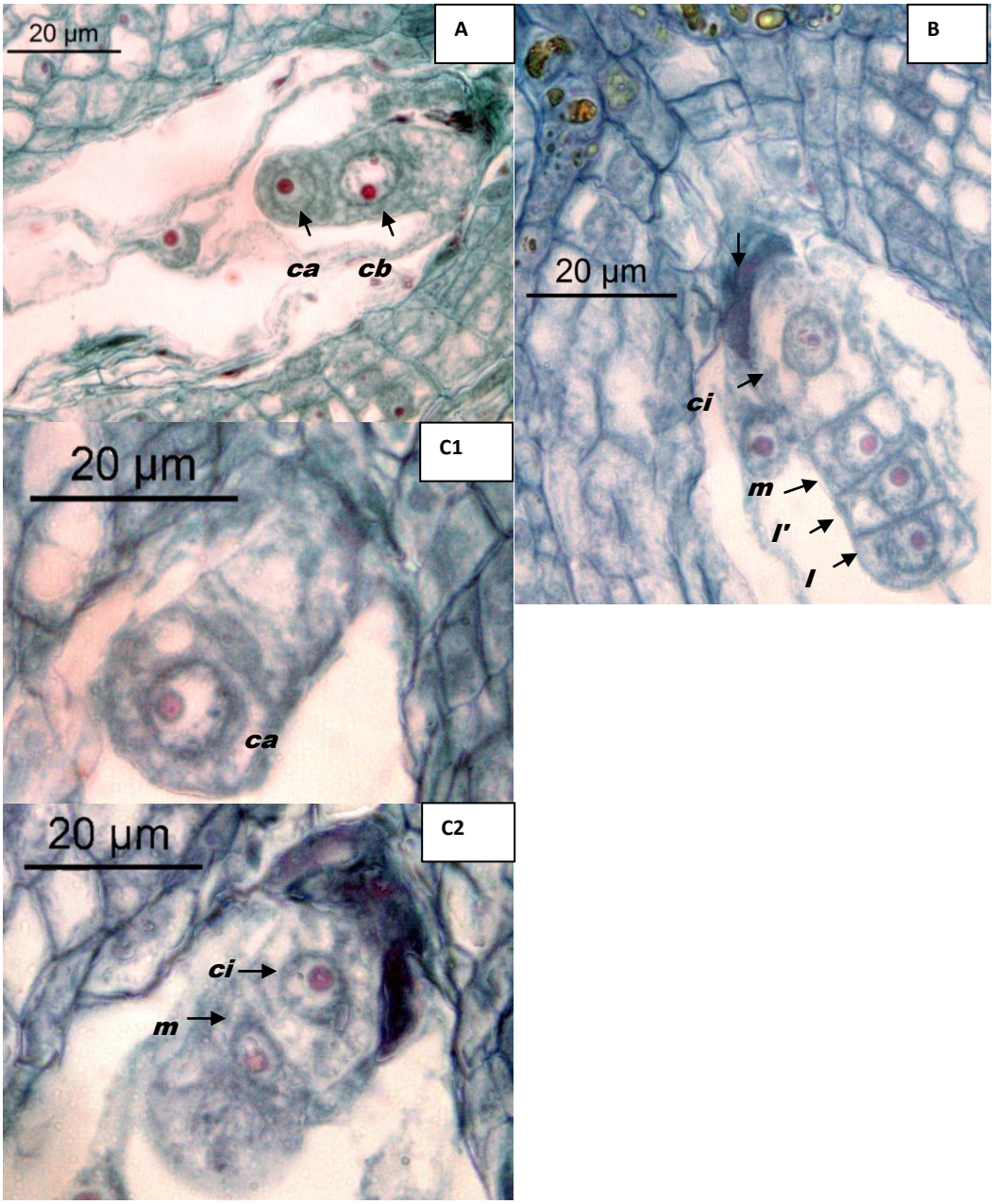

Figure 68: *A. sessilis* 'Red'. Two, three and four-celled proembryos.

A: Two-celled proembryo.
B: Four-celled proembryo. Remnants of degenerated synergid persist (indicated by arrow).

C: Three-celled proembryo.
C1: Prominent cell *ca.* C2:
Cell *cb* divides before *ca* giving rise to cells *ci* and *m*. Remnants of degenerated synergids persist (indicated by arrow).

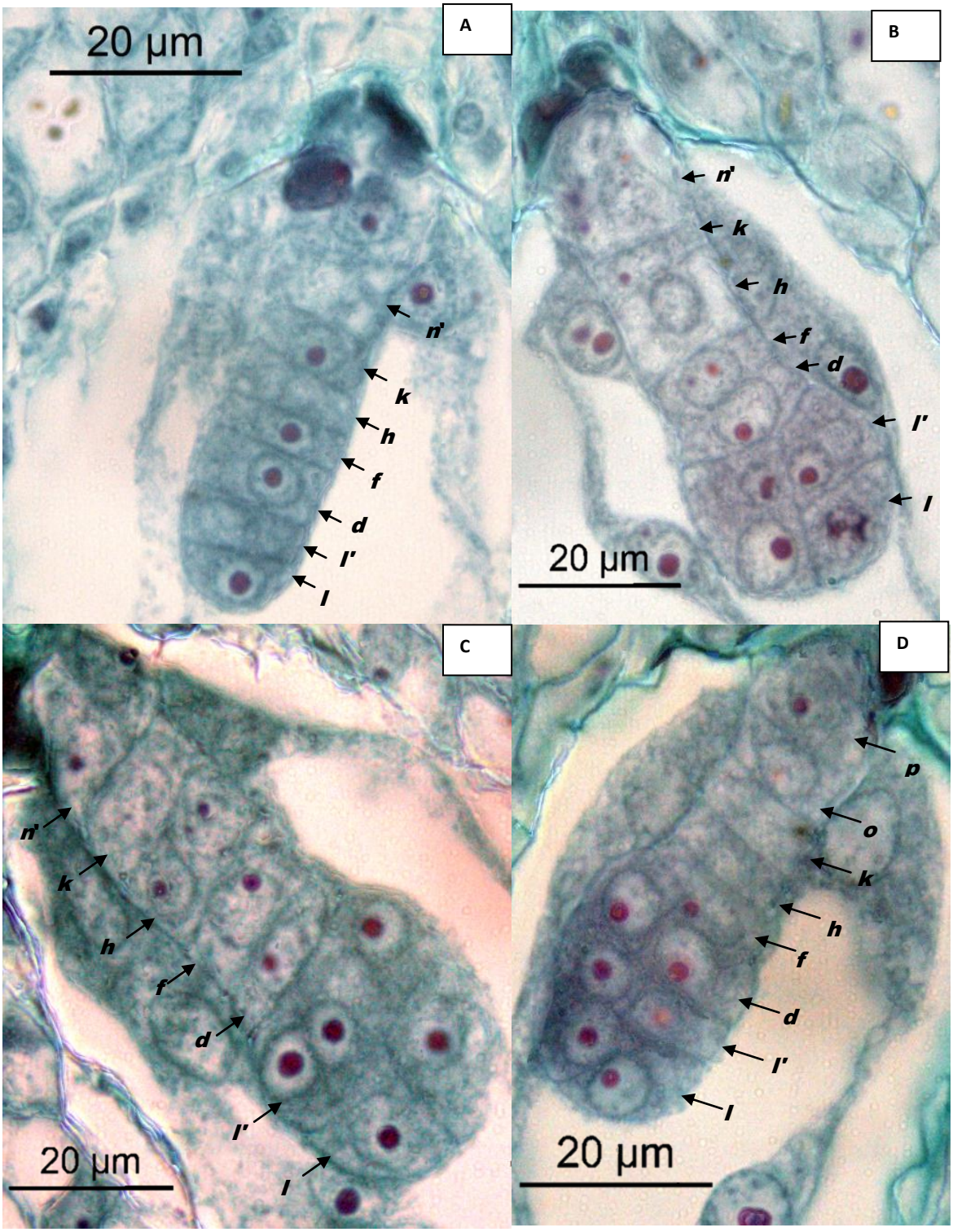

Figure 69: *A. sessilis* 'Red'. Linear, quadrant and octant proembryos.

A: Seven-celled linear proembryo.

B: Quadrant proembryo with accumulation of endosperm nuclei around it.

C and D: Octant proembryo.

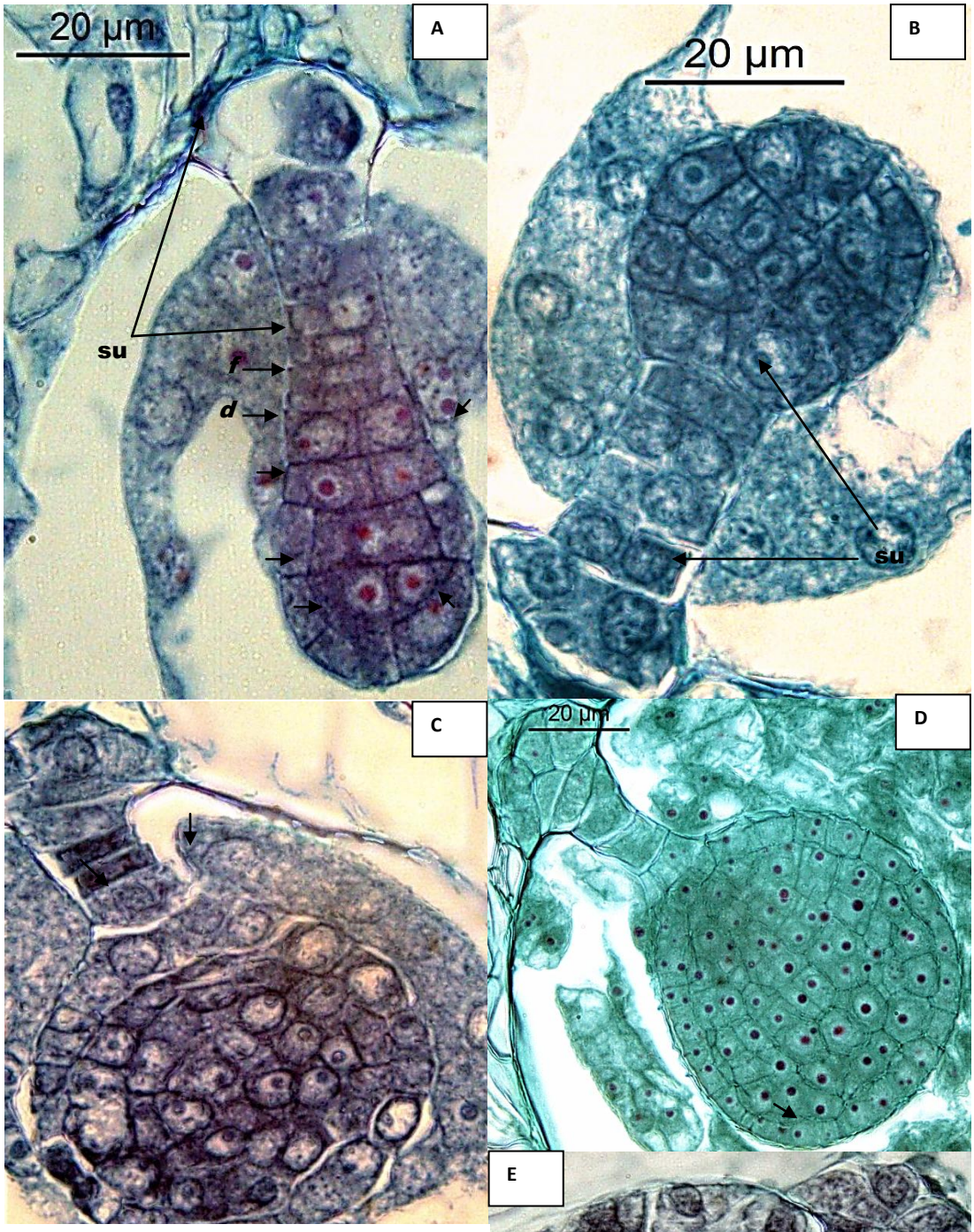

Figure 70: *A. sessilis* 'Red'. Octant proembryo and globular embryo.

A: Octant proembryo with dermatogen initiated (indicated by arrows).

B: Young globular embryo with multiseriate suspensor.

C: The lens-shaped hypophysis cells are detached from the upper cell of the suspensor (indicated by arrows).

D: Late globular embryo. Dermatogen is formed.

E: Late globular embryo. The suspensor is uniseriate except at the basal end where it is multiseriate (indicated by arrow).

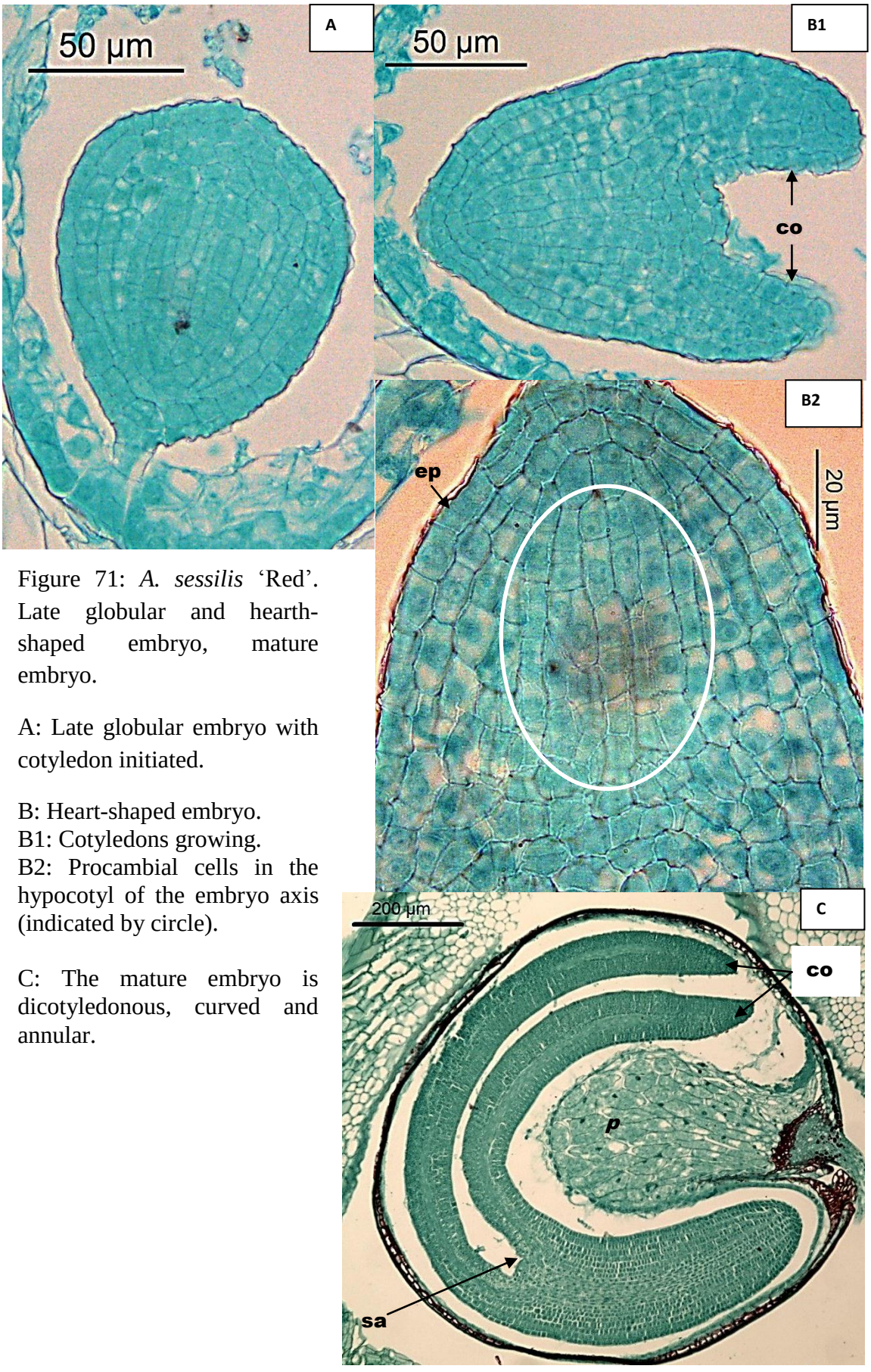

Figure 71: *A. sessilis* 'Red'. Late globular and hearth-shaped embryo, mature embryo.

A: Late globular embryo with cotyledon initiated.

B: Heart-shaped embryo.
B1: Cotyledons growing.
B2: Procambial cells in the hypocotyl of the embryo axis (indicated by circle).

C: The mature embryo is dicotyledonous, curved and annular.

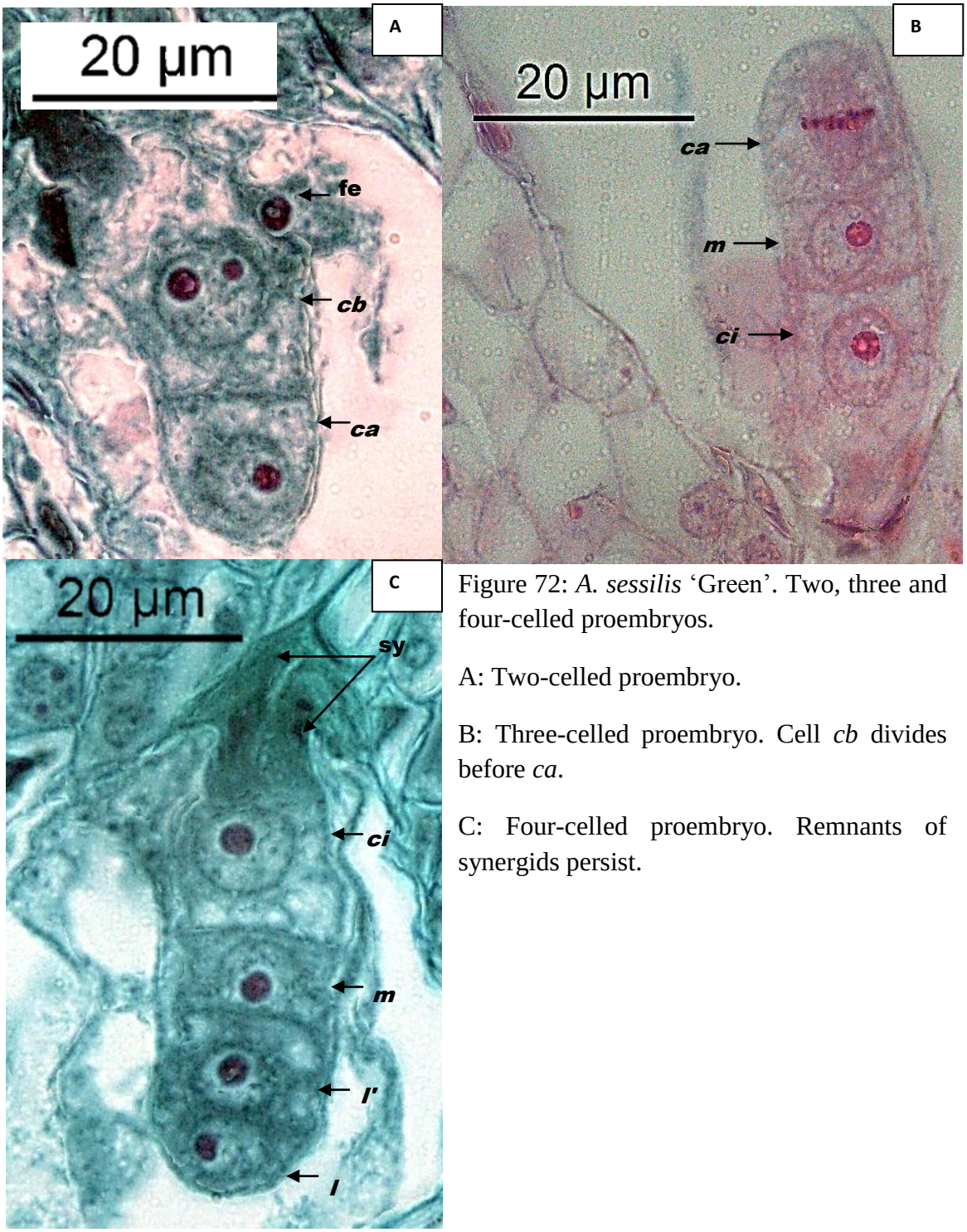

Figure 72: *A. sessilis* 'Green'. Two, three and four-celled proembryos.

A: Two-celled proembryo.

B: Three-celled proembryo. Cell *cb* divides before *ca*.

C: Four-celled proembryo. Remnants of synergids persist.

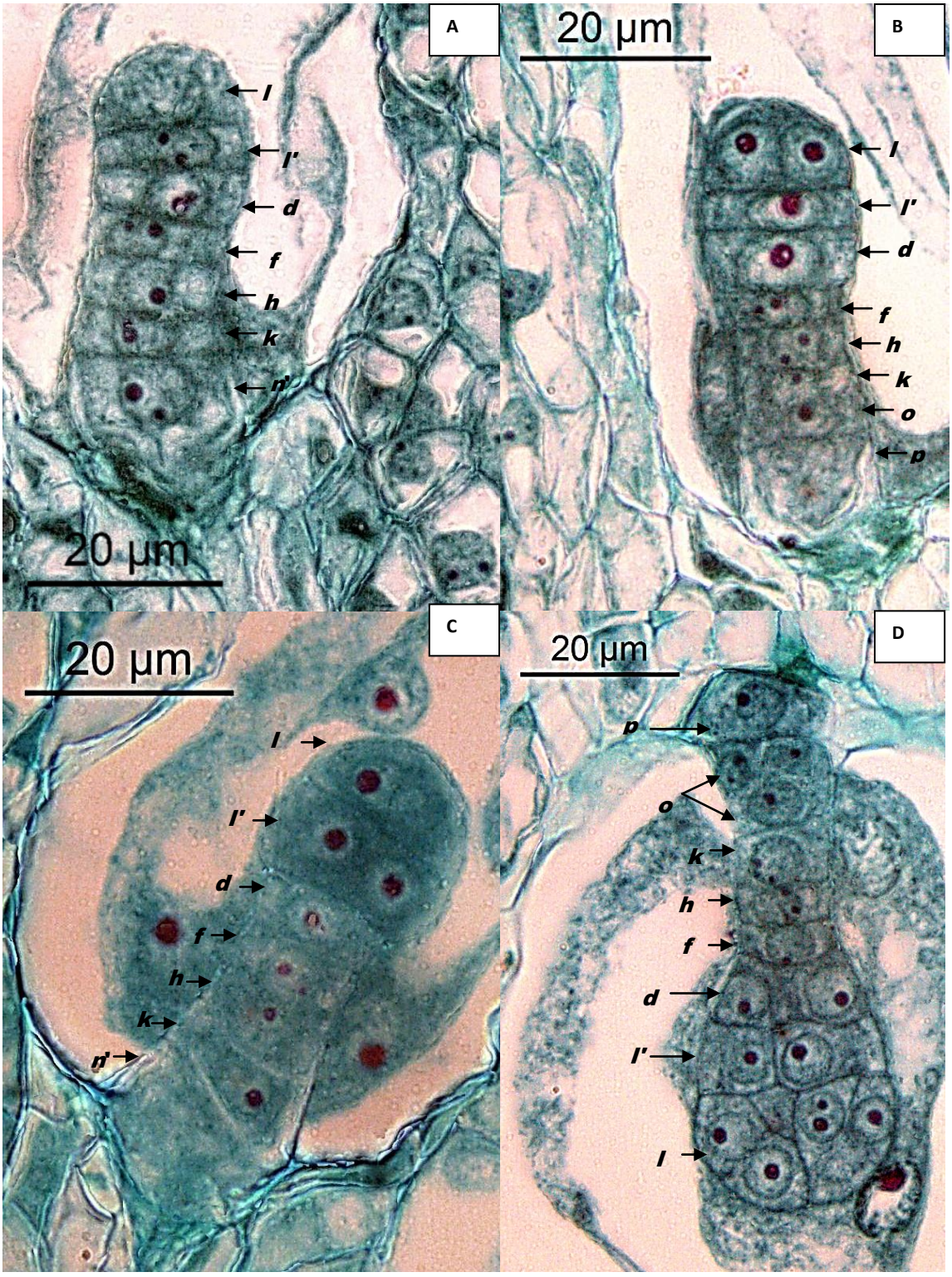

Figure 73: *A. sessilis* 'Green'. Linear, quadrant and octant proembryos.

A: Seven-celled linear proembryo.

B: Eight-celled linear proembryo.

C: Vertical division in *l* and *l'* results in a quadrant.

D: The quadrant continues to divide vertically or obliquely and gives rise to an octant.

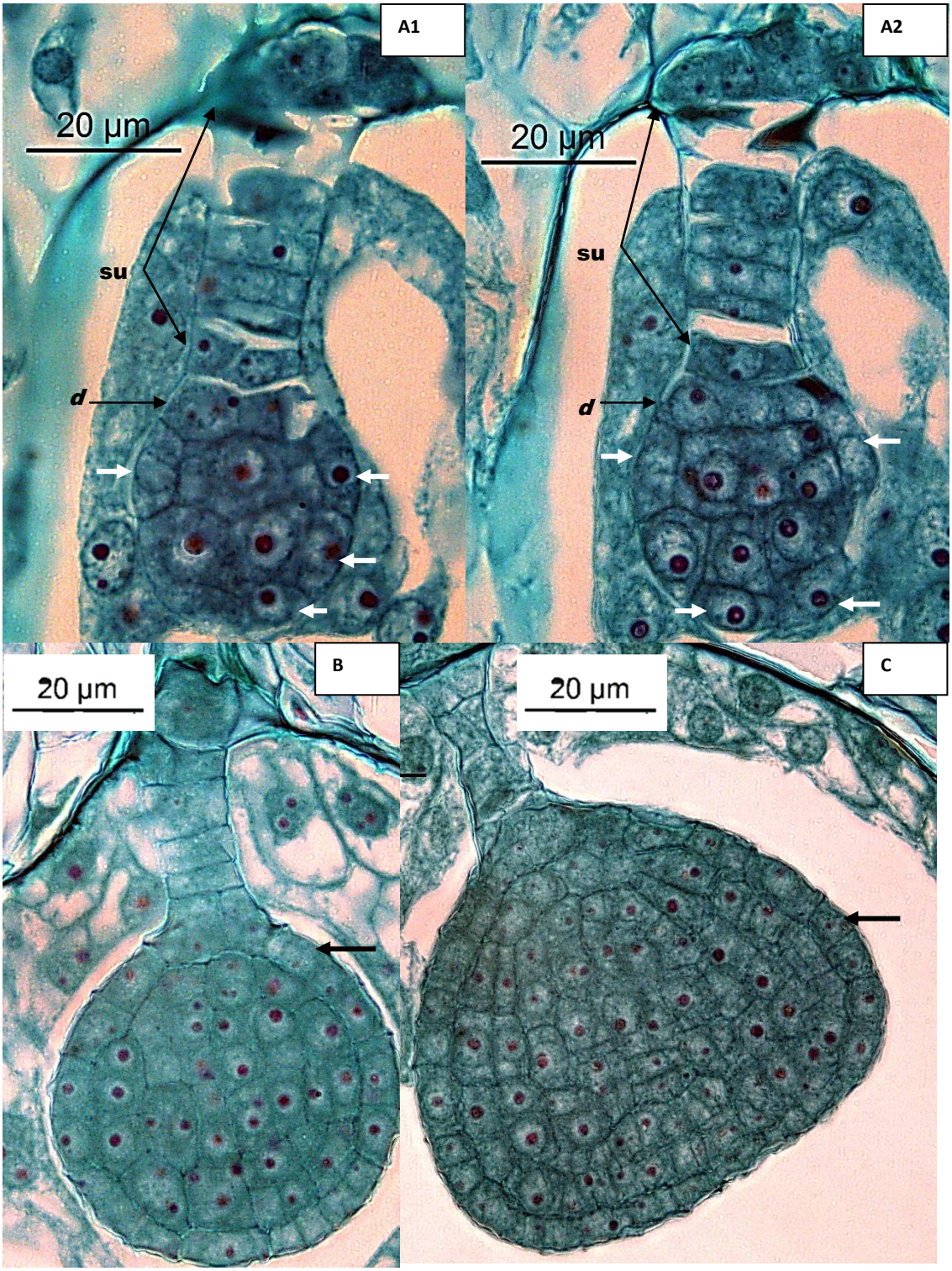

Figure 74: *A. sessilis* 'Green'. Octant and globular embryos.

A1 & A2: Octant proembryo with dermatogen initiated (indicated by arrows).

B & C: Late globular embryo. Dermatogen has been differentiated (indicated by arrow).

Figure 75*: A. sessilis* 'Green'. Torpedo and mature embryo.

A: Torpedo-shaped embryo with distinct procambial cells.

B: The mature embryo is dicotyledonous, curved and annular.

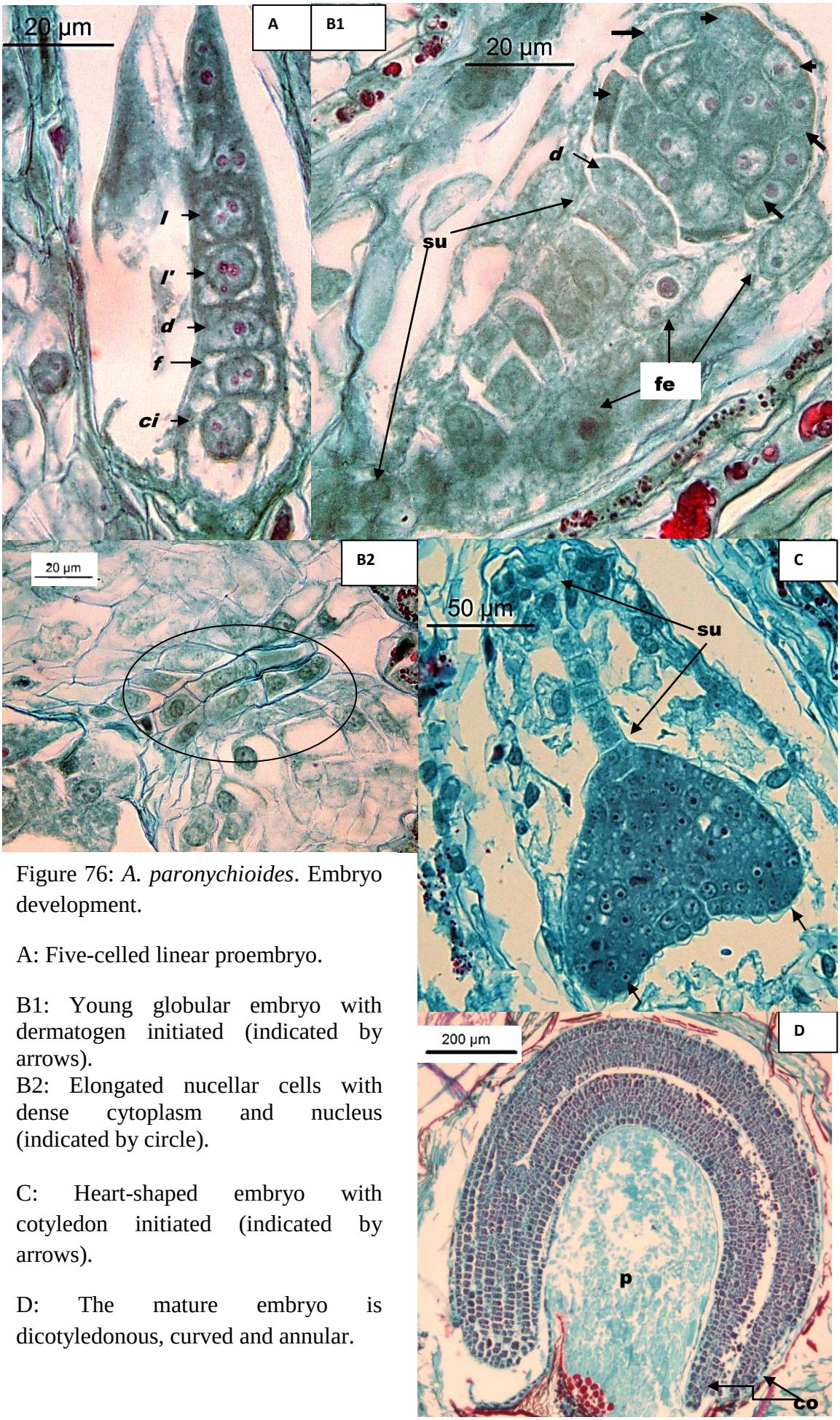

Figure 76: *A. paronychioides*. Embryo development.

A: Five-celled linear proembryo.

B1: Young globular embryo with dermatogen initiated (indicated by arrows).
B2: Elongated nucellar cells with dense cytoplasm and nucleus (indicated by circle).

C: Heart-shaped embryo with cotyledon initiated (indicated by arrows).

D: The mature embryo is dicotyledonous, curved and annular.

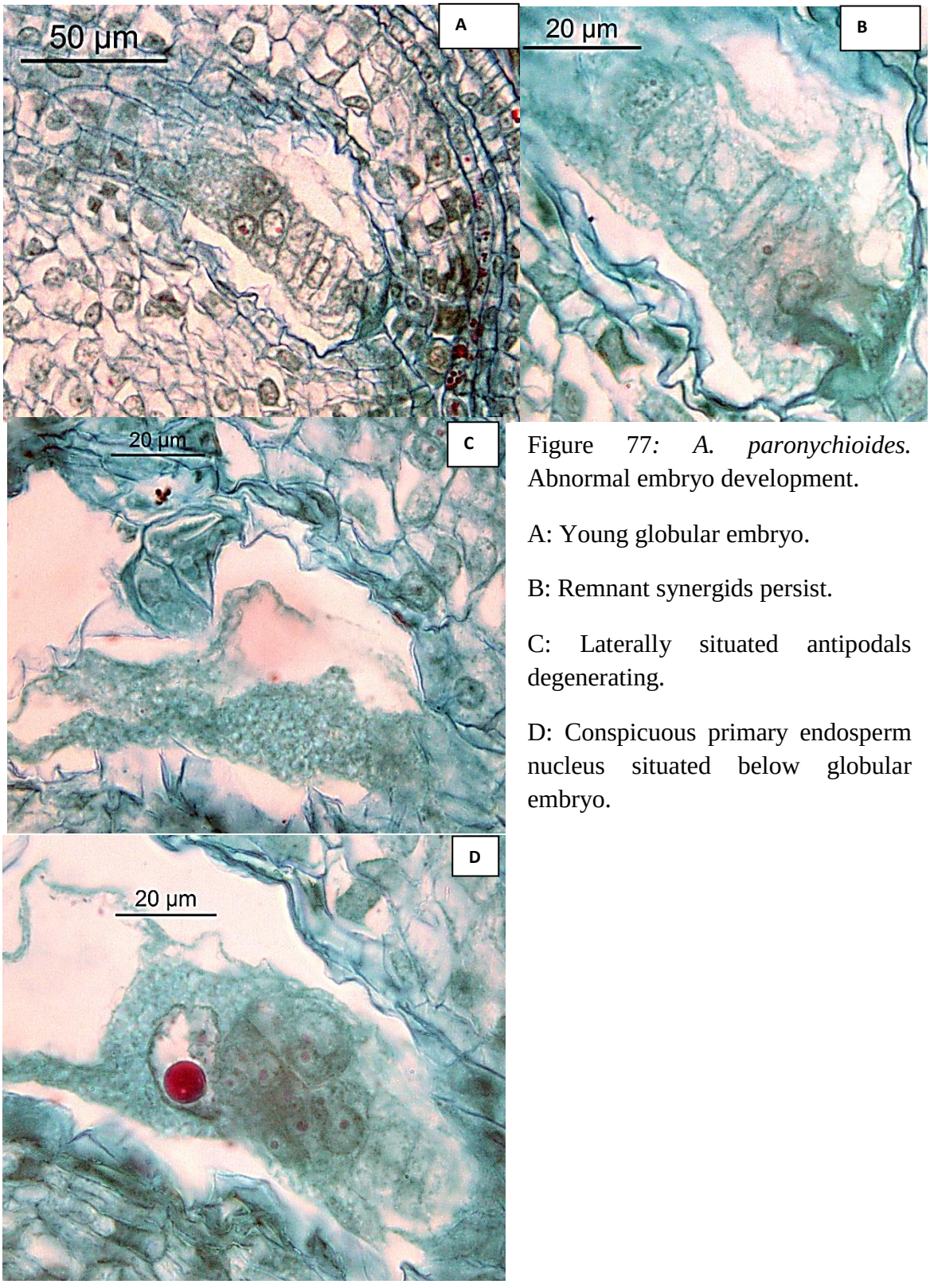

Figure 77*: A. paronychioides.* Abnormal embryo development.

A: Young globular embryo.

B: Remnant synergids persist.

C: Laterally situated antipodals degenerating.

D: Conspicuous primary endosperm nucleus situated below globular embryo.

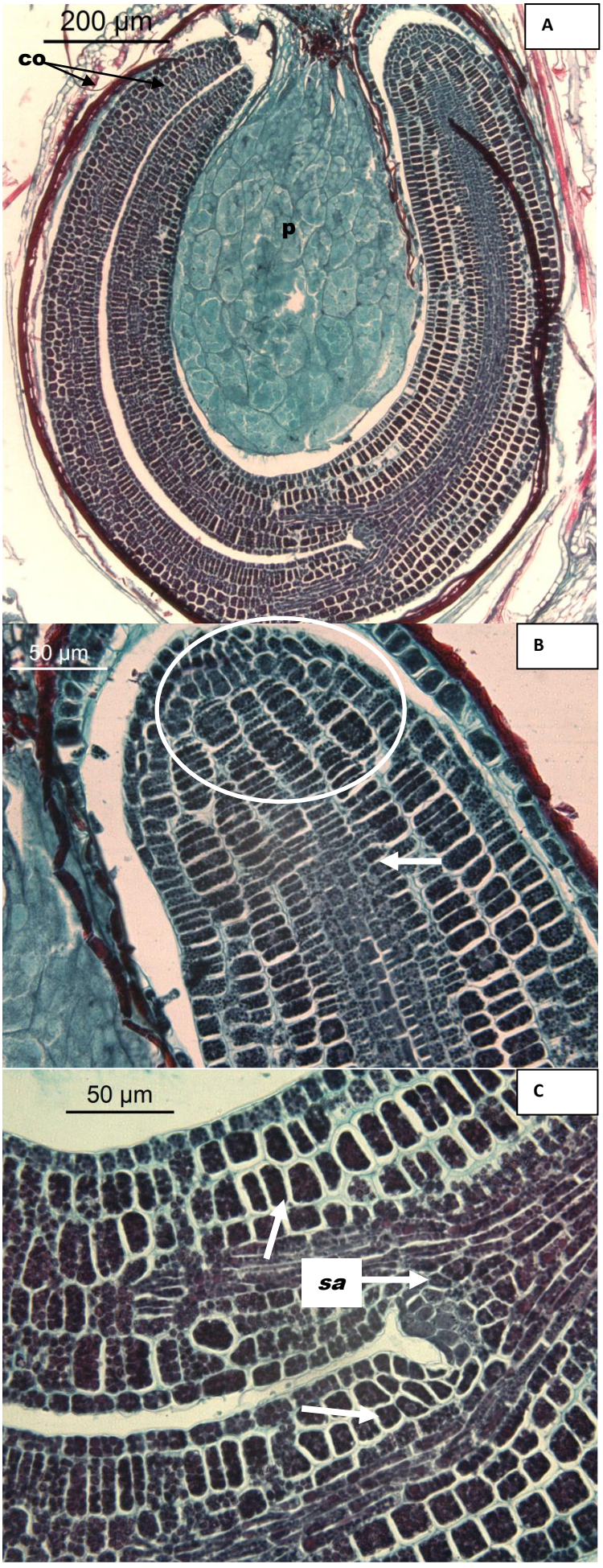

Figure 78: *A. ficoidea*. Mature embryo.

A: The mature embryo is dicotyledonous, curved and annular.

8B: Root apical meristem (indicated by circle) and procambial cells (indicated by arrow).

C: Procambial cells growing in the cotyledons (indicated by arrows).

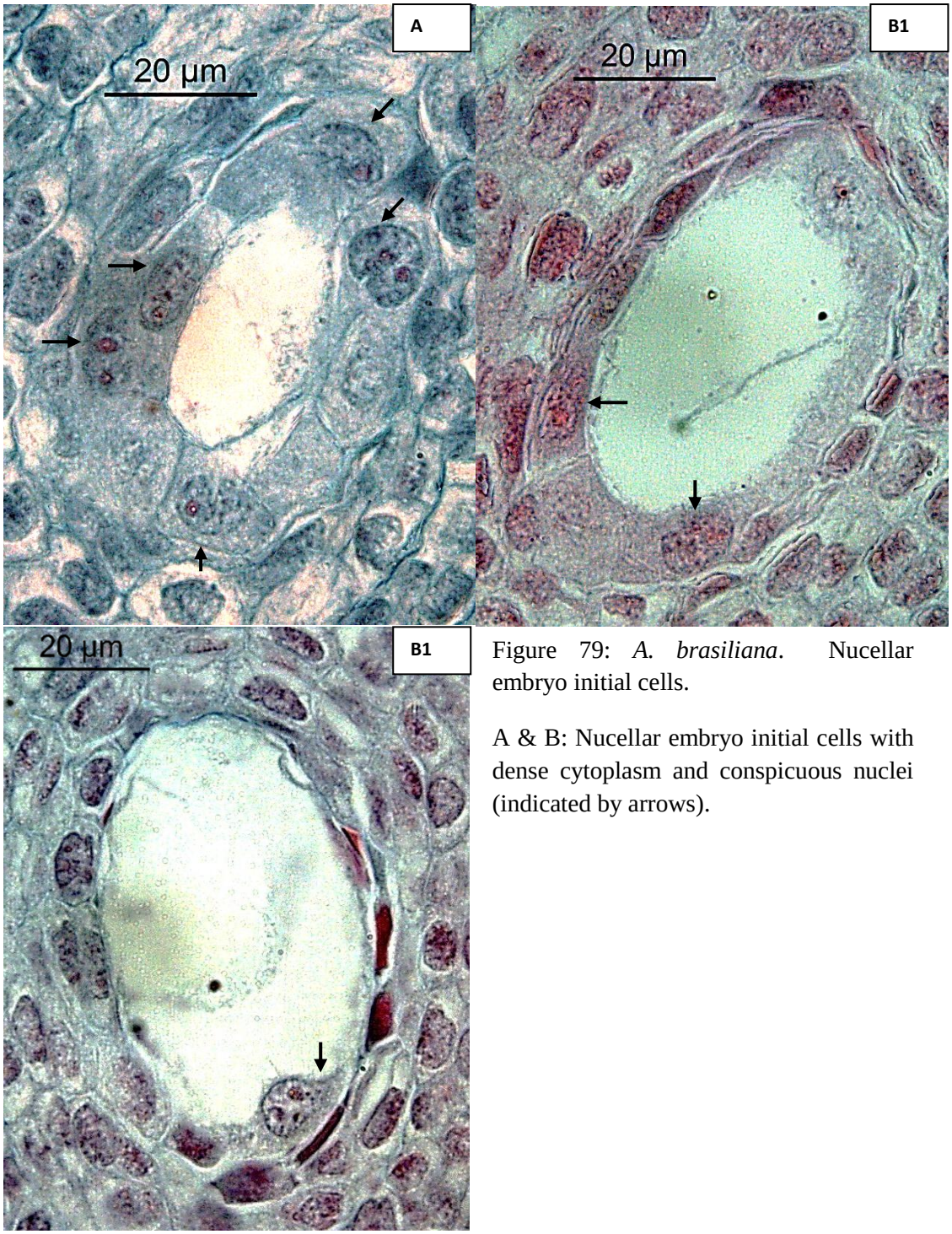

Figure 79: *A. brasiliana*. Nucellar embryo initial cells.

A & B: Nucellar embryo initial cells with dense cytoplasm and conspicuous nuclei (indicated by arrows).

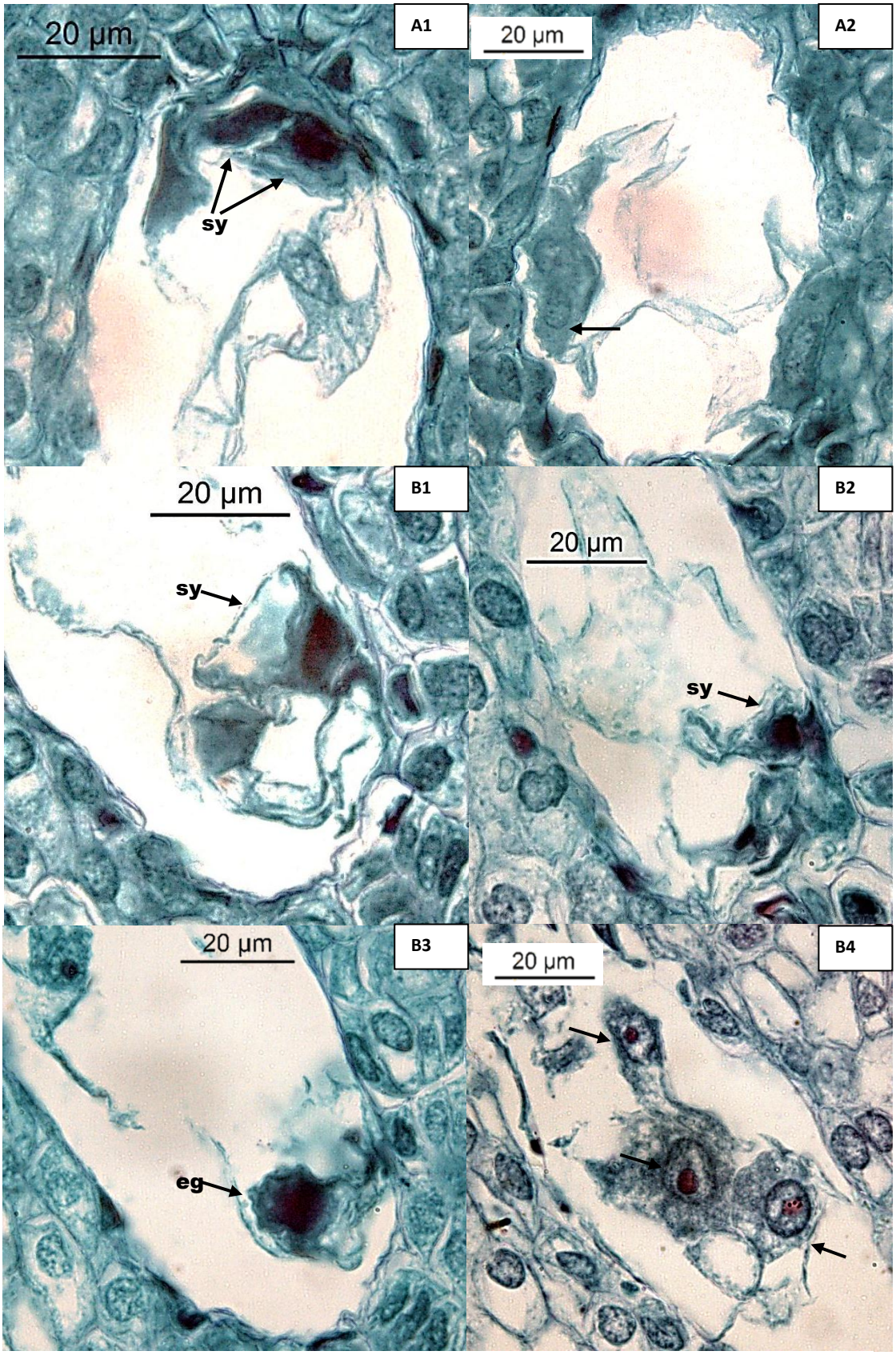

Figure 80: *A. brasiliana*. Degenerating egg apparatus, nucellar embryo initial cells and nuclear endosperm.

A1: Degenerating synergids.
A2: Nucellar embryo initial cells (indicated by arrow).
B1 & B2: Degenerating synergids.
B3: Degenerating egg cell.
B4: Free endosperm nucleus (indicated by arrows).

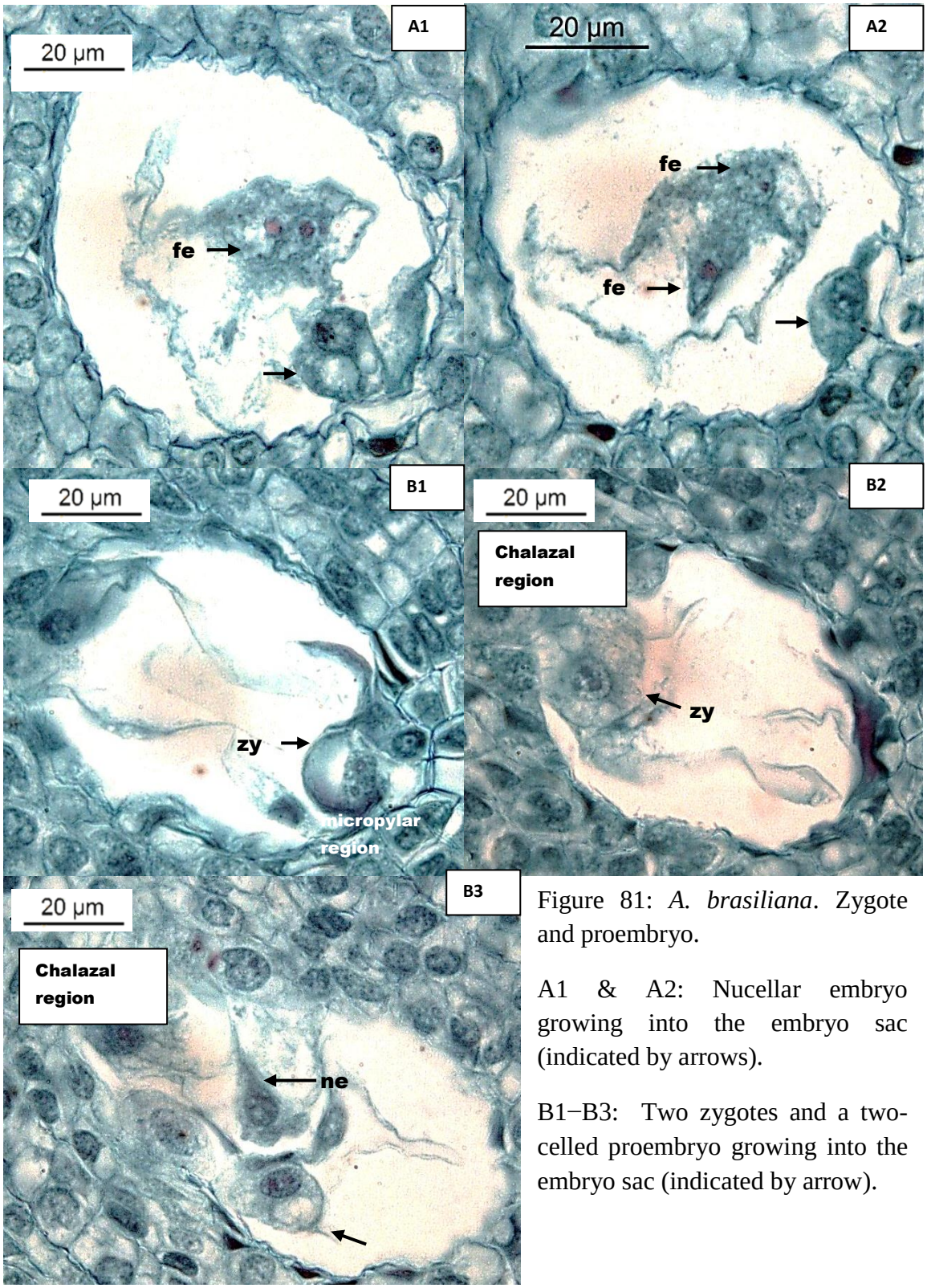

Figure 81: *A. brasiliana*. Zygote and proembryo.

A1 & A2: Nucellar embryo growing into the embryo sac (indicated by arrows).

B1−B3: Two zygotes and a two-celled proembryo growing into the embryo sac (indicated by arrow).

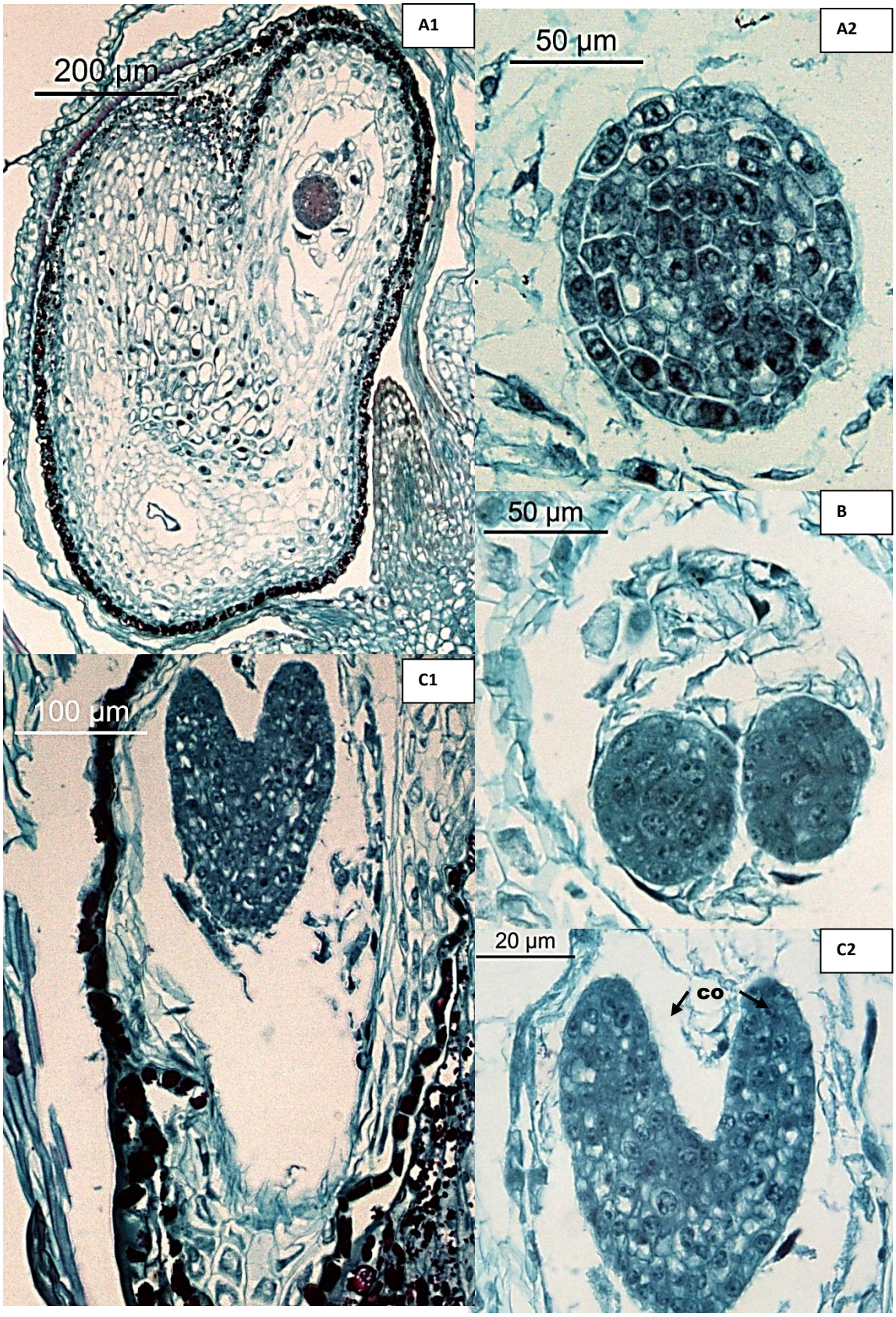

Figure 82: *A. brasiliana*. Globular and torpedo embryos.

A1: Globular embryos without suspensor and located further away from the micropyle.
A2: Globular embryo without histogenic differentiation.
B: Two globular embryos in a single embryo sac.
C1 & C2: Torpedo embryo without suspensor and located further away from the

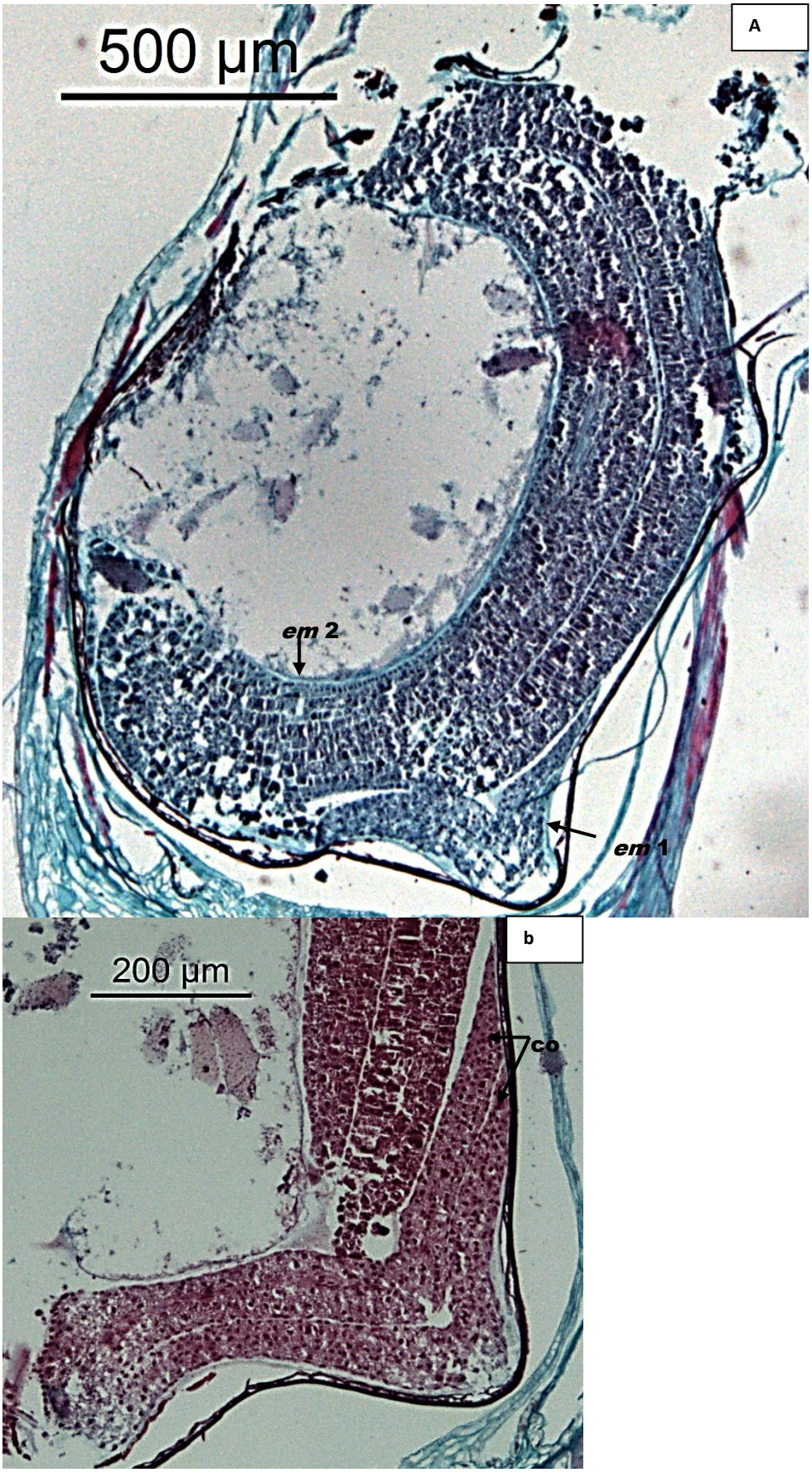

Figure 83: *A. brasiliana*. Mature embryo.

A: Two embryos in a seed.

B: The smaller embryo.