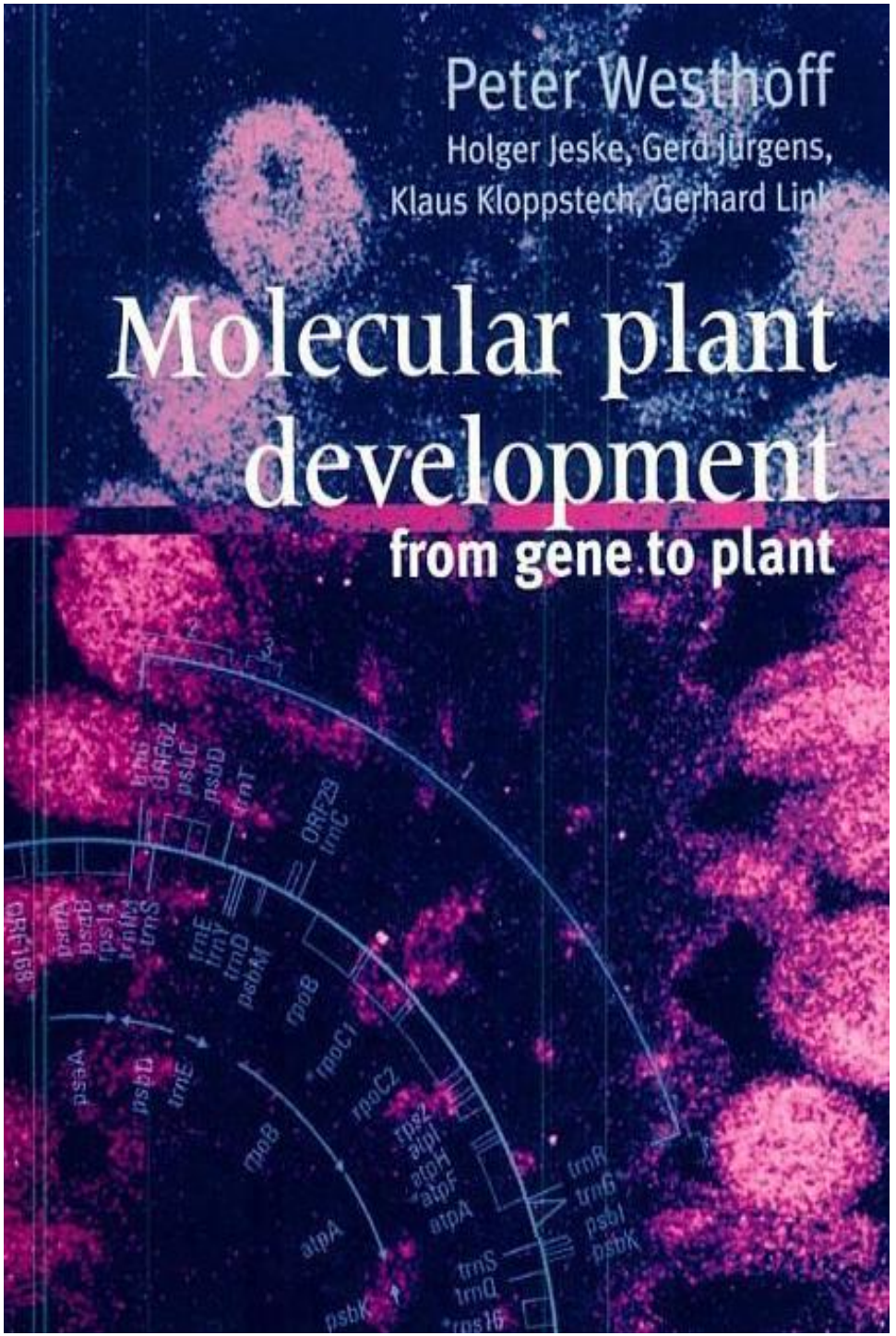
Figure 1. Large showy labellum

Figure 2. Column

Figure 3. Seed capsule

Pseudokopulace
včel
(*Hymenoptera)*
na orchidejích
(*Ophrys*)


Molecular Genetics of
Plant
Development
100 kb
Stephen H. Howell


Peter Westhoff
Holger Jeske, Gerd Jürgens,
Klaus Kloppstech, Gerhard Link
Molecular plant
development
from gene to plant