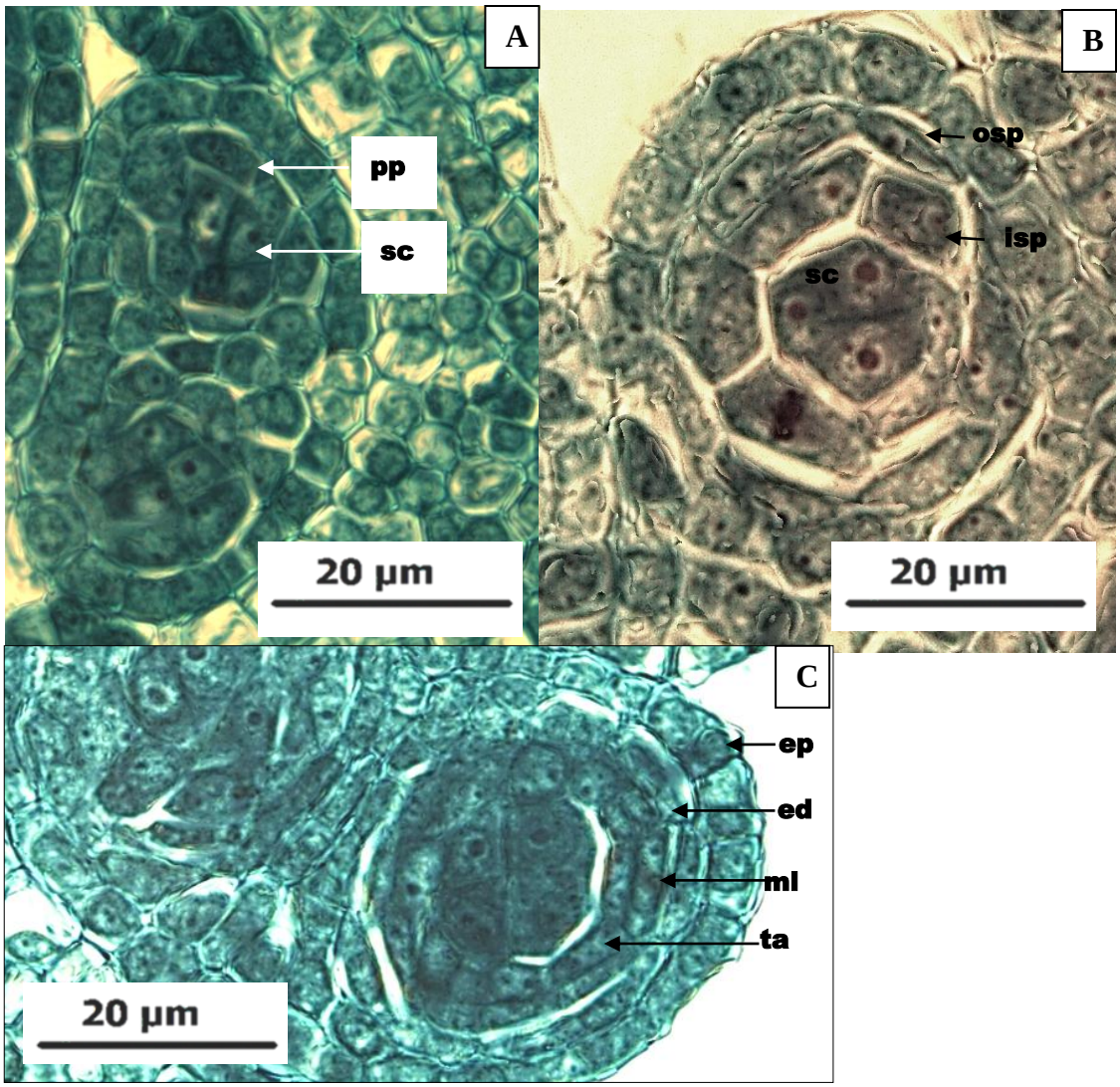

Figure 33: *A. sessilis* 'Red'. Anther wall development.

A: A bisporiangiate anther showing the primary parietal cells and sporogenous cells.

B: Outer and inner secondary parietal cells.

C: Monocotyledonous type of anther wall development.

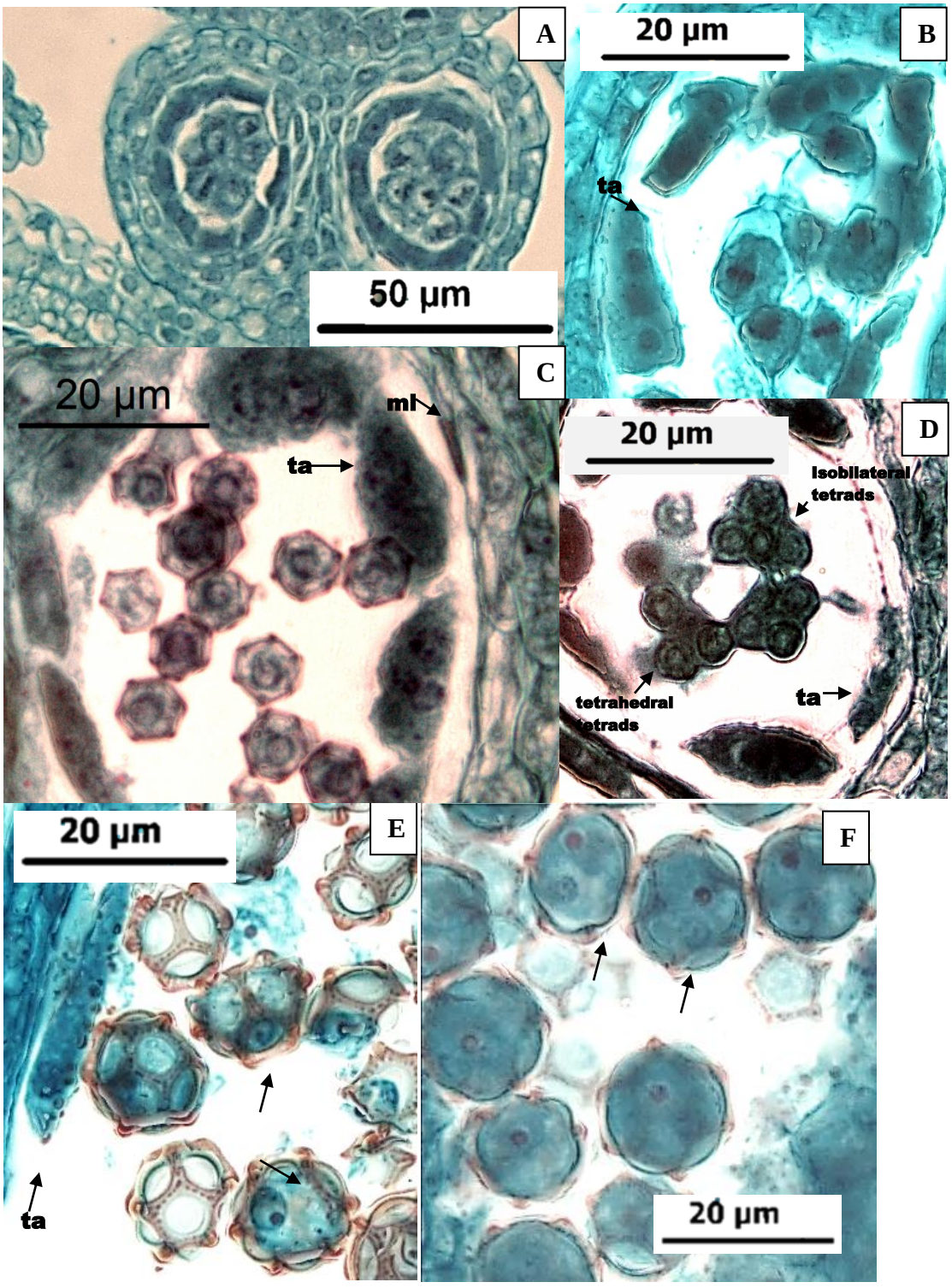

Figure 34: *A. sessilis* 'Red'. Microsporogenesis and microspores.

A: Microsporocytes at late prophase
B: Microsporocytes at metaphase I.
C: Microspores released from callose.
D: Tetrahedral microspore tetrads.
E: Microspores at signet-ring stage (indicated by arrows). Tapetum deposited with ubisch granules.
F: Two-celled microspores (indicated by arrows).

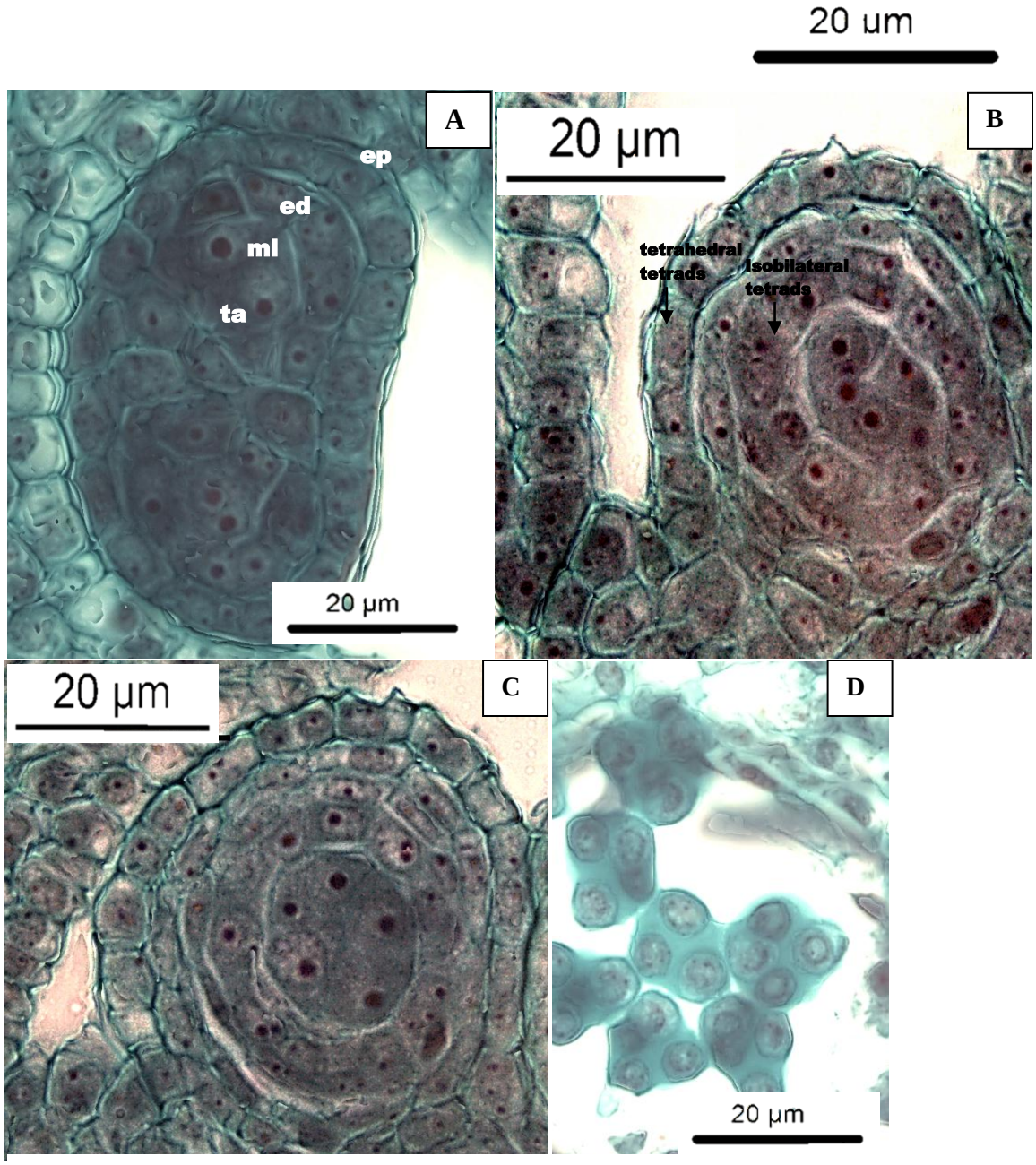

Figure 35: *A. sessilis* 'Green'. Anther wall development.

A: A bisporiangiate anther showing primary parietal cells and sporogenous cells.

B: Monocotyledonous type of anther wall development.

C: Dicotyledonous type of anther wall development.

D: Tetrahedral and isobilateral microspore tetrads.

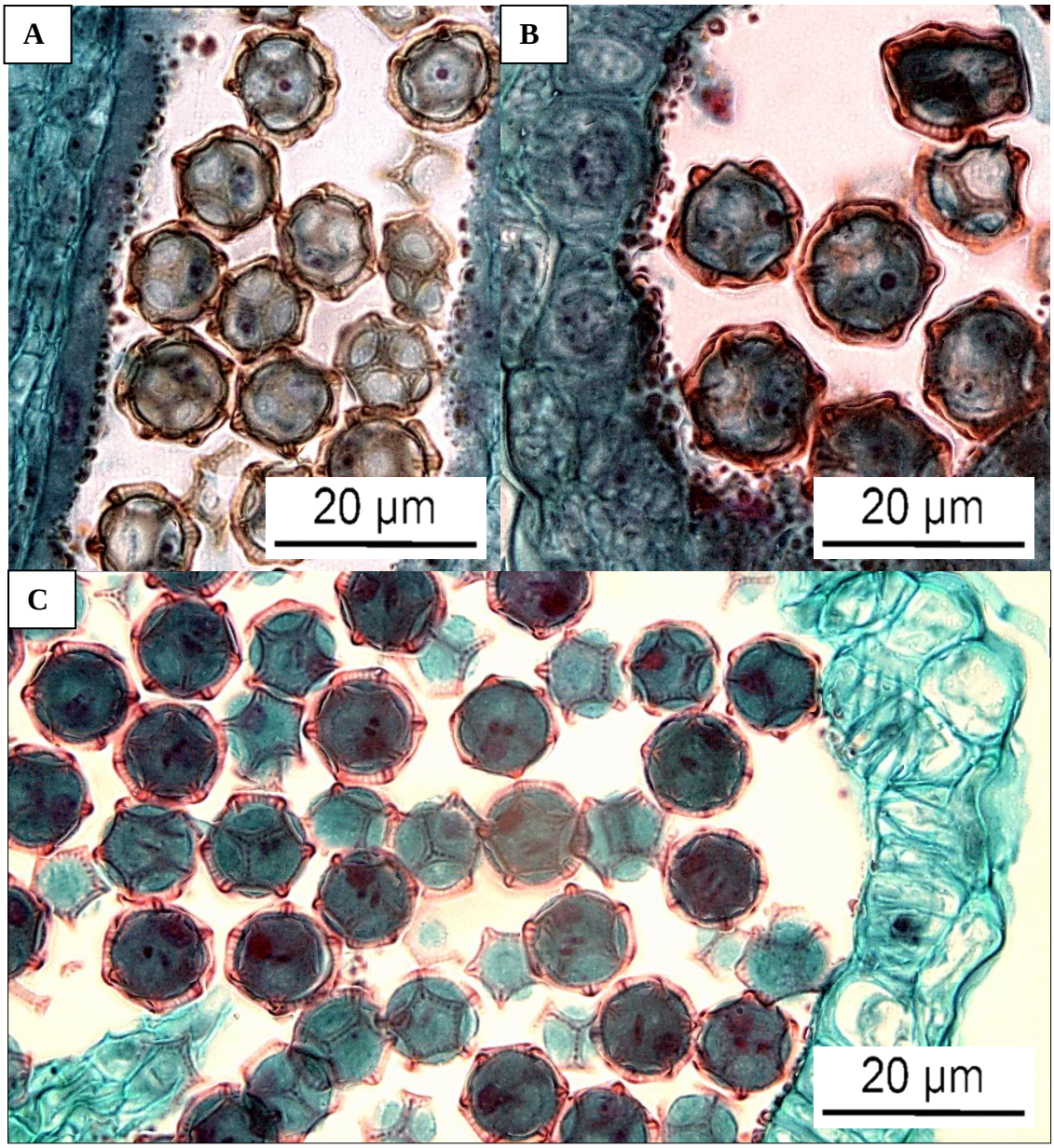

Figure 36: *A. sessilis* ‘Green’. Microspores and mature pollen grains.

A: Microspores at signet-ring stage and the tapetum is deposited with ubisch granules.

B: Two-celled microspores.

C: Three-celled pollen grains.

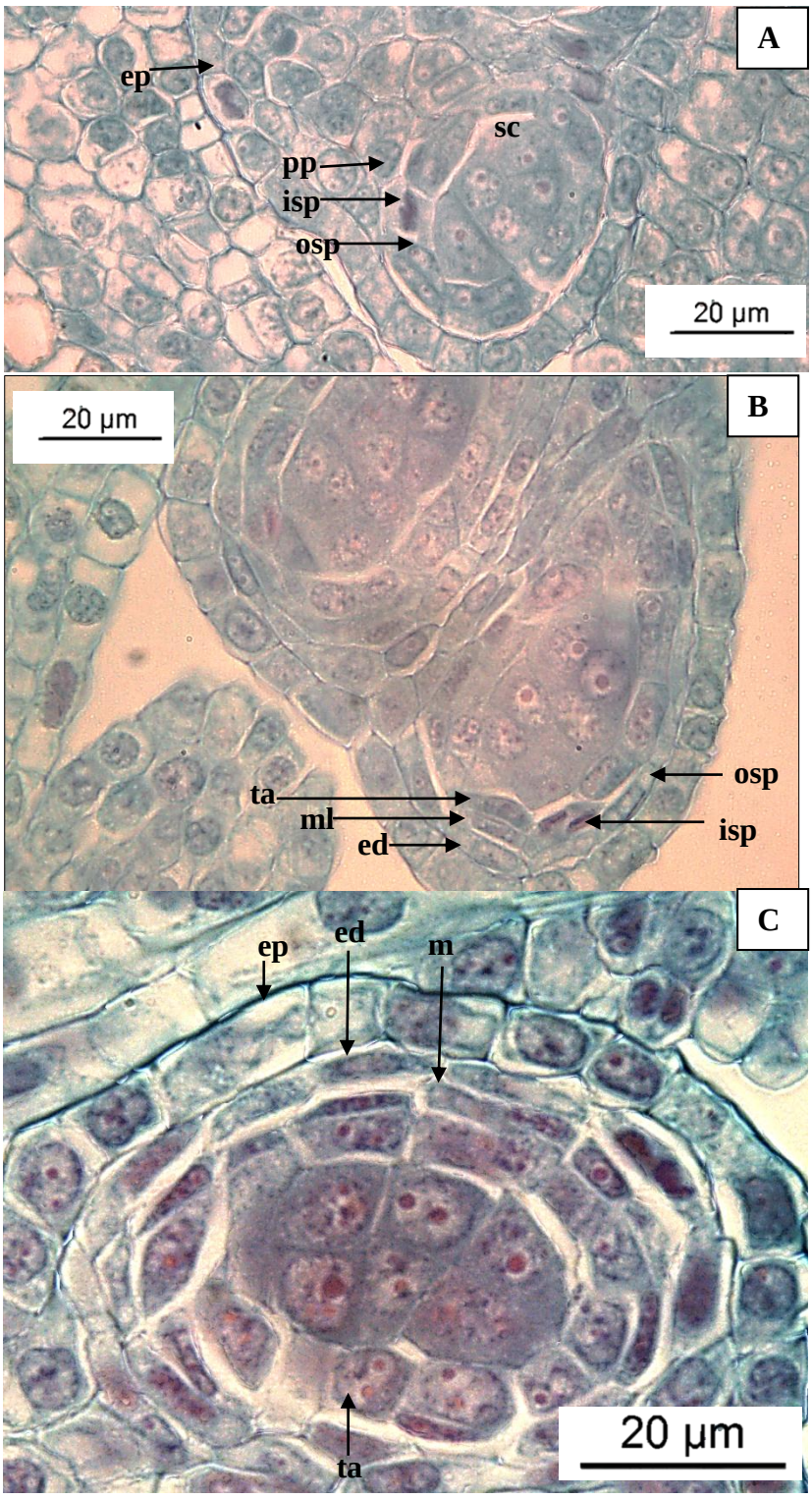

Figure 37: *A. paronychioides*. Anther wall development.

A: Outer and inner secondary parietal.

B: Monocotyledonous type of anther wall development.

C: Dicotyledonous type of anther development. Two nuclei fuse into a large nucleus in tapetum.

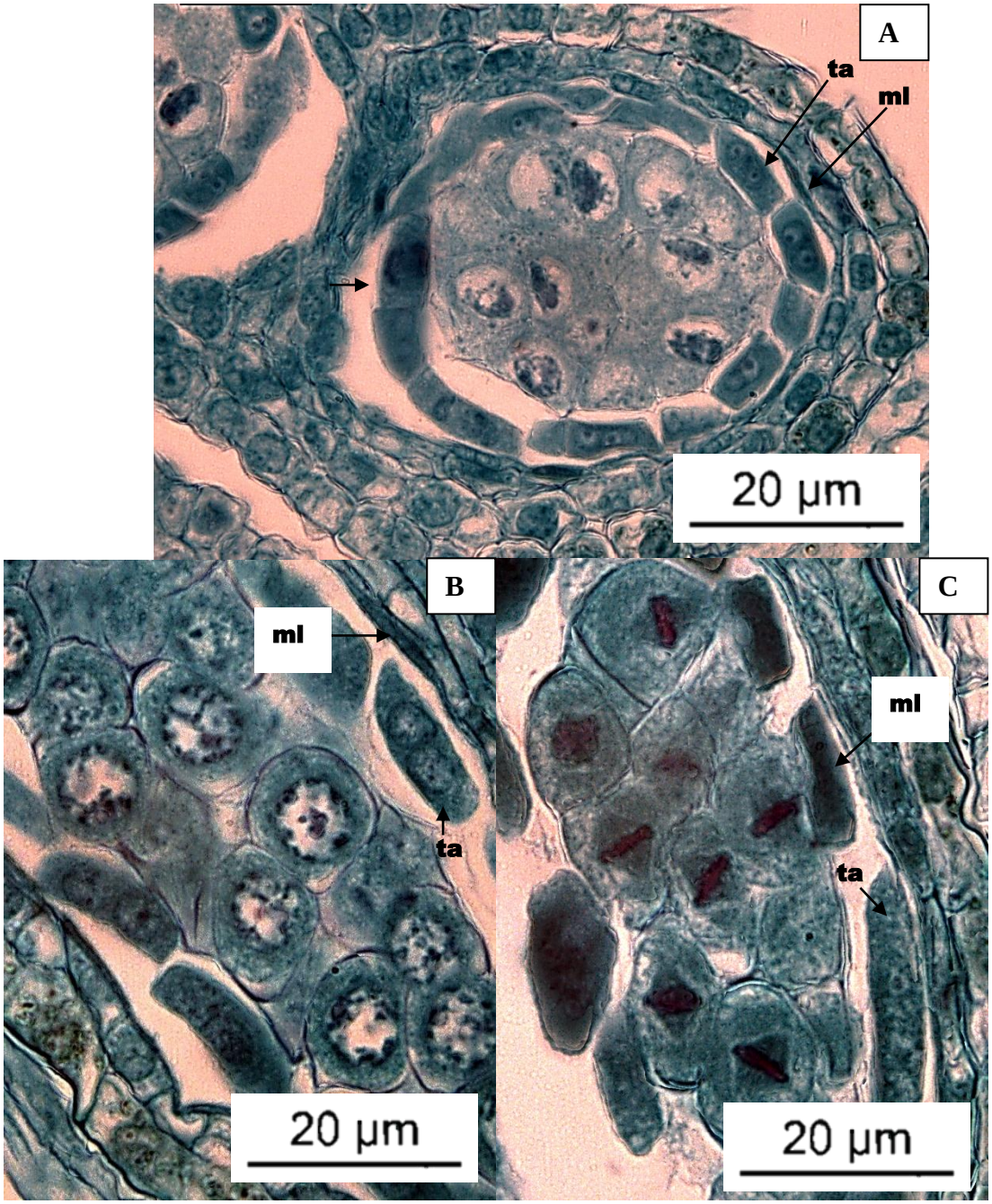

Figure 38: *A. paronychioides*. Pollen grains development.

A: Mitotic division in tapetal cell (indicated by arrow) when the microsporocytes are at the late prophase stage. Two nuclei in the tapetal cells are not fused into a big nucleus.

B: Microsporocytes at the pre-meiotic stage.

C: Microsporocytes at metaphase I.

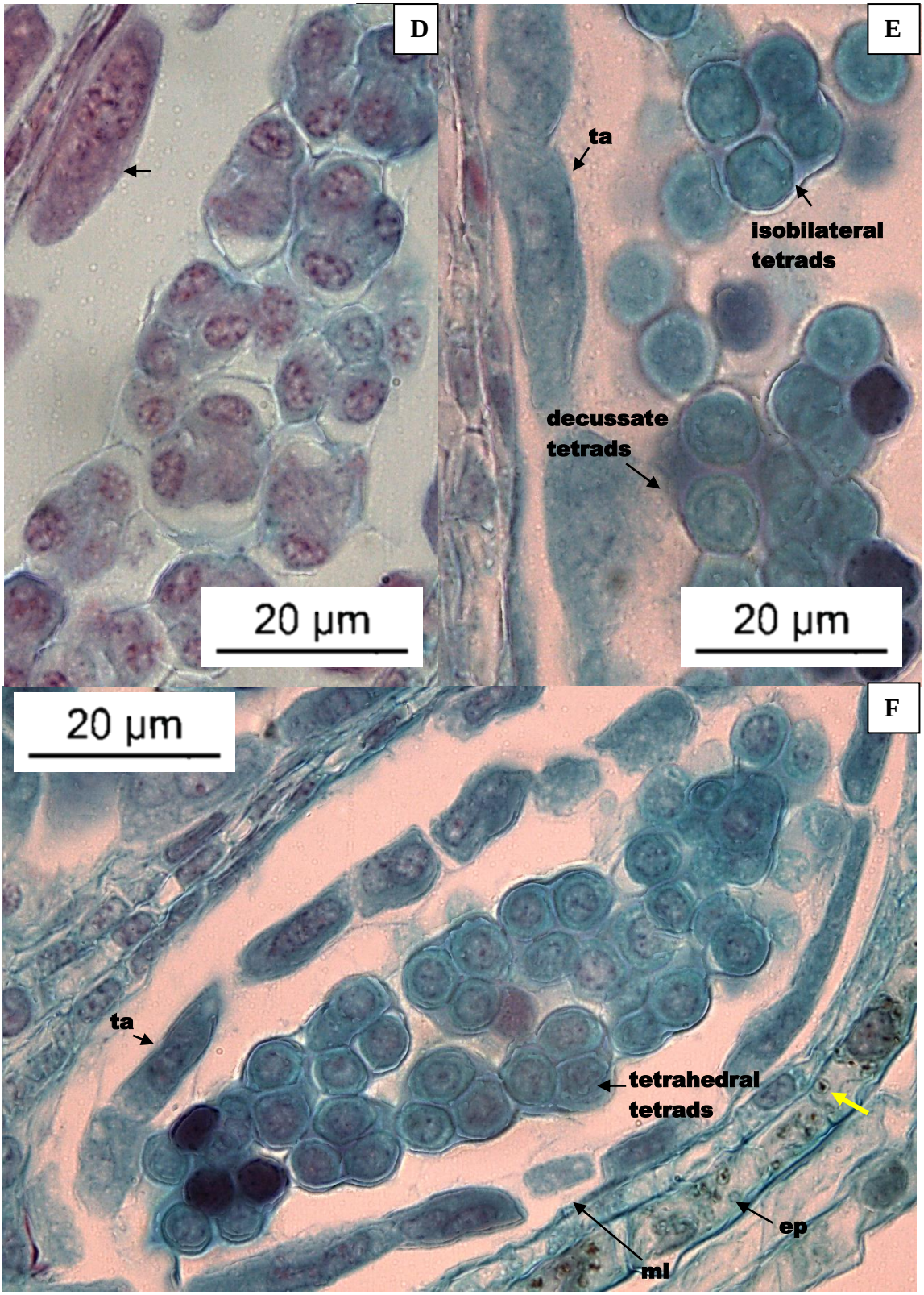

Figure 38: *A. paronychioides*. Pollen grains development.

D: Simultaneous cytokinesis during microsporogenesis.

E: Isobilateral and decussate tetrads.

F: Multinucleate tapetum at the microspore tetrads stage. Tannins accumulate in the epidermal cells (indicated by yellow arrow).

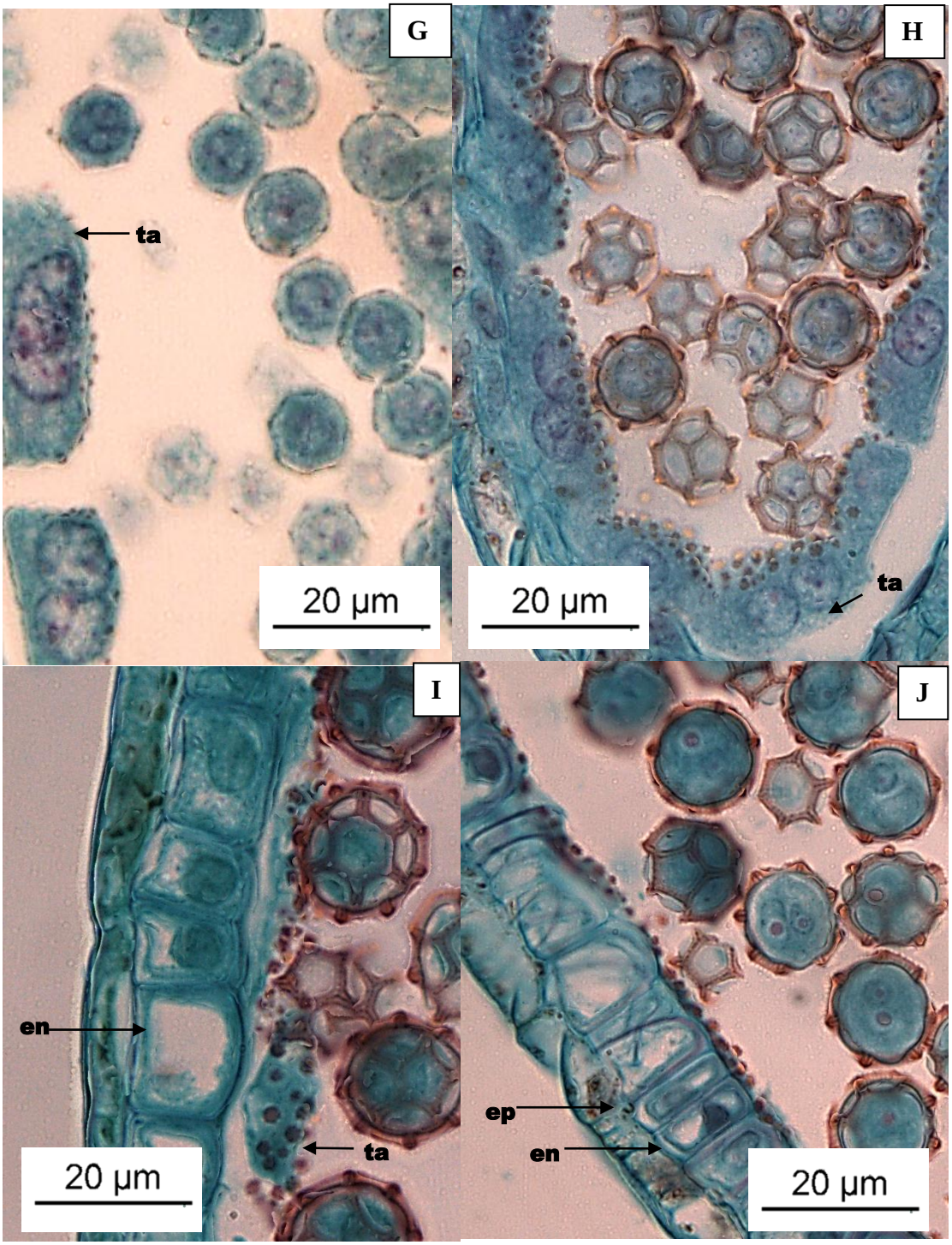

Figure 38: *A. paronychioides*. Pollen grains development.

G: Microspores released from tetrads.

H: One-celled microspores The inner wall layer of tapetum is deposited with ubisch granules.

I: One-celled microspores. The tapetum is degenerated.

J: Two-celled microspores. The tapetum has completely degenerated and ubisch granules are deposited on the inner wall of endothecium.

Figure 38: *A. paronychioides*. Pollen grains development.

K: Three-celled pollen grains. Fibrous thickenings are formed in endothecium.

L: Asynchronous development. Left locule: microspores released from the tetrads. Right locule: simultaneous cytokinesis during meiosis.

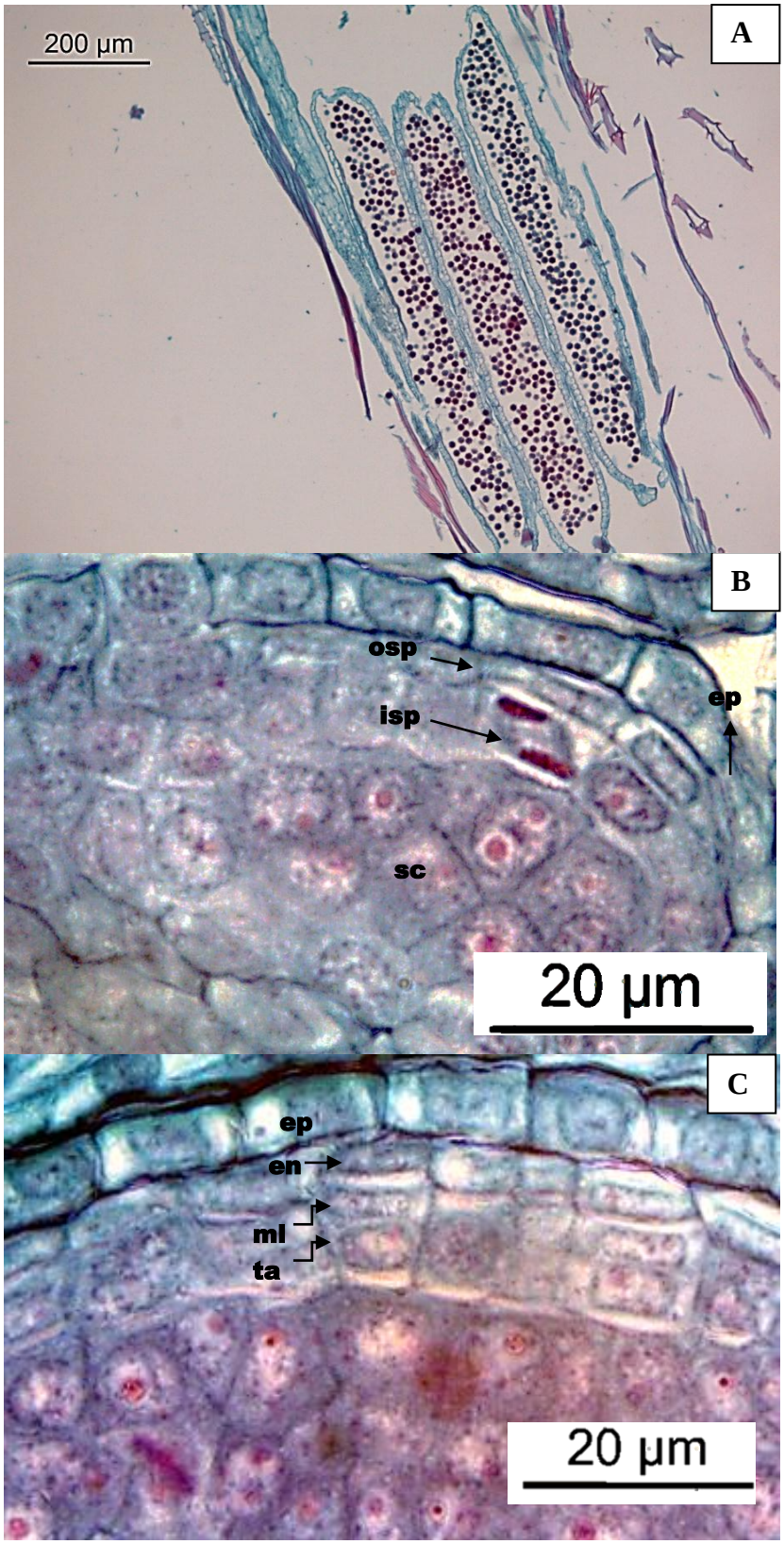

Figure 39: *A. ficoidea.* Anther wall development.

A: Longitudinal section of anthers.

B: Monocotyledonous type of anther wall development. Inner parietal cell divides periclinally to form the middle layer and tapetum.

C: Dicotyledonous type of anther wall development.

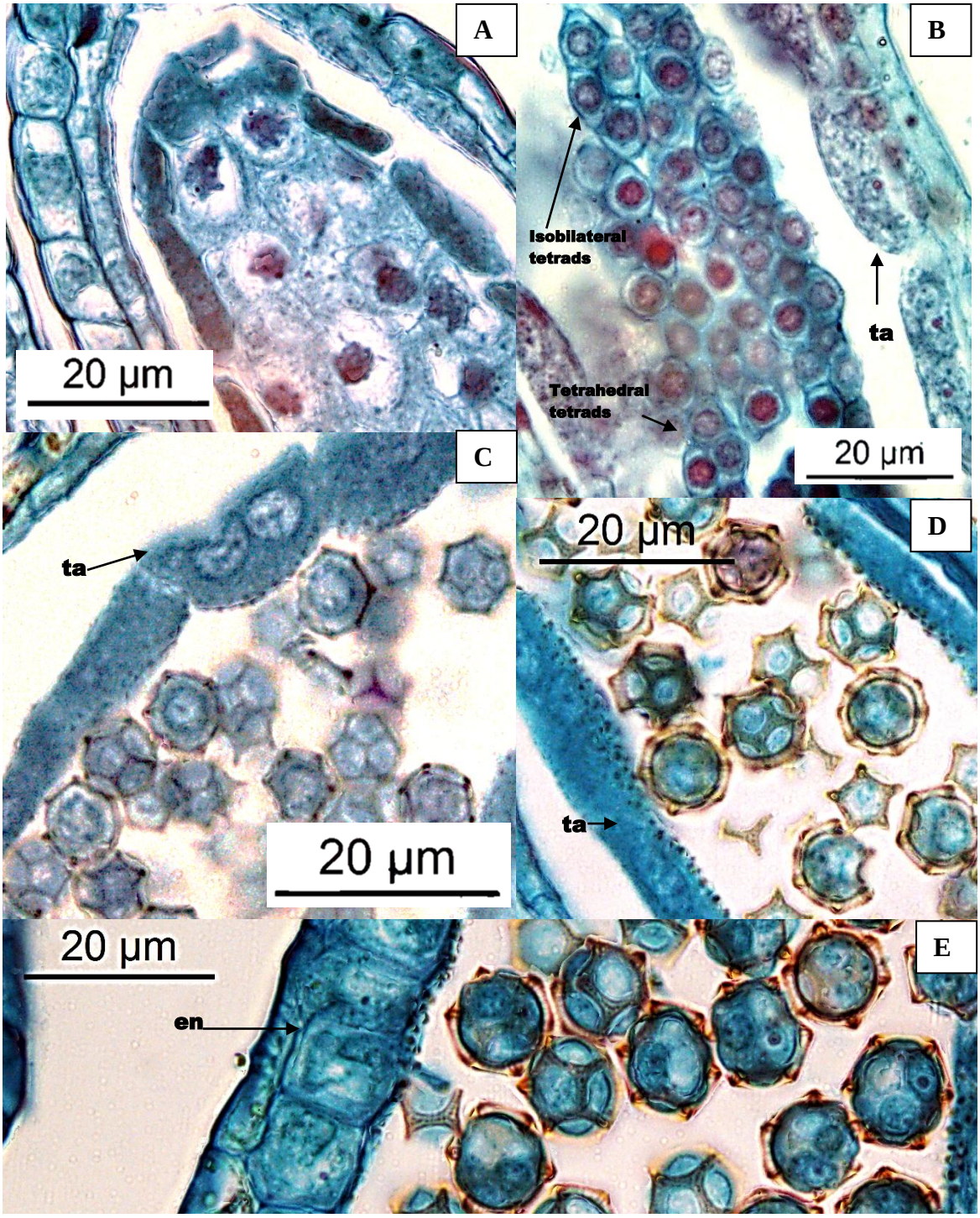

Figure 40: *A. ficoidea*. Microsporogenesis and microspores.

A: Microspore mother cells at late prophase.

B: Tetrahedral and isobilateral tetrads (indicated by arrows).

C & D: Microspores at signet-ring stage. Tapetal cells gradually degenerating and the inner wall are deposited with ubisch granules.

E: Two-celled microspores. The tapetum has completely degenerated leaving only the endothecium with ubisch granules.

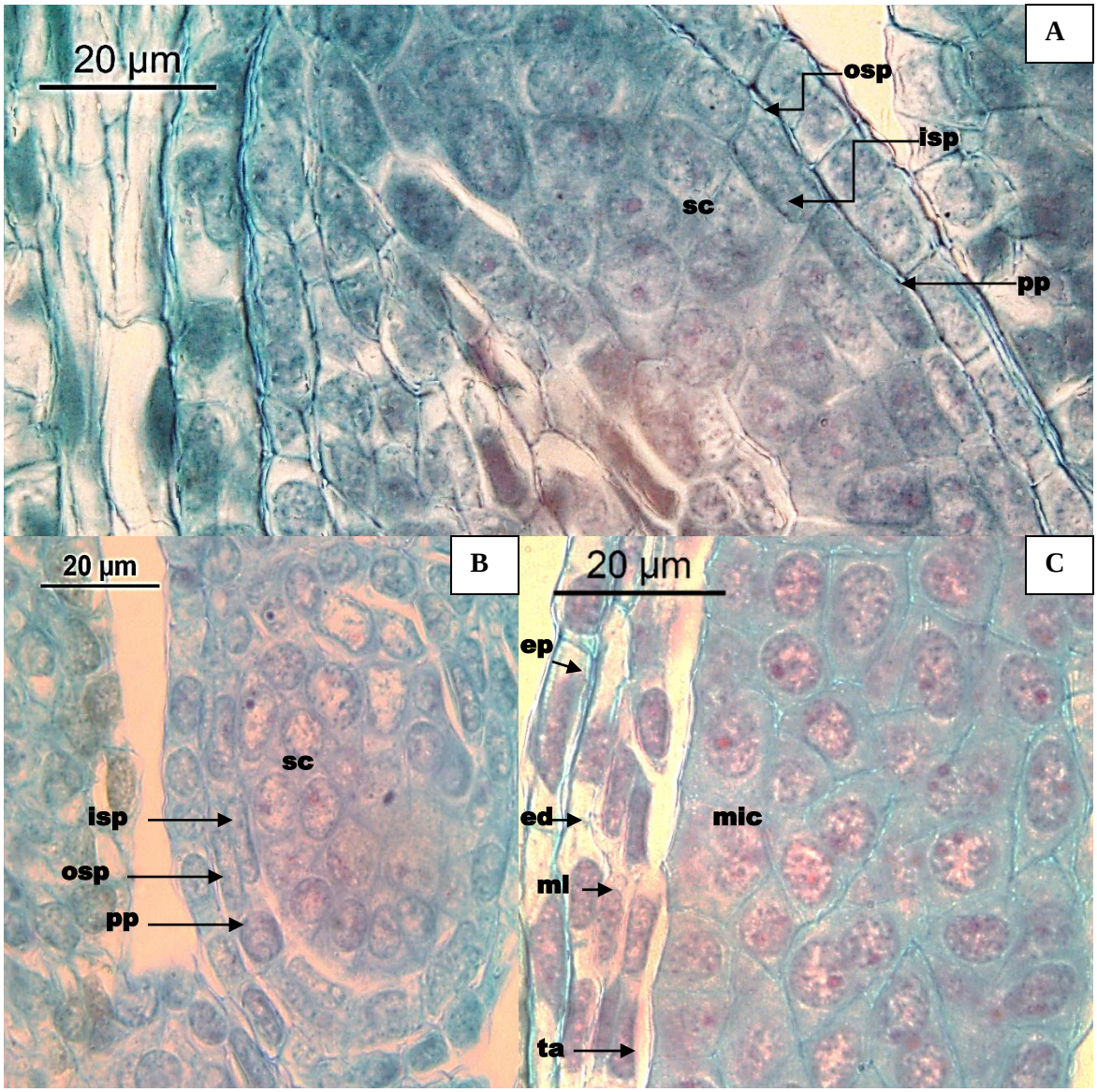

Figure 41: *A. brasiliana*. Anther wall development.

A: Primary parietal cells and sporogenous cells.

B: Primary parietal cell forms the outer and inner secondary parietal.

C: Monocotyledonous type of anther wall development.

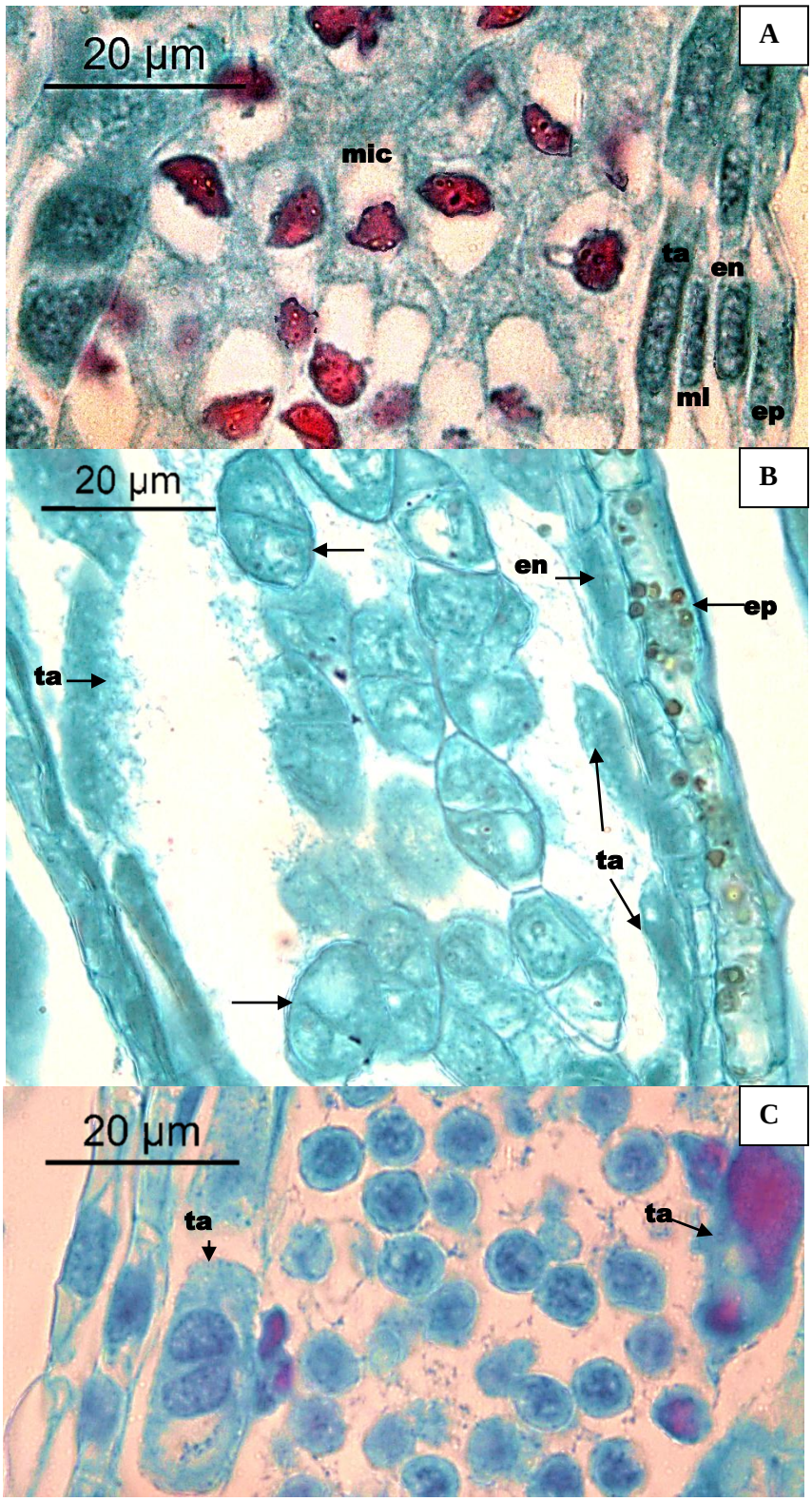

Figure 42: *A. brasiliana*. Microsporogenesis and microspores.
A: Microsporocytes at late prophase stage.
B: Tetrahedral microspores (indicated by arrows).
C: Normal microspores released from callose. Inner wall of tapetum is not deposited with ubisch granules.

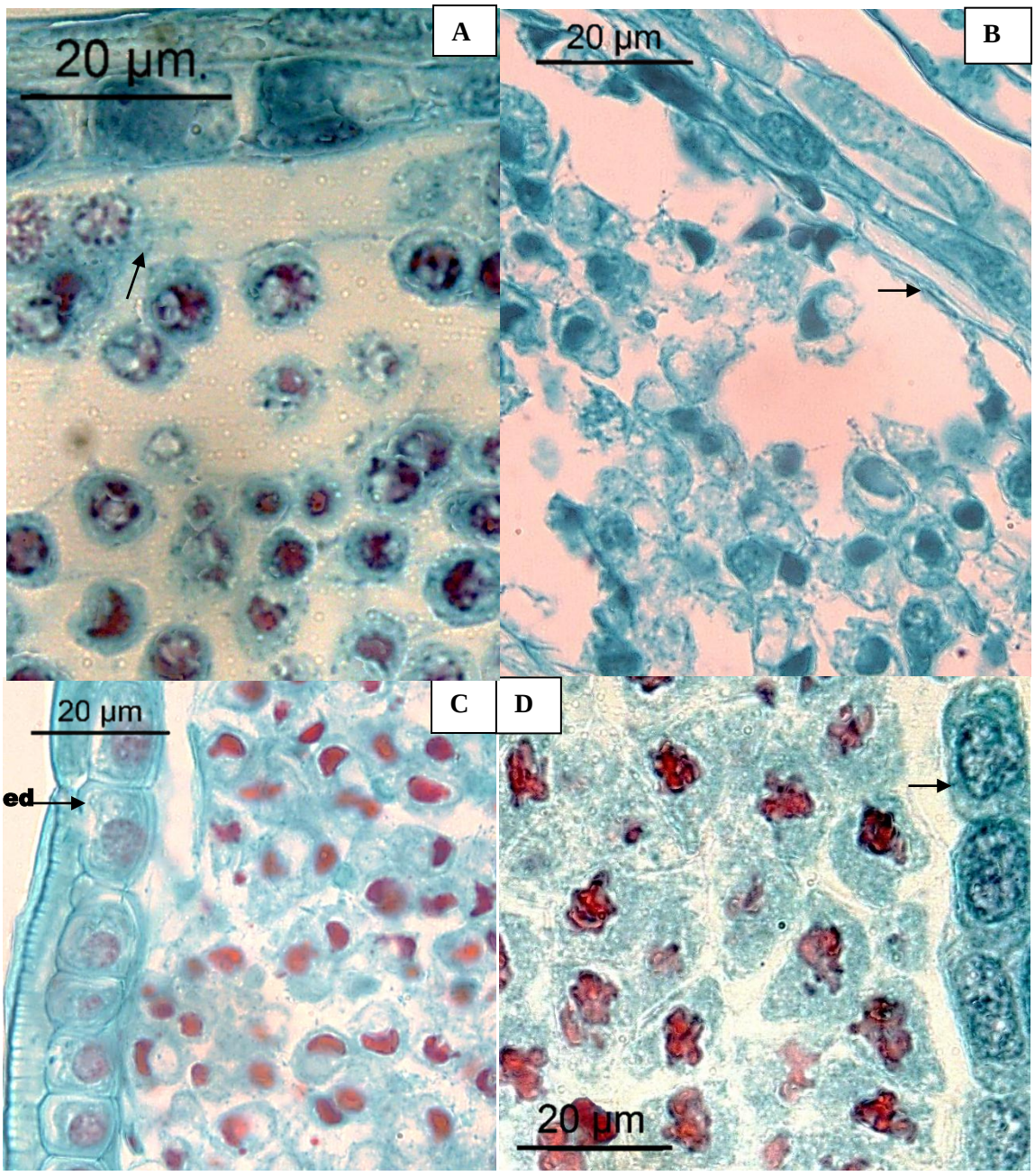

Figure 43: *A. brasiliana*. Degenerating microsporocytes and micropores.

A & B: Tapetum (indicated by arrow) degenerating without ubisch granules deposition.

C: Degenerating microsporocytes. Multinucleate tapetum has completely degenerated and the inner wall of endothecium is not deposited with ubisch granules.

D: Degenerating microsporocytes with multinucleate tapetum (indicated by arrow).

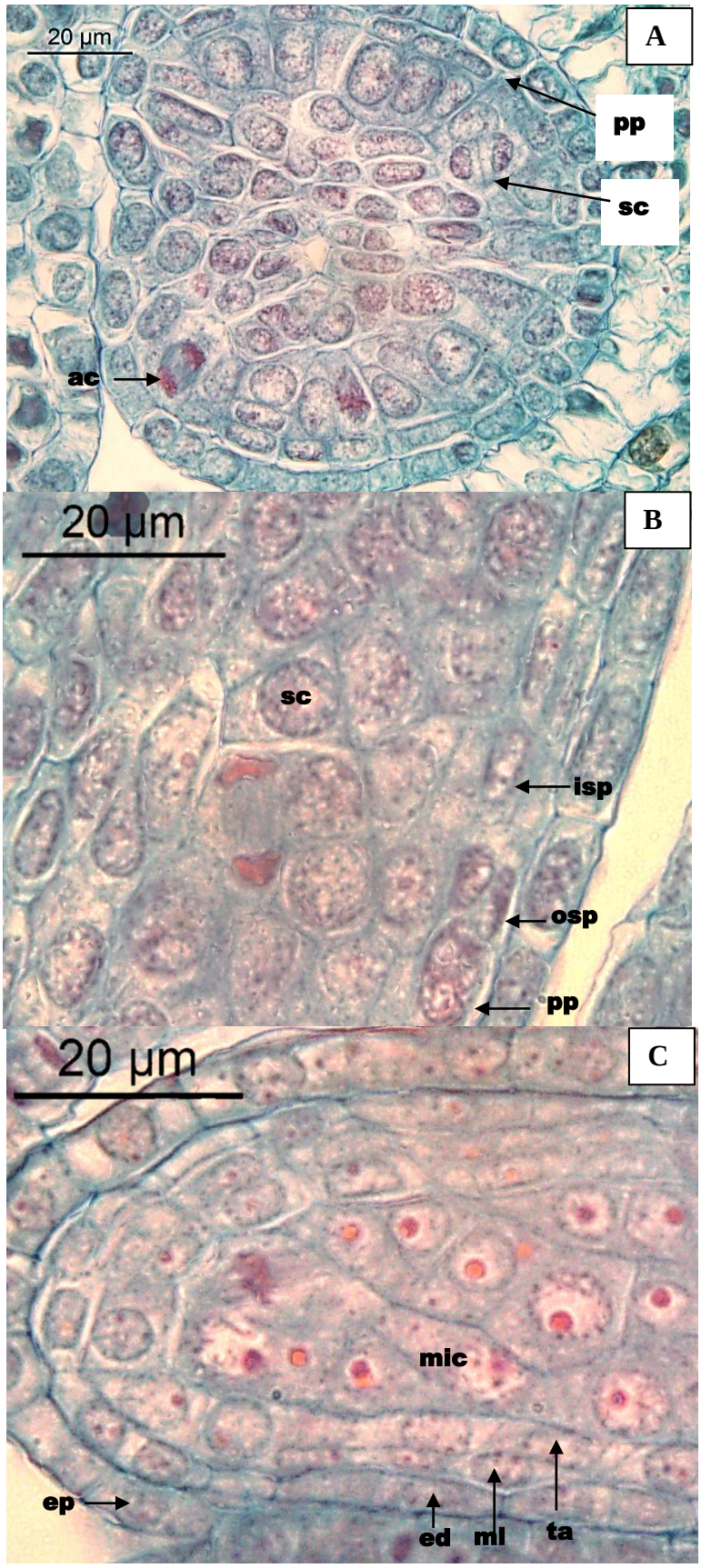

Figure 44: *A. bettzickiana.* Anther wall development.

A: Hypodermal archesporial cells divide into the primary parietal and sporogenous cells.
B: Outer and inner secondary parietal cells.
C: Monocotyledonous type of anther wall development.

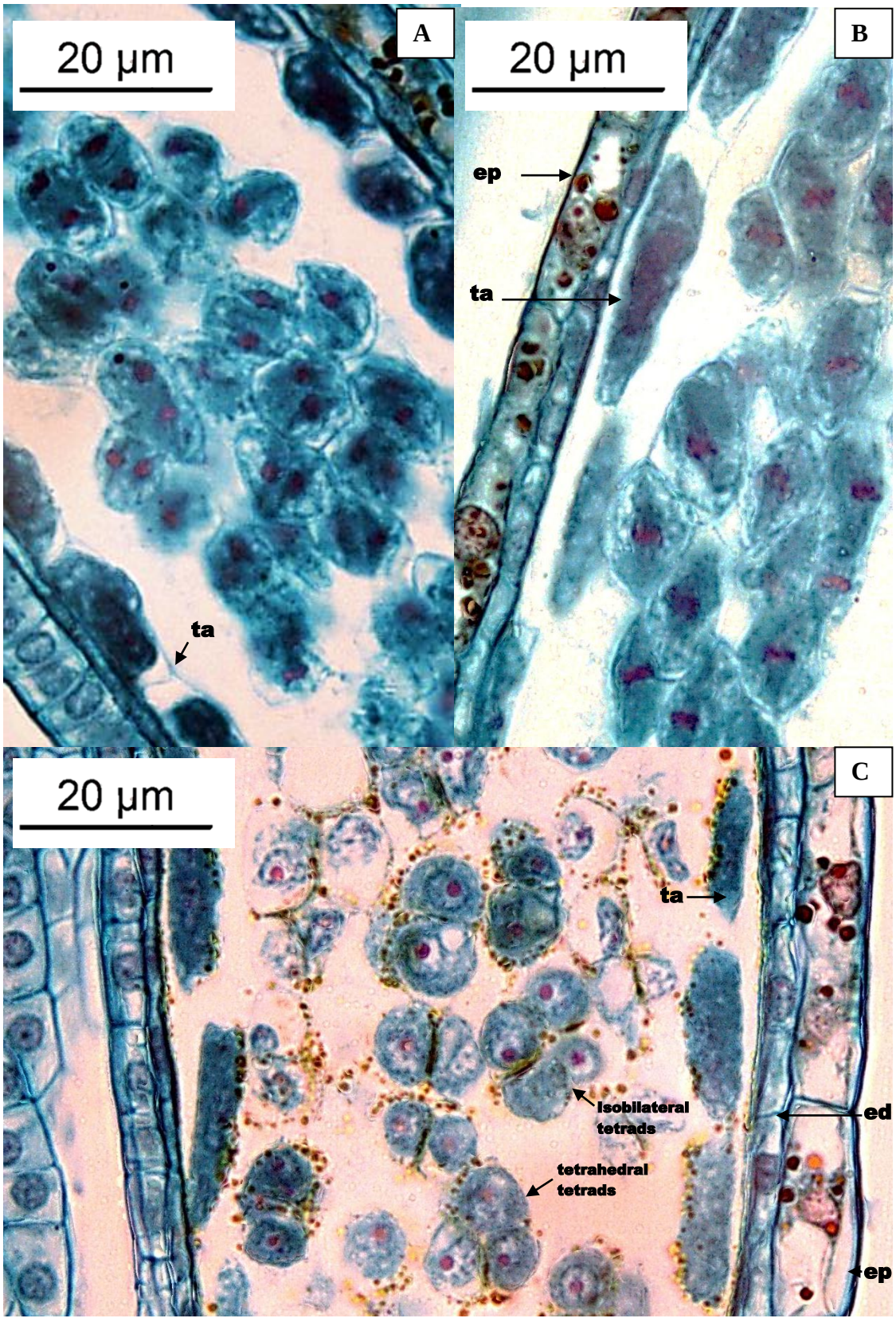

Figure 45: *A. bettzickiana*. Meiosis in microsporocytes.

A: Metaphase II.
B: Metaphase I.
C: Tetrahedral and isobilateral tetrads while the inner wall of the degenerated tapetum is deposited with ubisch granules.

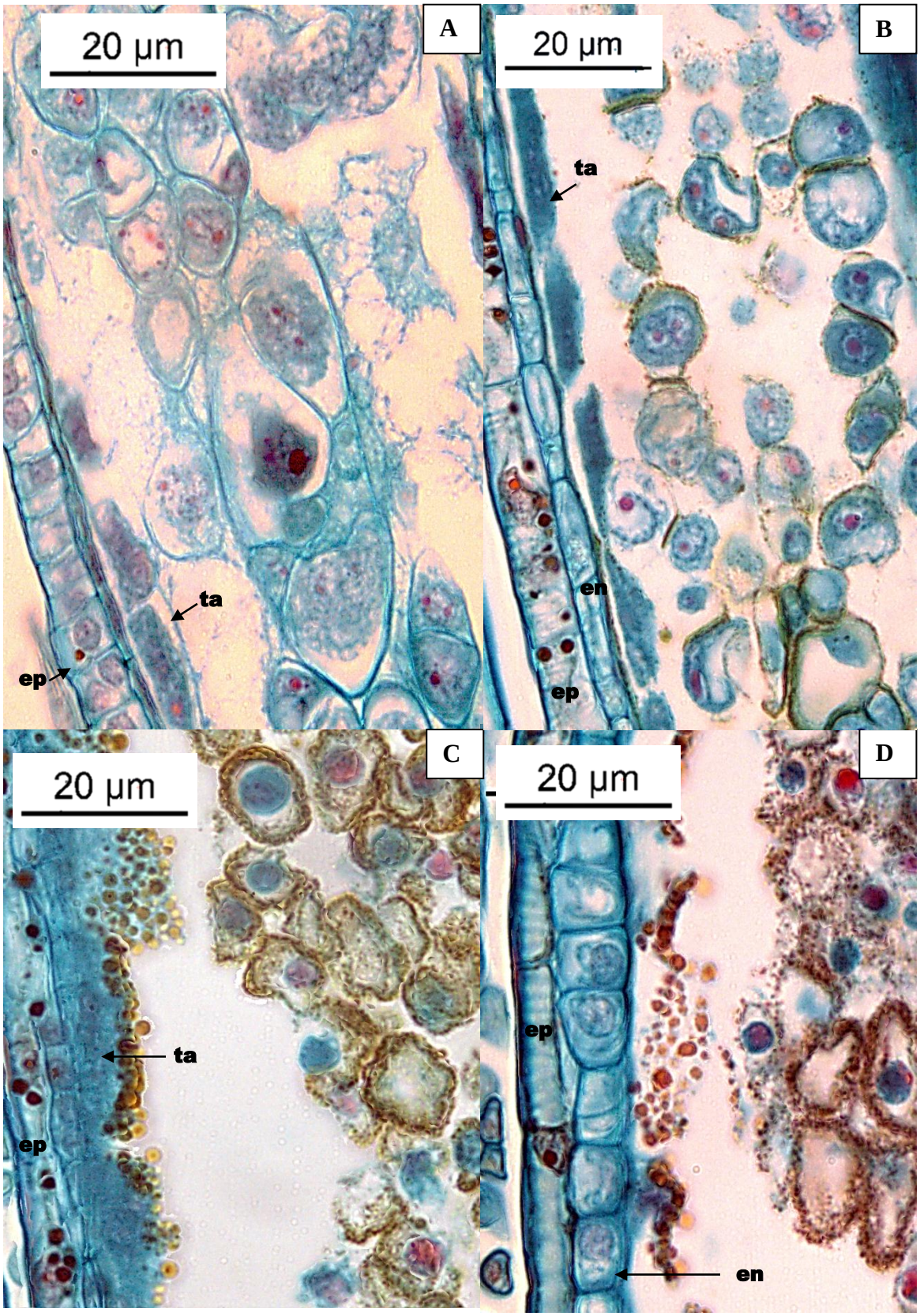

Figure 46: *A. bettzickiana*. Abnormalities in microspores.

A & B: Incomplete cytokinesis in microspore tetrads resulting in various shapes and sizes of microspores.
C & D: Degenerated microspores are devoid of nucleus and the cell wall is covered with ubisch granules.

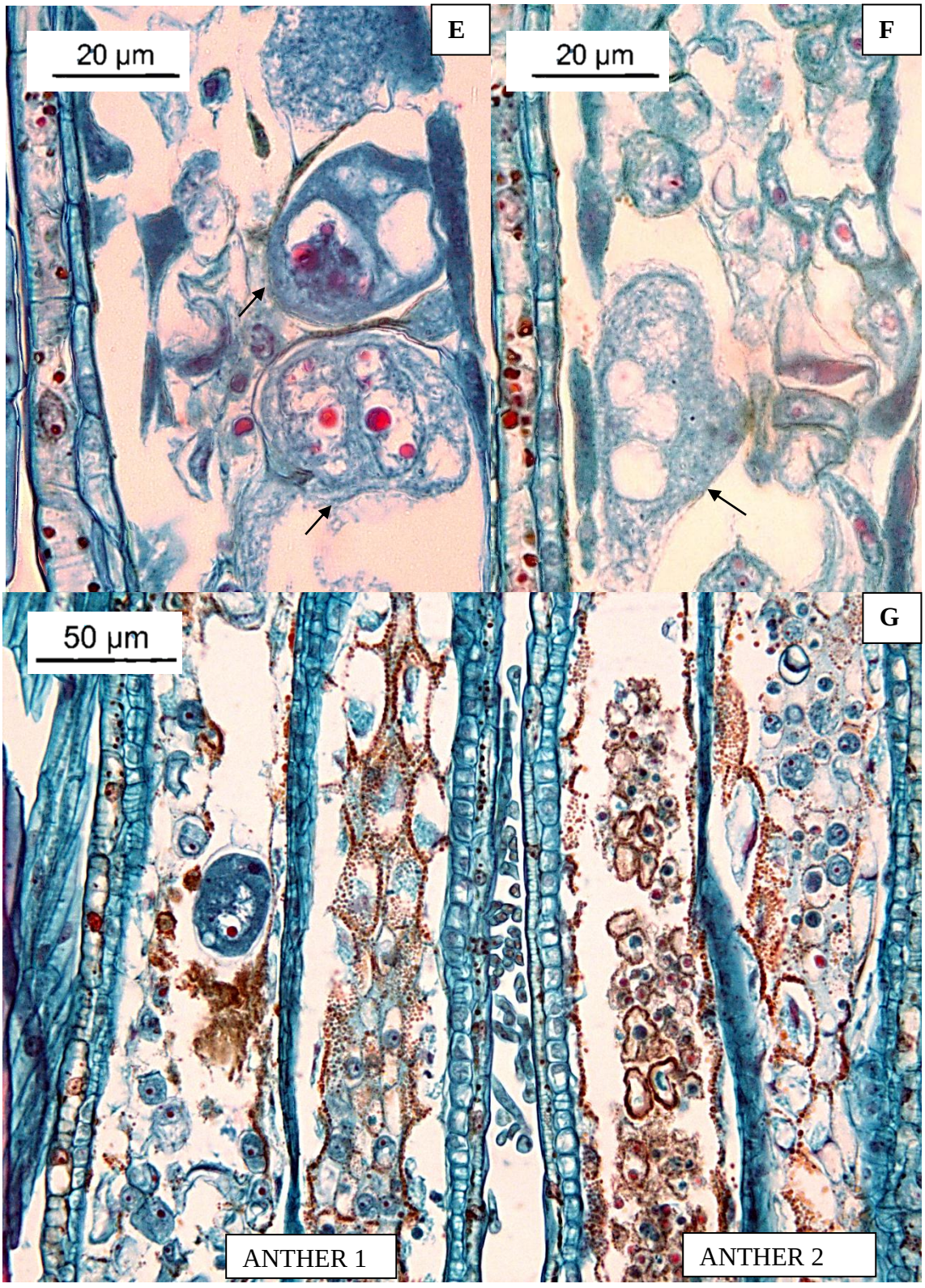

Figure 46: *A. bettzickiana*. Abnormalities in microspores.

E & F: Quadrinucleate coenocytic microspores (indicated by arrows).
G: Two anthers showing abnormalities.