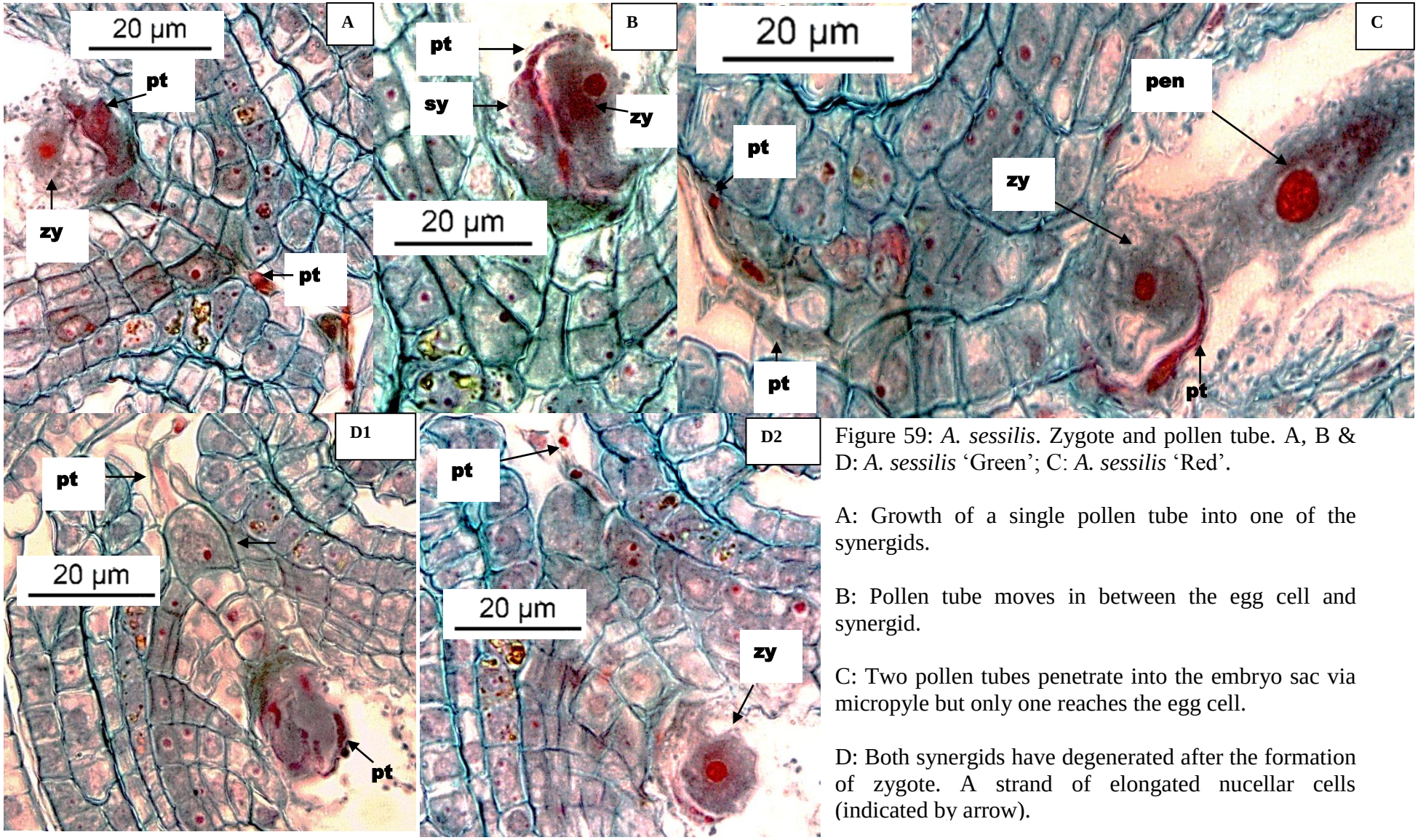

Figure 59: *A. sessilis*. Zygote and pollen tube. A, B & D: *A. sessilis* 'Green'; C: *A. sessilis* 'Red'.

A: Growth of a single pollen tube into one of the synergids.

B: Pollen tube moves in between the egg cell and synergid.

C: Two pollen tubes penetrate into the embryo sac via micropyle but only one reaches the egg cell.

D: Both synergids have degenerated after the formation of zygote. A strand of elongated nucellar cells (indicated by arrow).

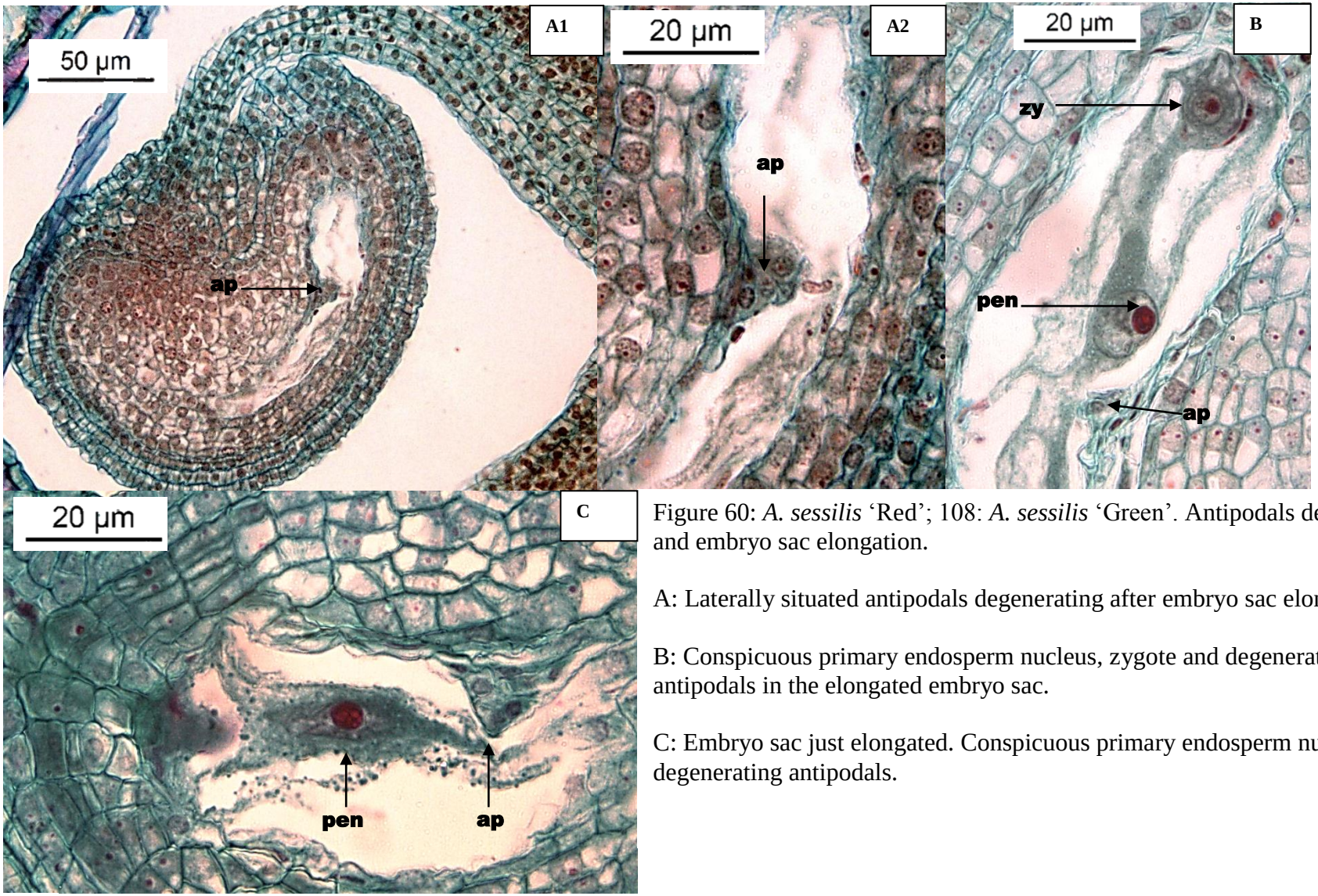

Figure 60: *A. sessilis* ‘Red’; 108: *A. sessilis* ‘Green’. Antipodals degeneration and embryo sac elongation.

A: Laterally situated antipodals degenerating after embryo sac elongation.

B: Conspicuous primary endosperm nucleus, zygote and degenerating antipodals in the elongated embryo sac.

C: Embryo sac just elongated. Conspicuous primary endosperm nucleus and degenerating antipodals.

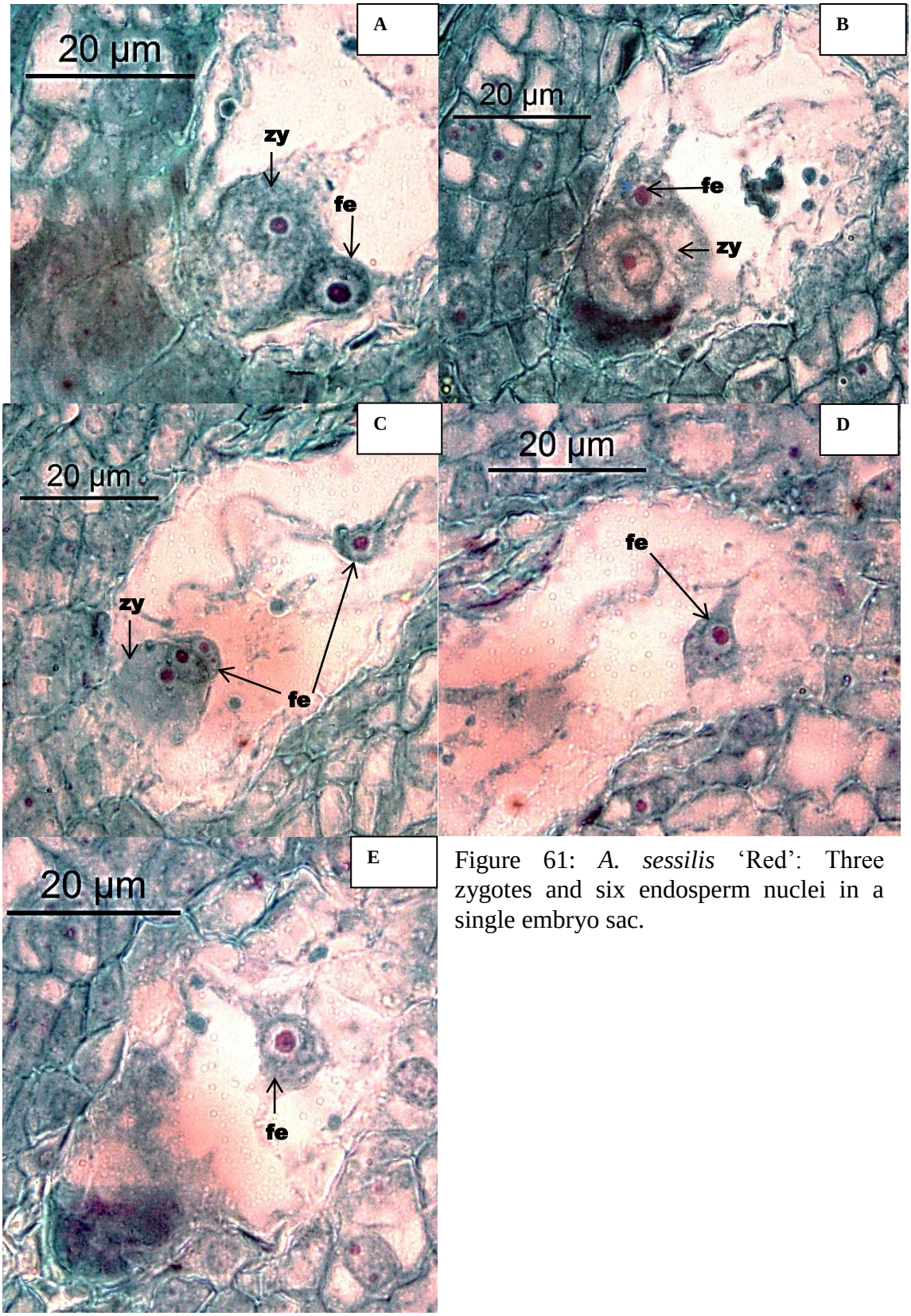

Figure 61: *A. sessilis* 'Red': Three zygotes and six endosperm nuclei in a single embryo sac.

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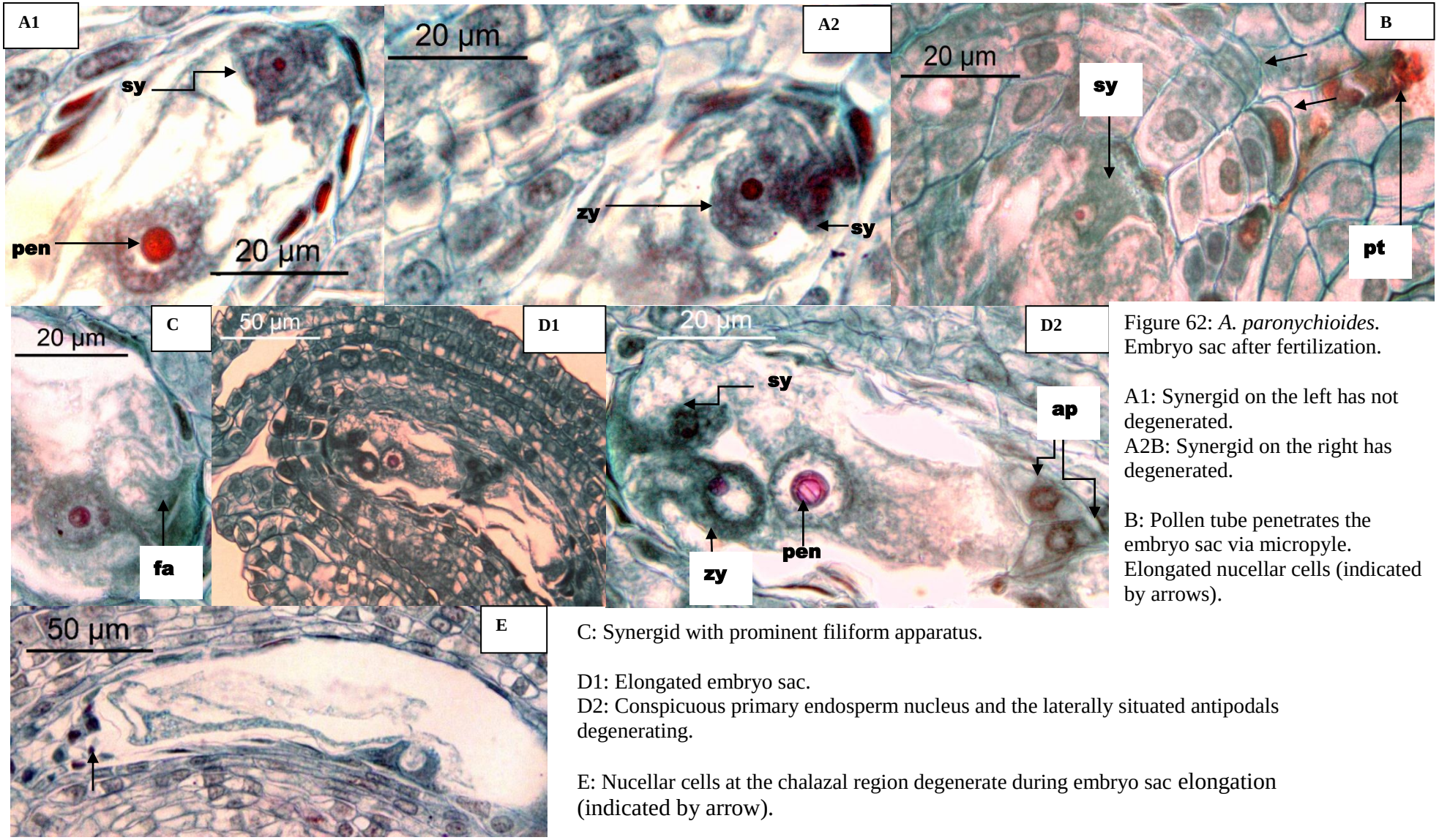


Figure 62: *A. paronychioides.* Embryo sac after fertilization.

A1: Synergid on the left has not degenerated.
A2B: Synergid on the right has degenerated.

B: Pollen tube penetrates the embryo sac via micropyle. Elongated nucellar cells (indicated by arrows).

C: Synergid with prominent filiform apparatus.

D1: Elongated embryo sac.
D2: Conspicuous primary endosperm nucleus and the laterally situated antipodals degenerating.

E: Nucellar cells at the chalazal region degenerate during embryo sac elongation (indicated by arrow).

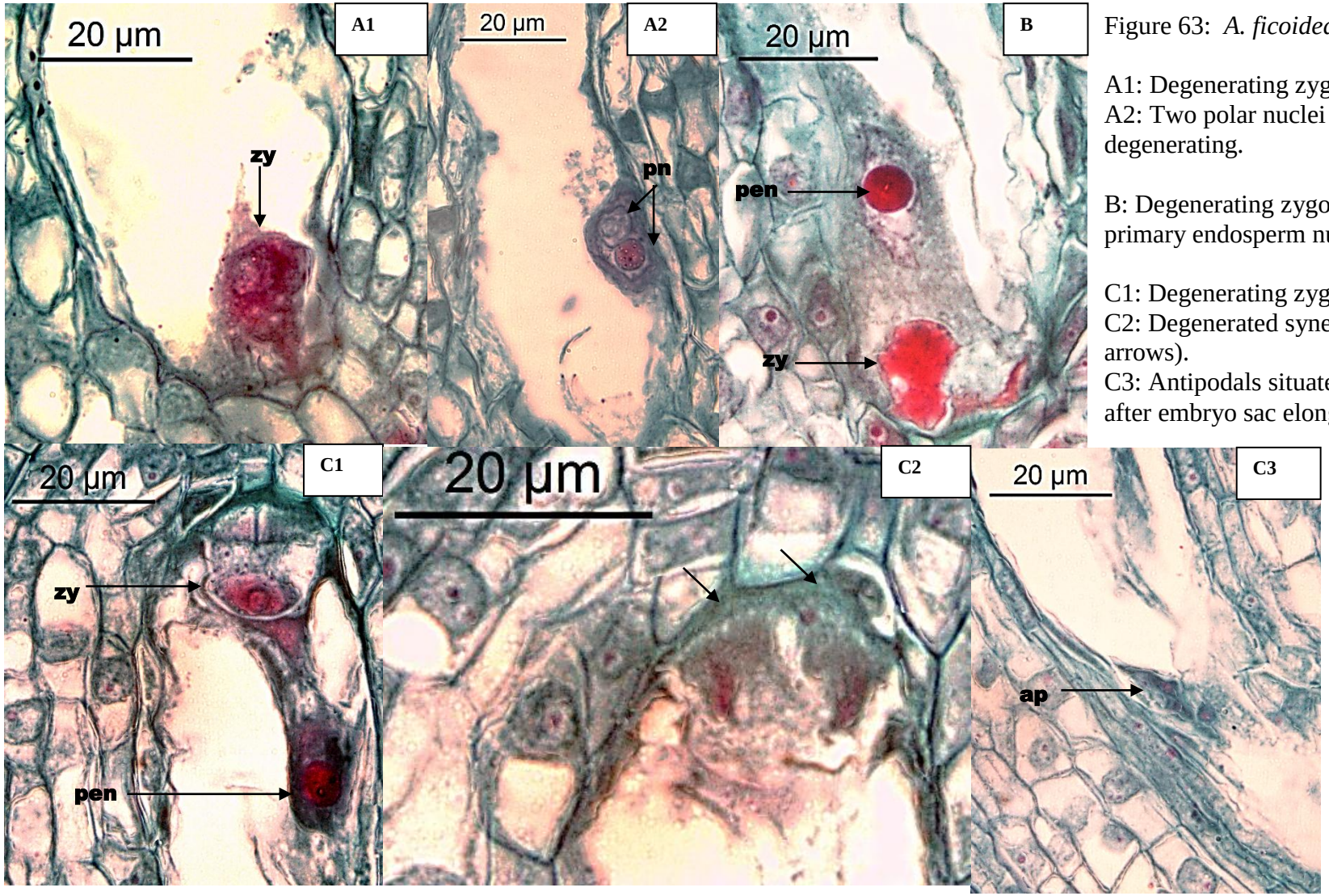


Figure 63: *A. ficoidea*. Zygote.

A1: Degenerating zygote.
A2: Two polar nuclei are not fused and are degenerating.

B: Degenerating zygote and conspicuous primary endosperm nucleus.

C1: Degenerating zygote.
C2: Degenerated synergids (indicated by arrows).
C3: Antipodals situated laterally degenerating after embryo sac elongation.

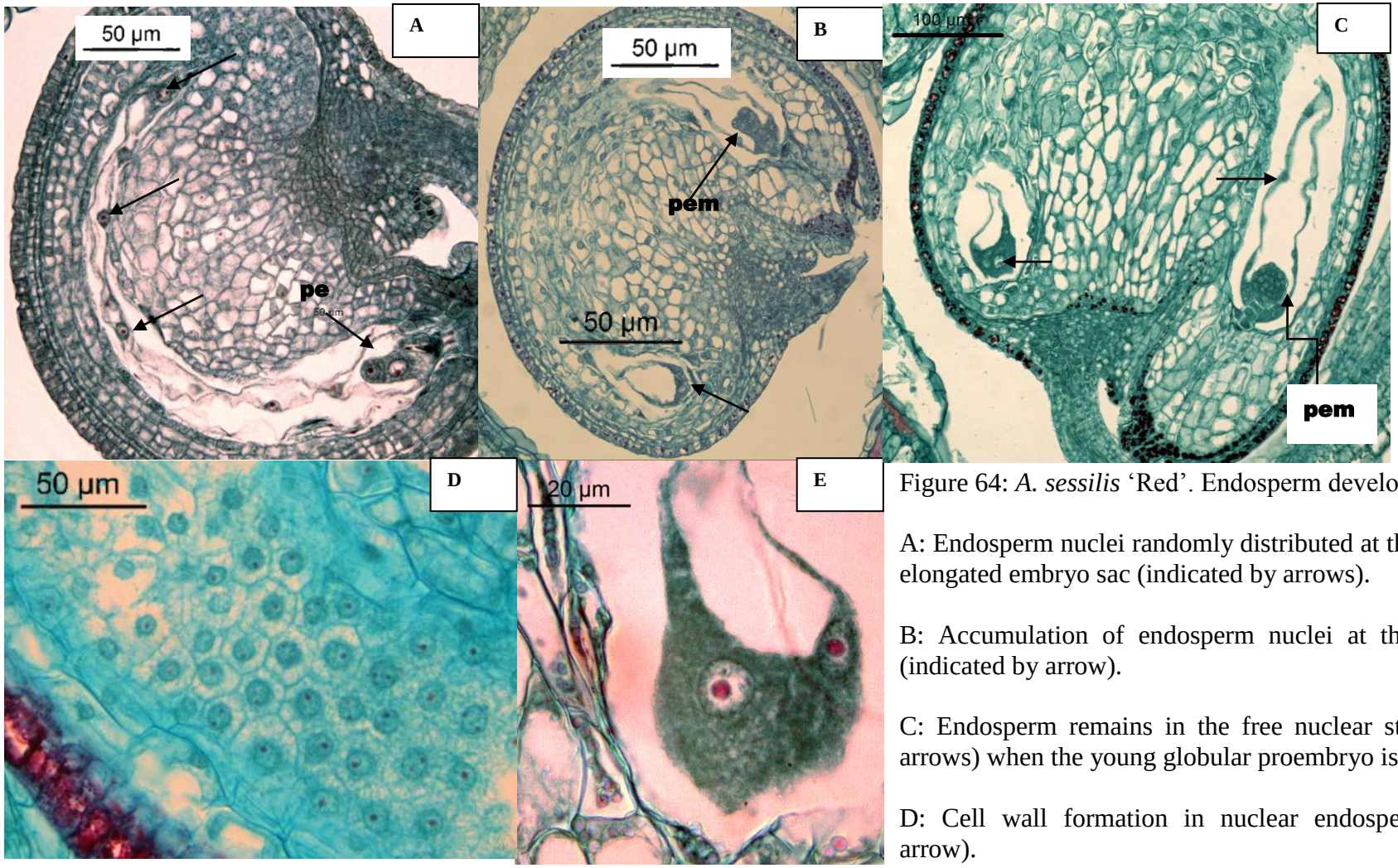


Figure 64: *A. sessilis* 'Red'. Endosperm development.

A: Endosperm nuclei randomly distributed at the periphery of the elongated embryo sac (indicated by arrows).

B: Accumulation of endosperm nuclei at the chalazal region (indicated by arrow).

C: Endosperm remains in the free nuclear stage (indicated by arrows) when the young globular proembryo is formed.

D: Cell wall formation in nuclear endosperm (indicated by arrow).

E: Larger nuclei at the chalazal region.

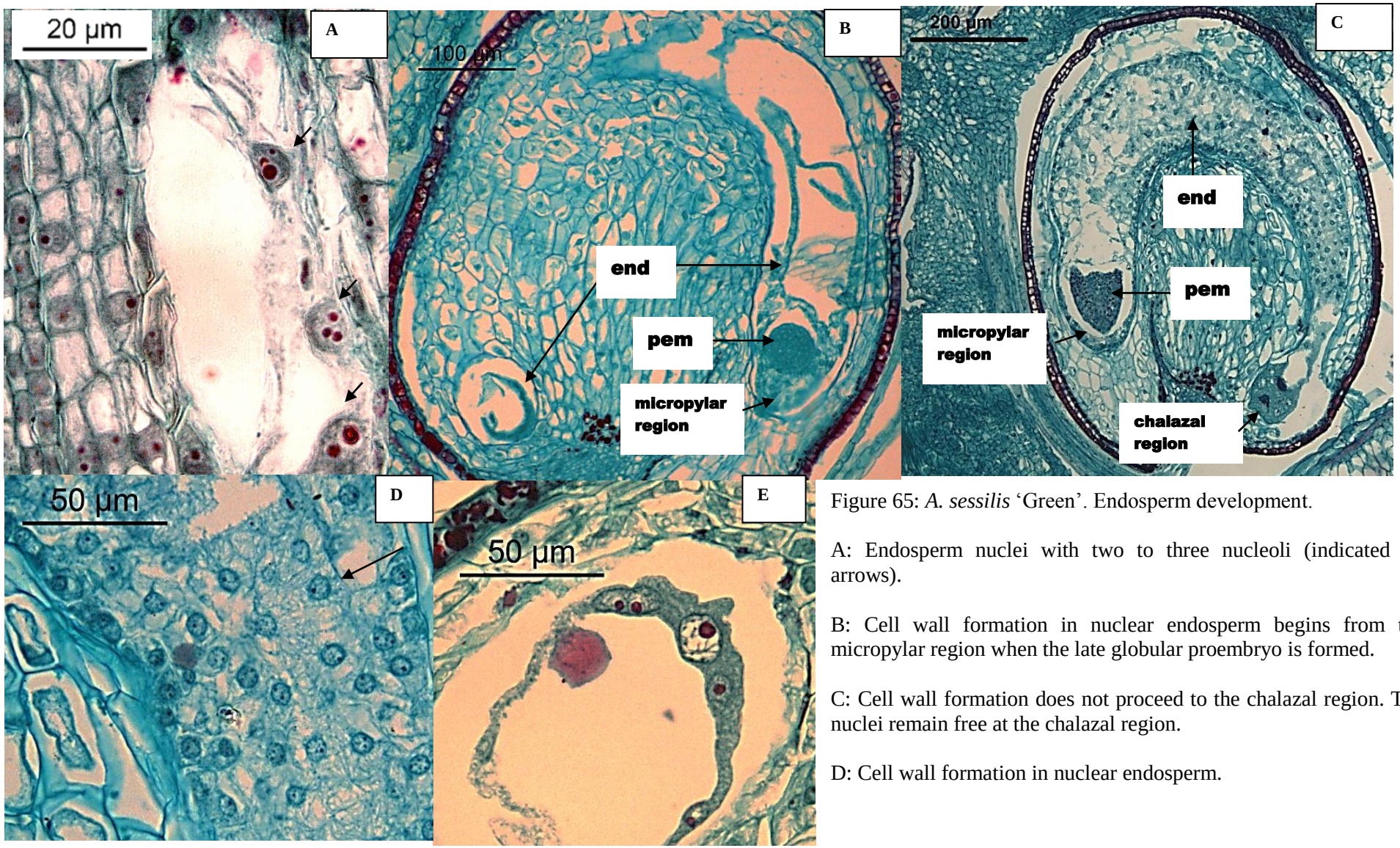


Figure 65: *A. sessilis* ‘Green’. Endosperm development.

A: Endosperm nuclei with two to three nucleoli (indicated by arrows).

B: Cell wall formation in nuclear endosperm begins from the micropylar region when the late globular proembryo is formed.

C: Cell wall formation does not proceed to the chalazal region. The nuclei remain free at the chalazal region.

D: Cell wall formation in nuclear endosperm.

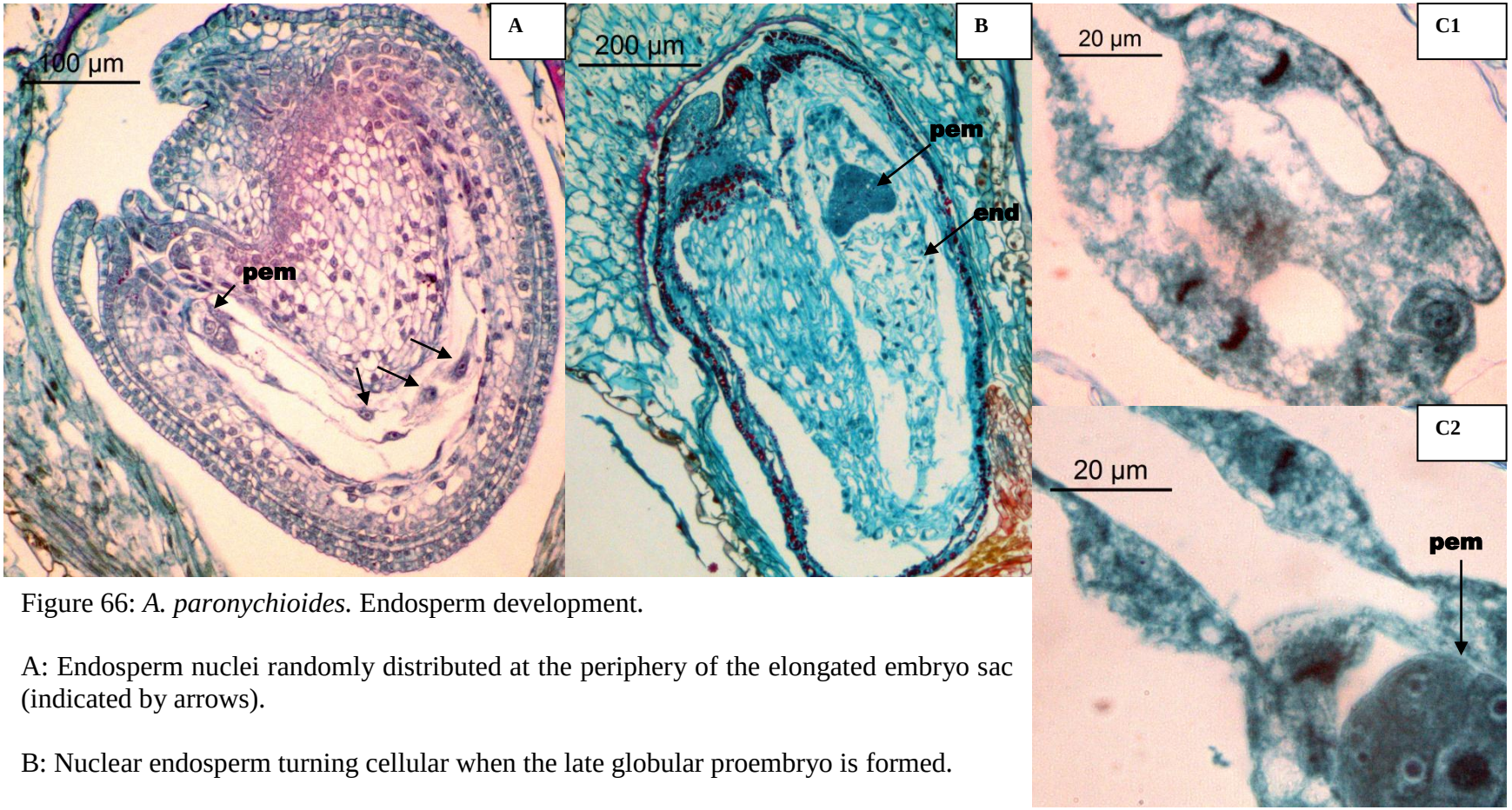
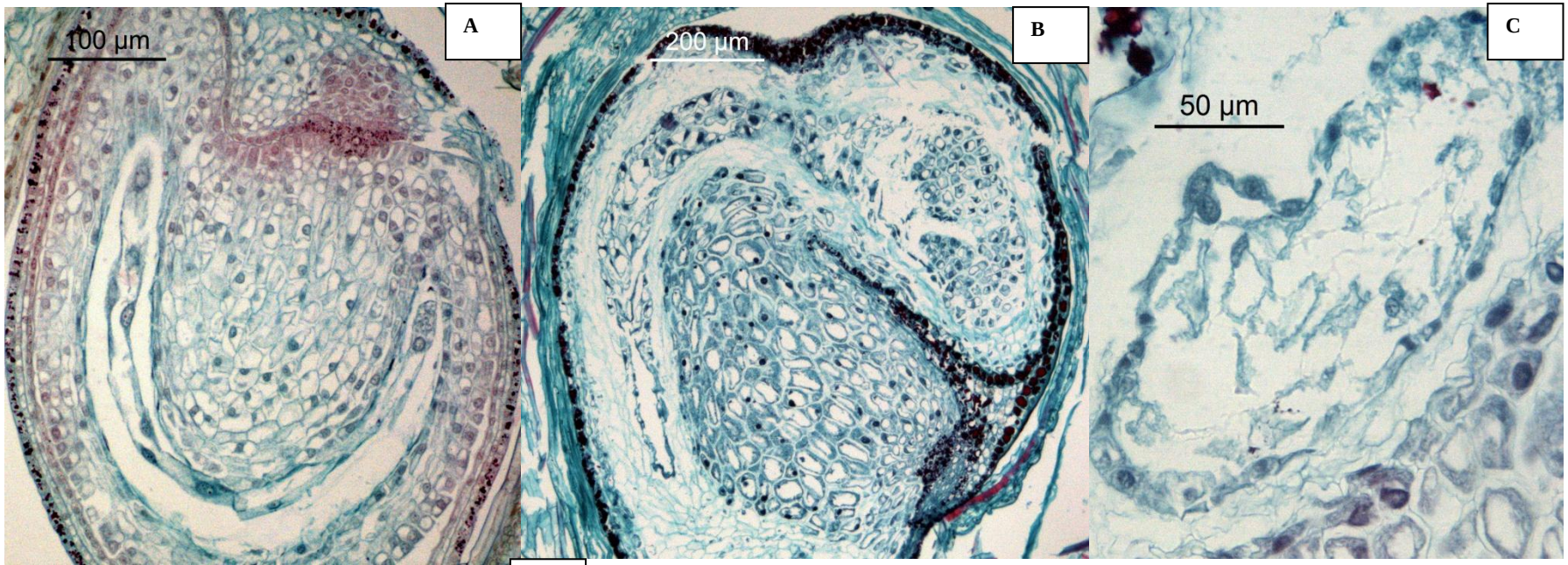


Figure 66: *A. paronychioides*. Endosperm development.

A: Endosperm nuclei randomly distributed at the periphery of the elongated embryo sac (indicated by arrows).

B: Nuclear endosperm turning cellular when the late globular proembryo is formed.

C: Mitotic division is not synchronous in nuclear endosperm.
C1 & C2: Nuclear endosperm undergoing division.



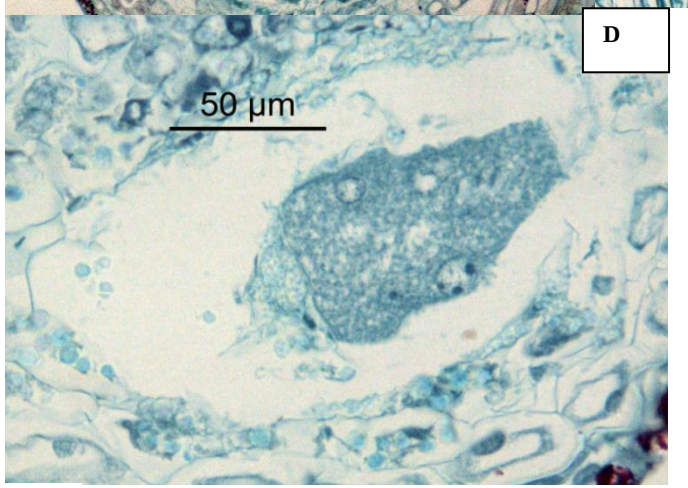


Figure 67: *A. brasiliana*. Endosperm development.

A: Endosperm nuclei randomly distributed at the periphery of the elongated embryo sac (indicated by arrows).

B: Cell wall formation does not proceed to the chalazal region. The nuclei remain free at the chalazal region.

C: Cell wall formation in nuclear endosperm.

D: Nuclear endosperm at the chalazal region.