

3. 鰓 (Gill)

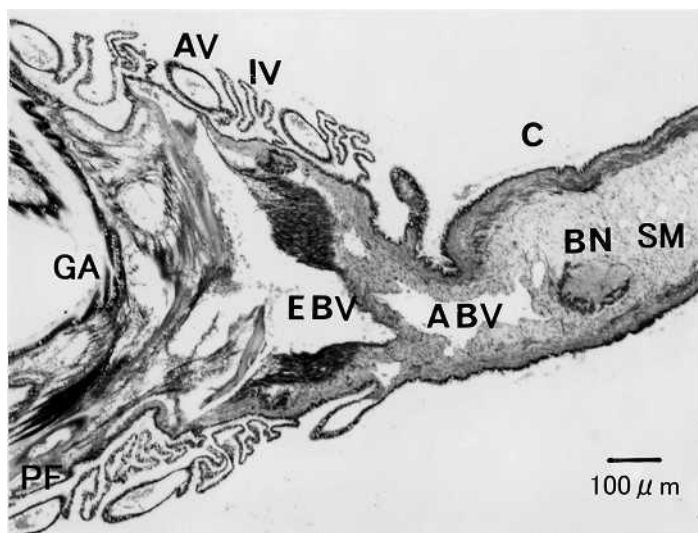


图3.2

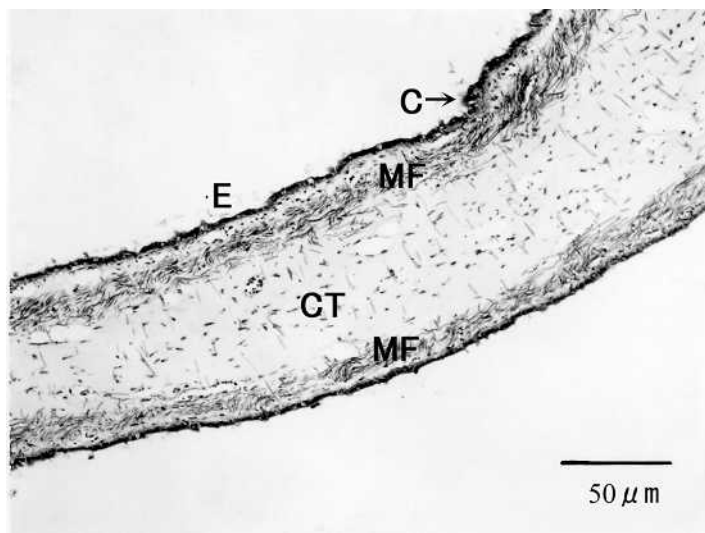


图3.3

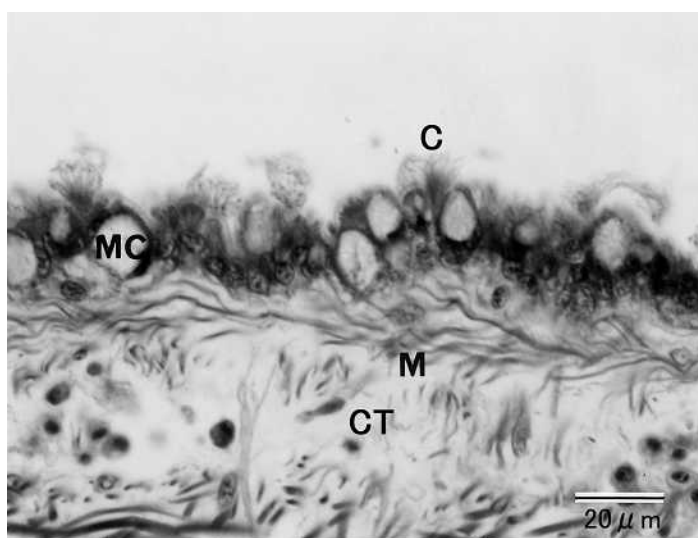


图3.4

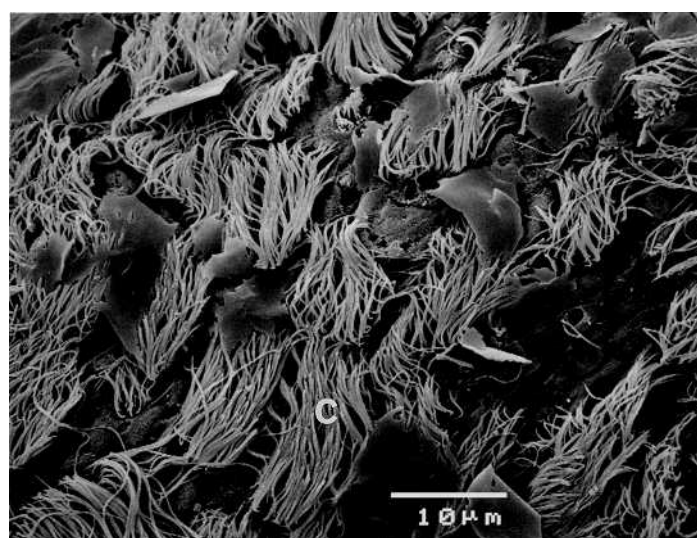


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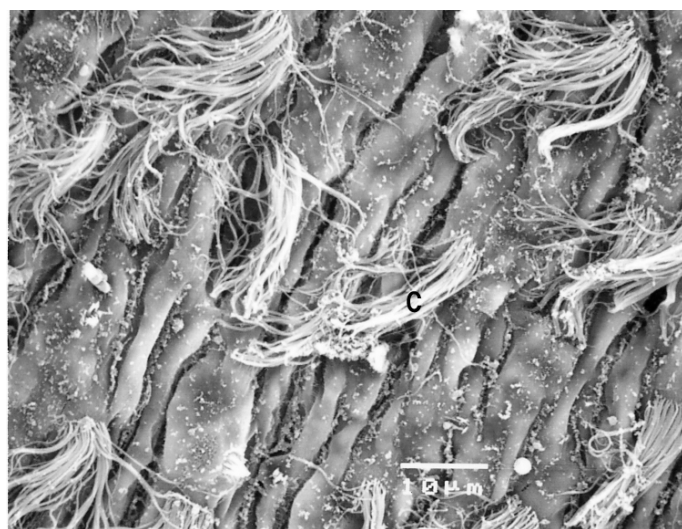


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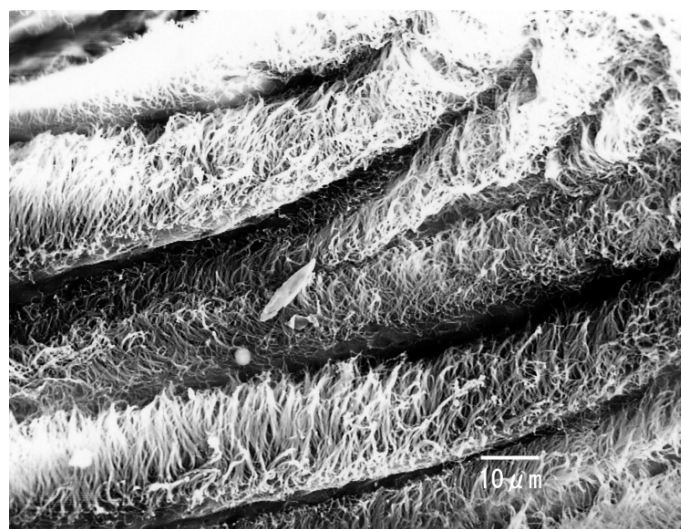


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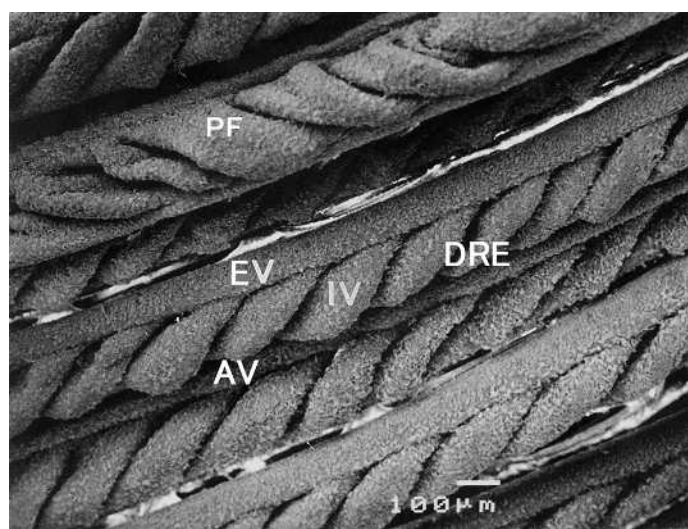


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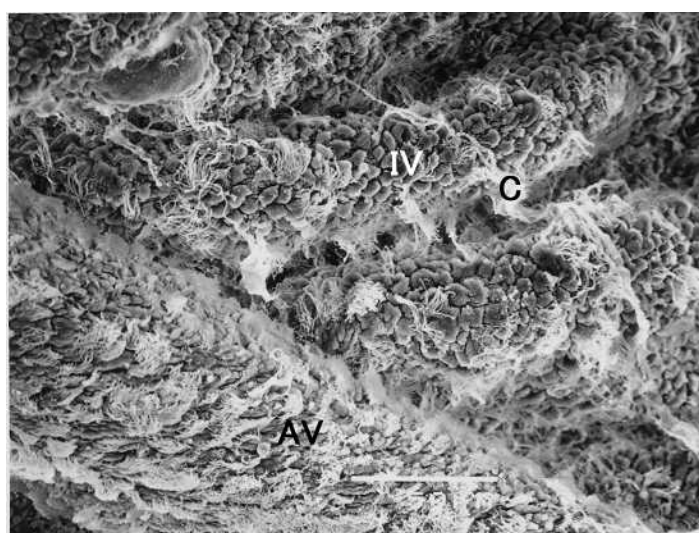


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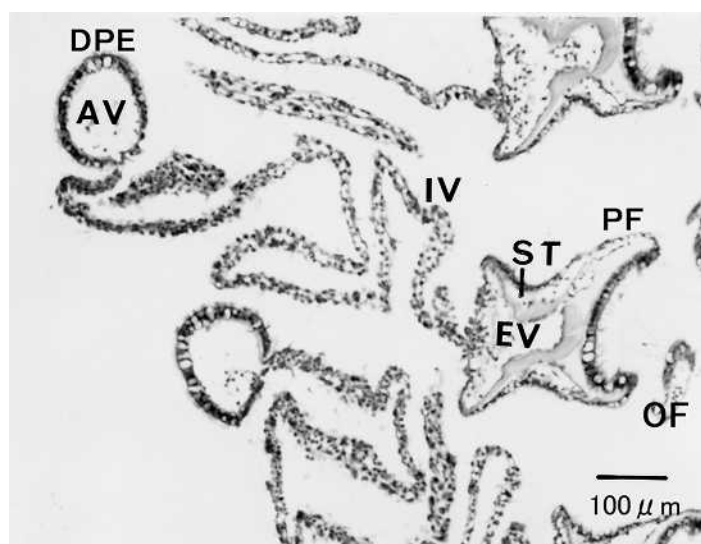


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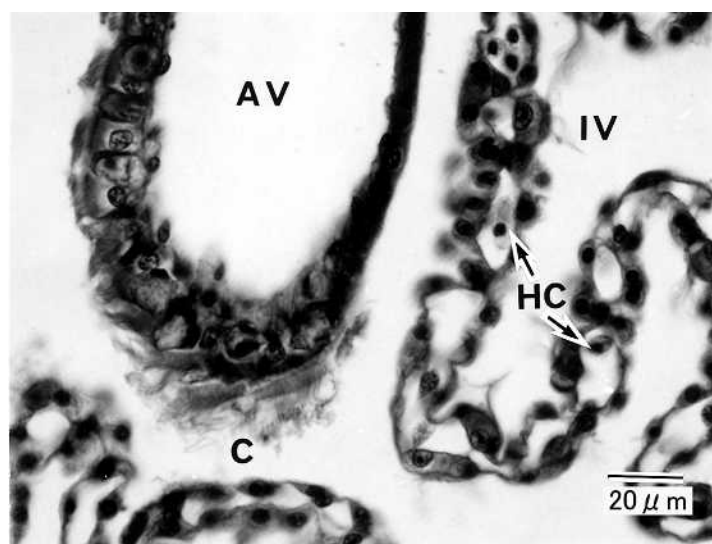


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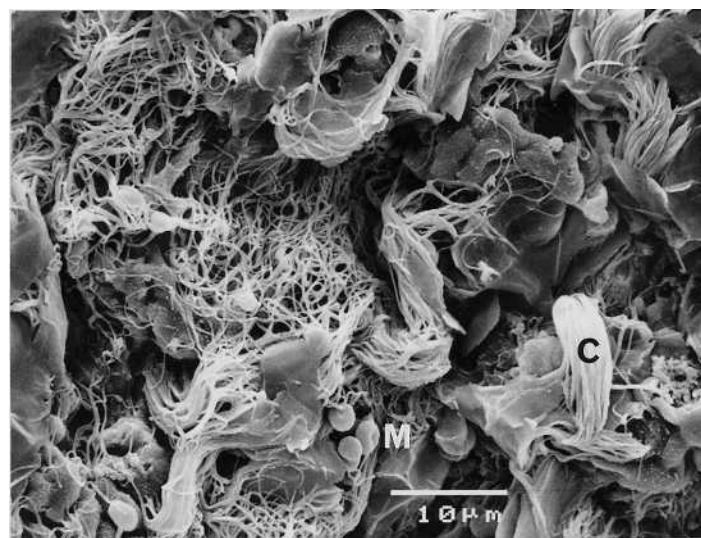


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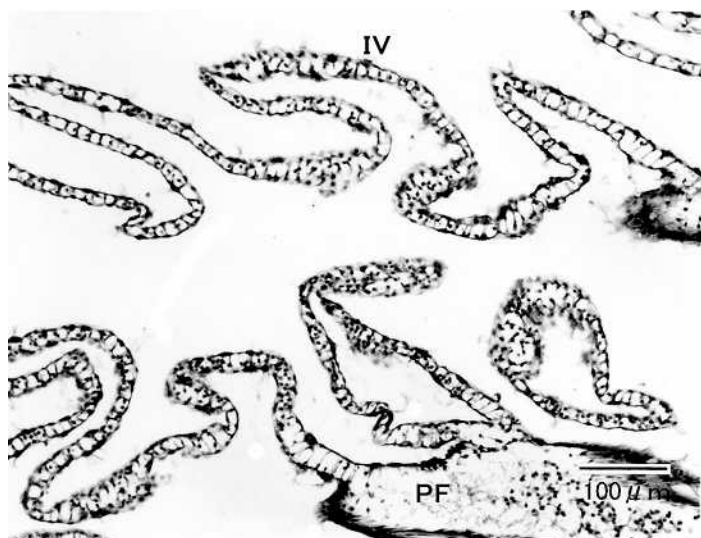


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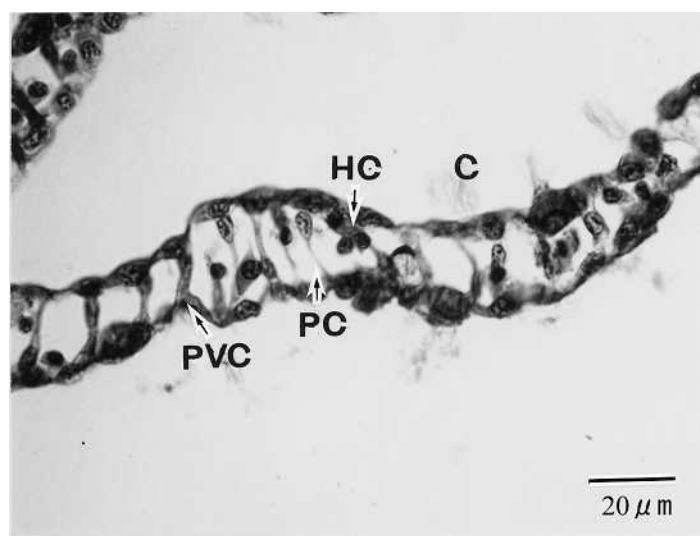


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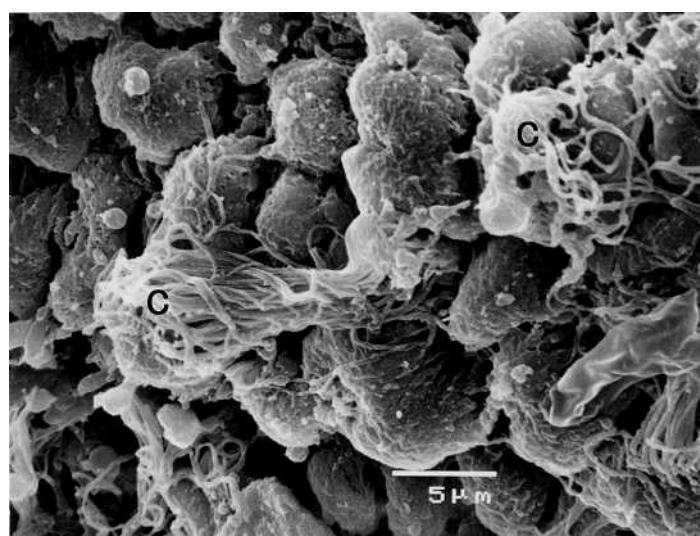


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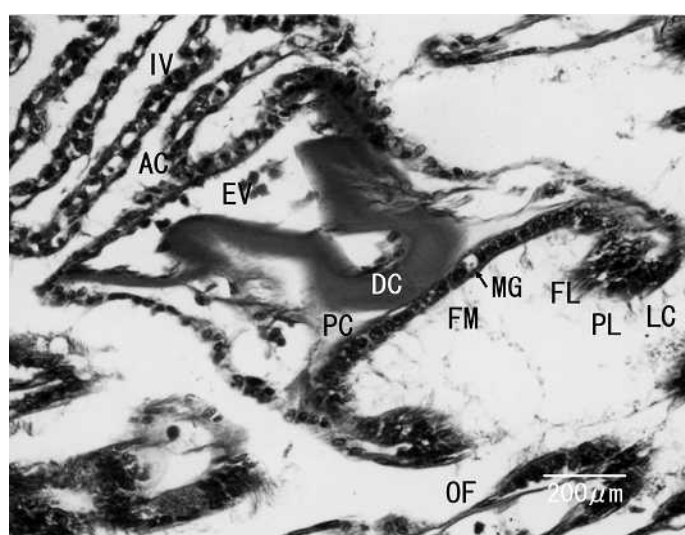


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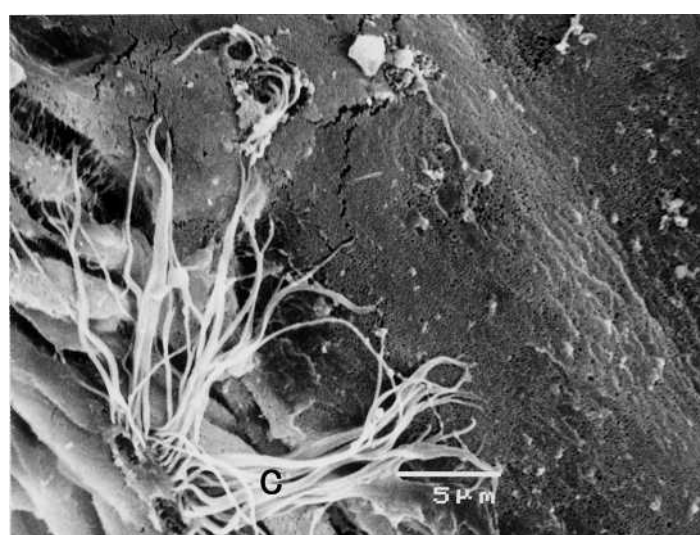


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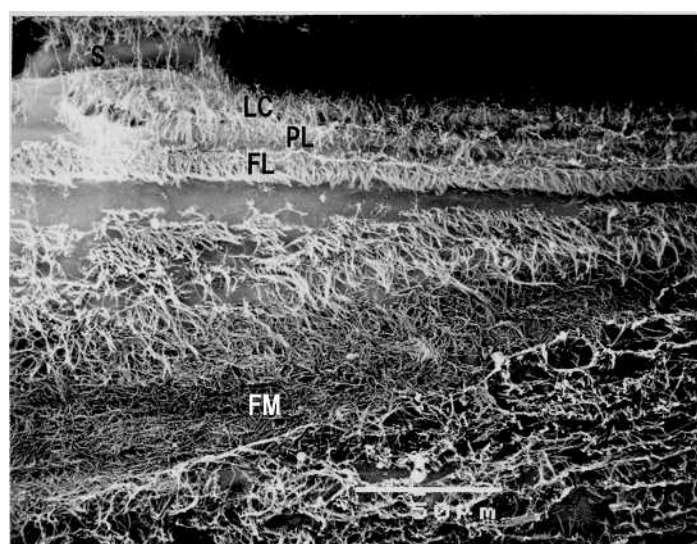


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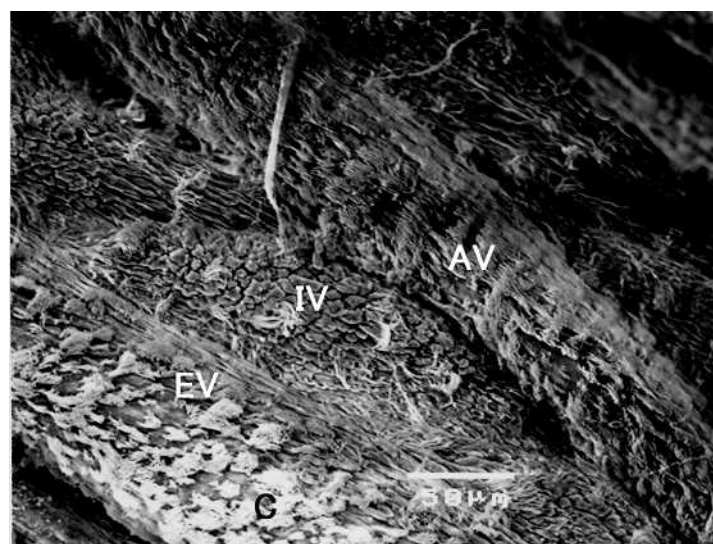


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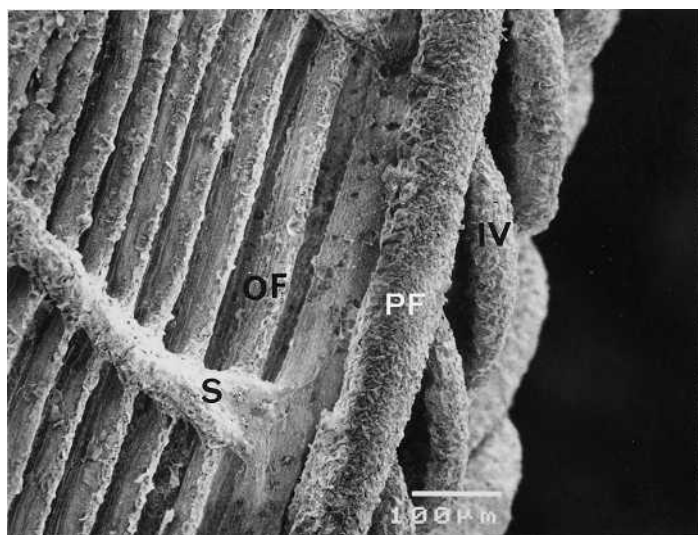


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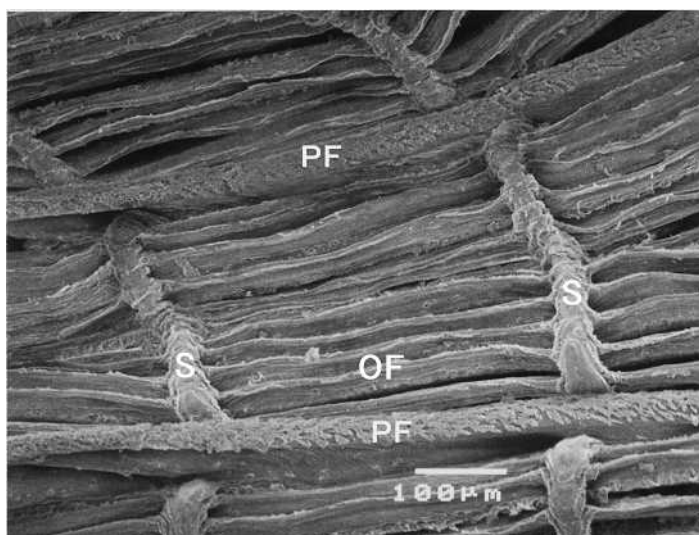


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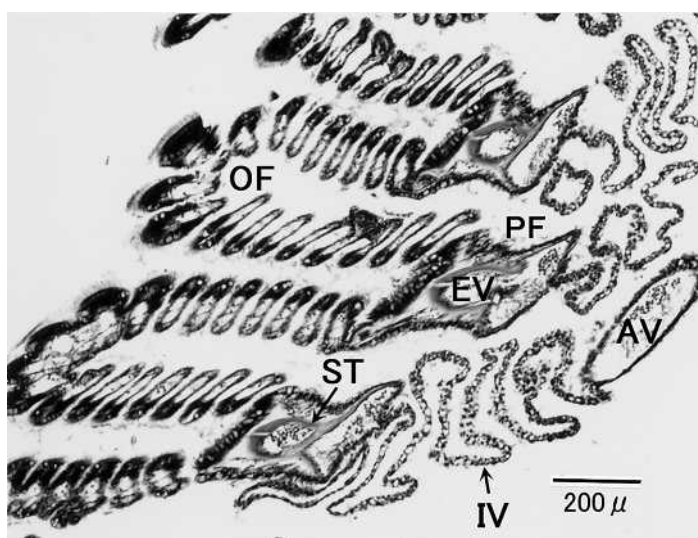


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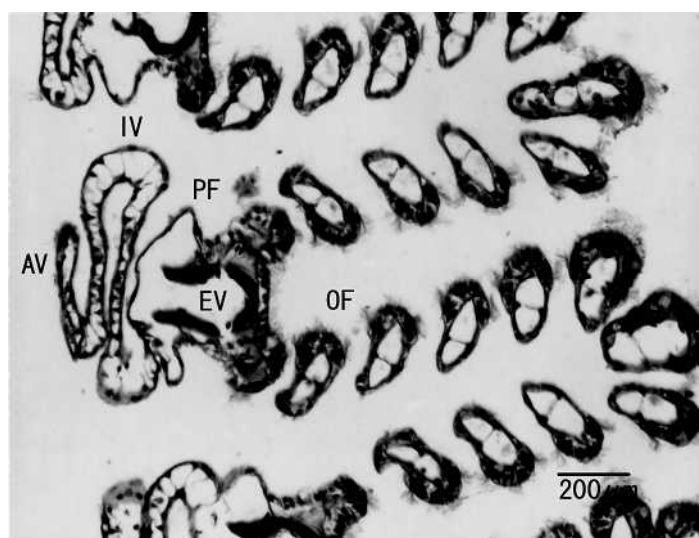


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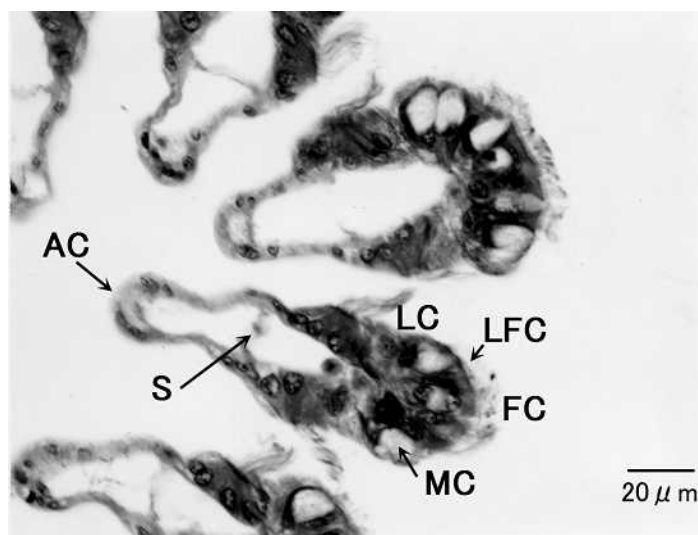


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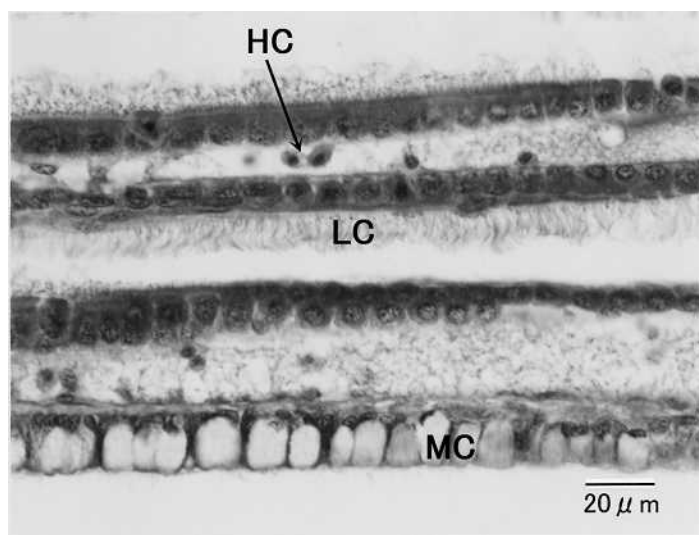


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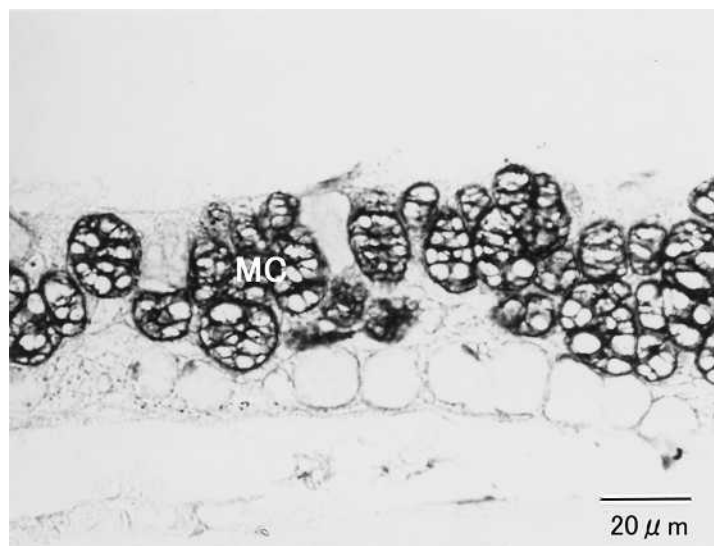


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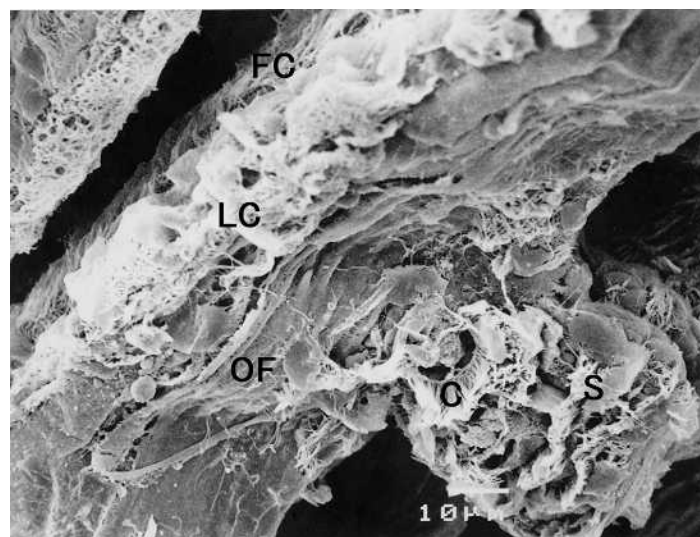


图.3.297

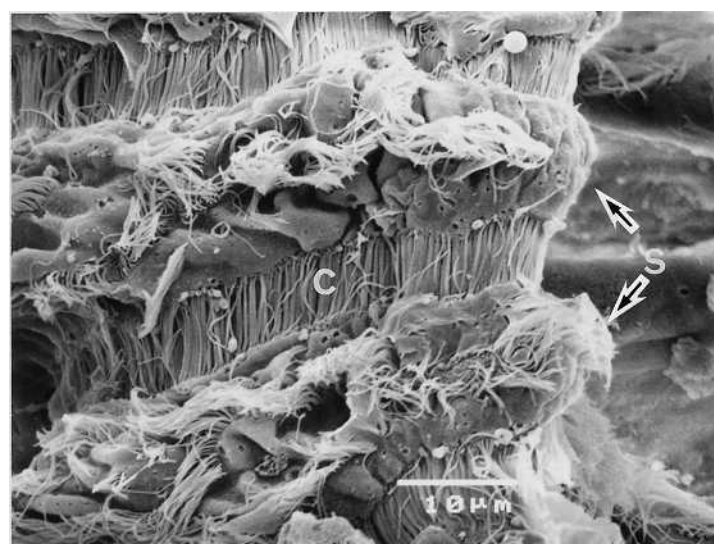


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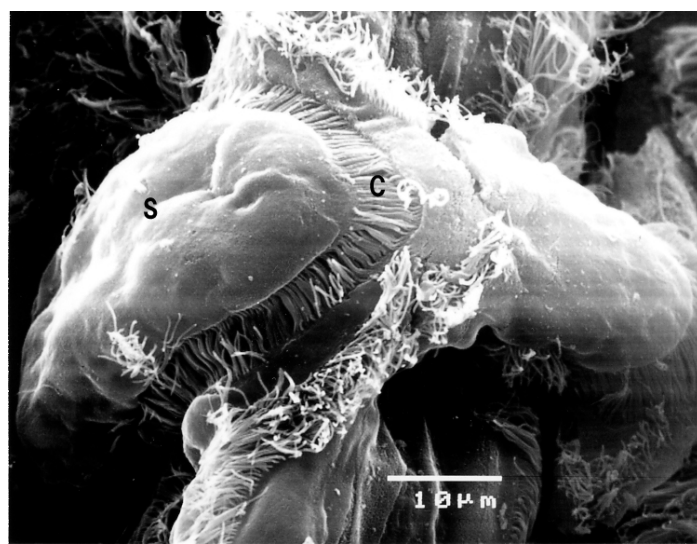


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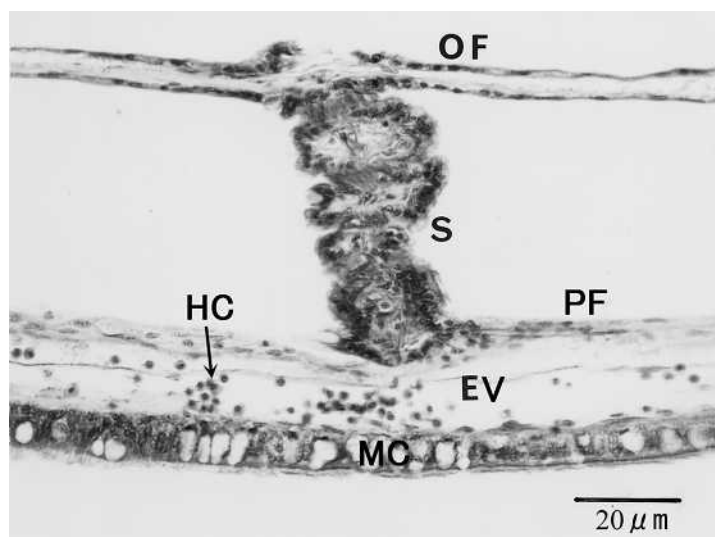


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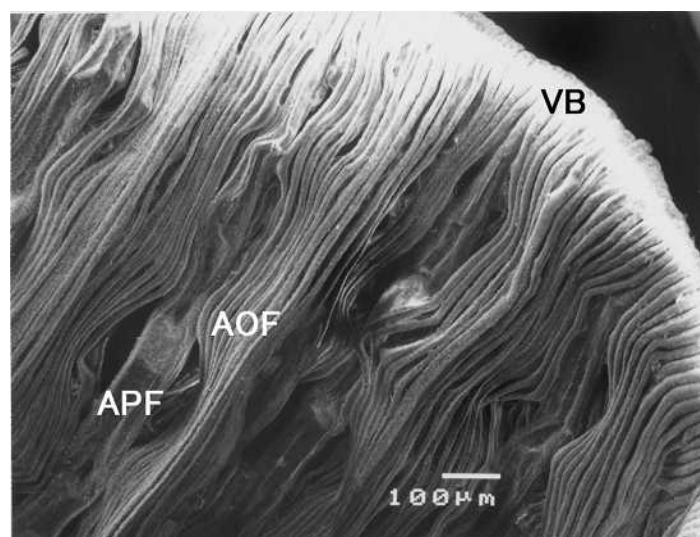


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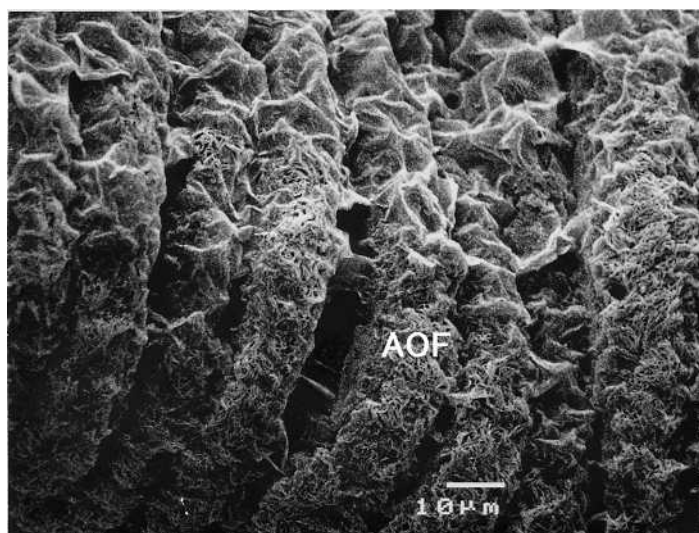


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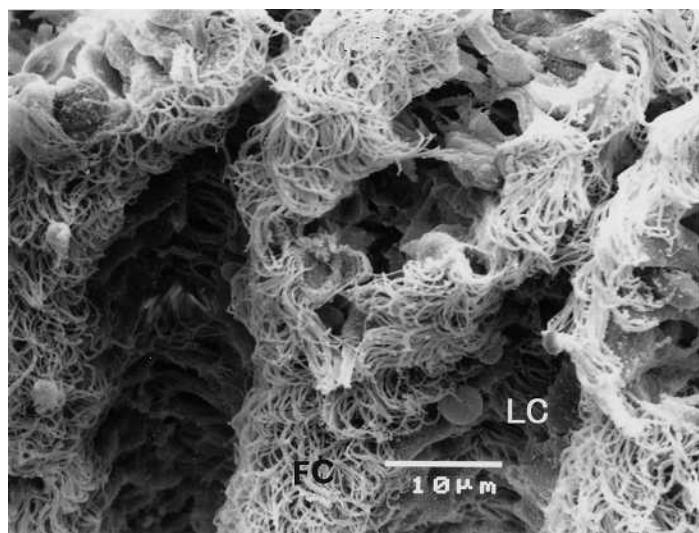


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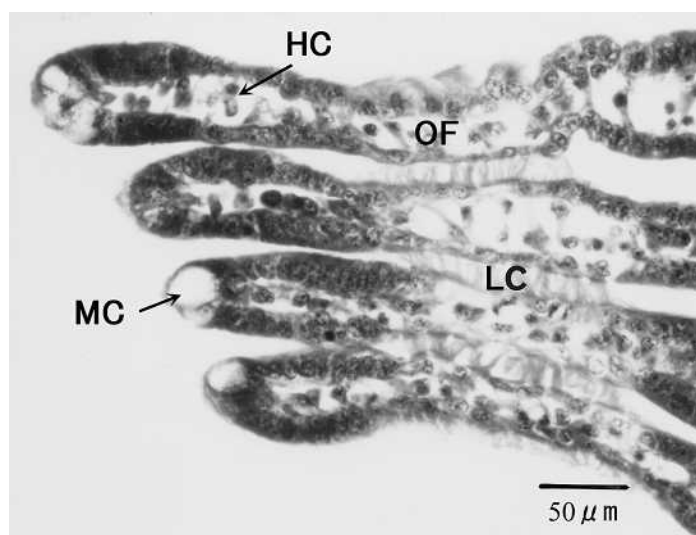


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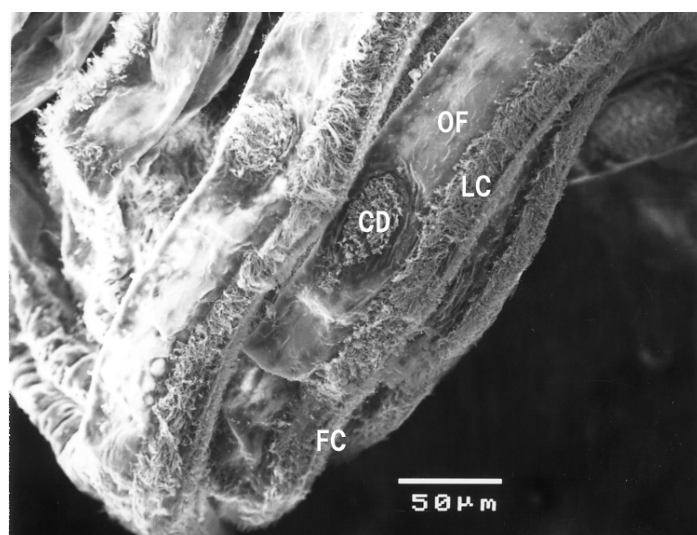


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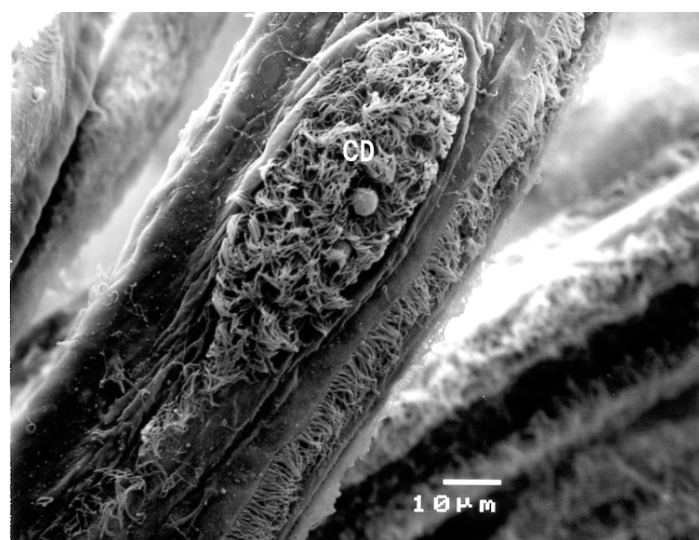


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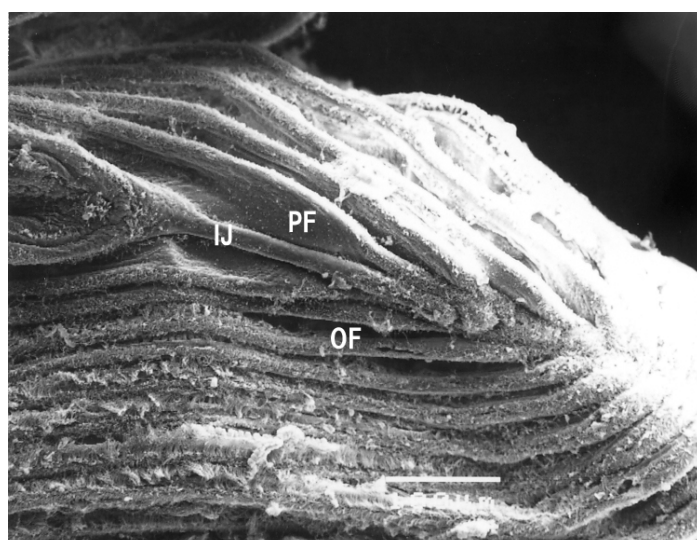


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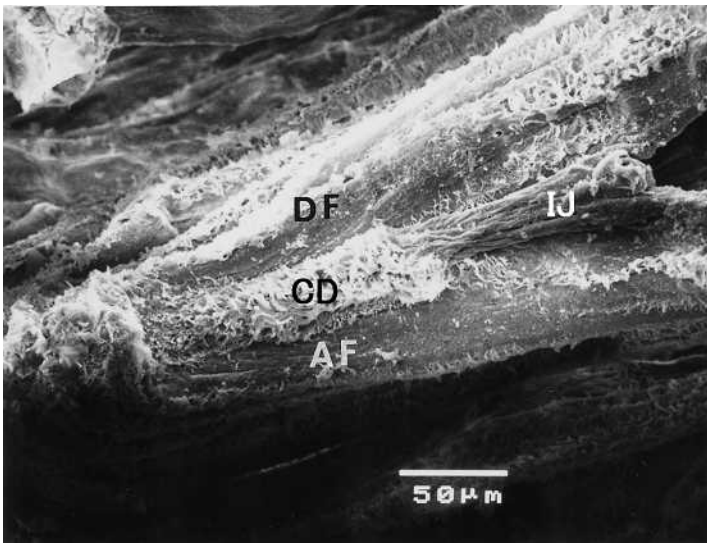


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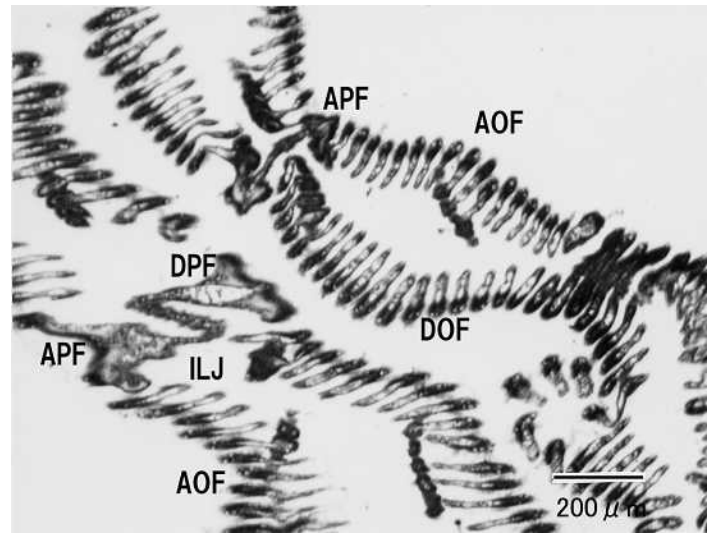


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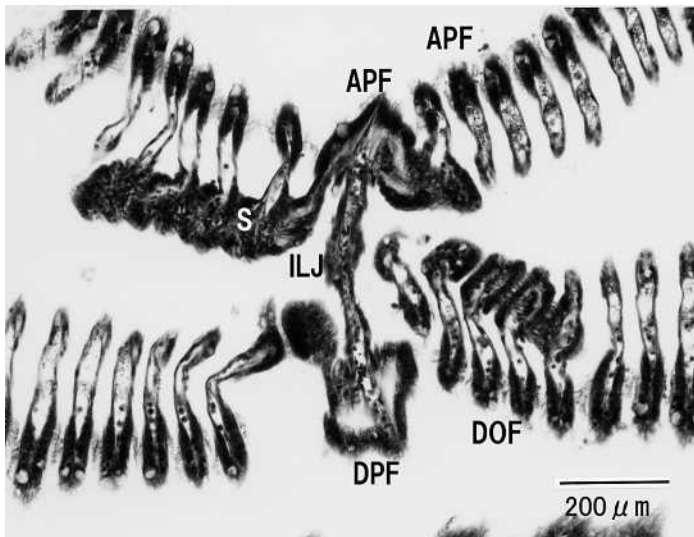


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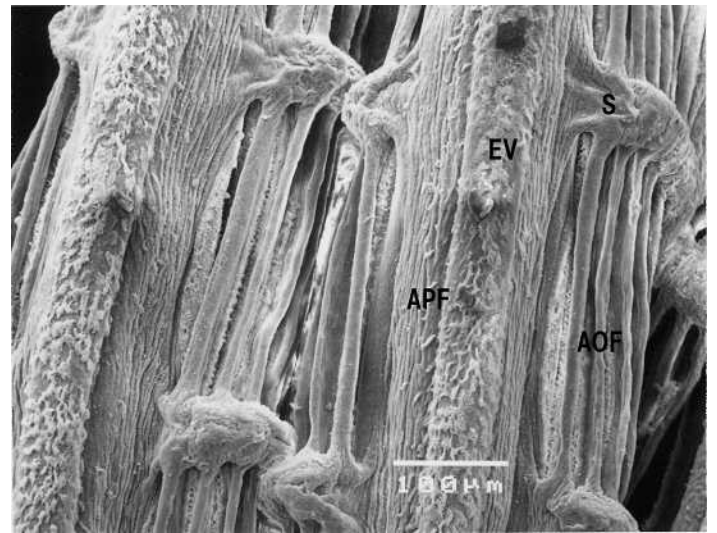


图.3.41



图.3.42

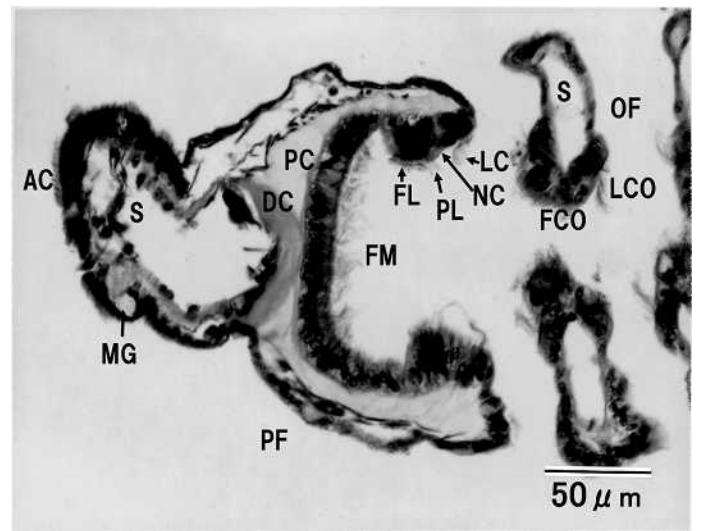


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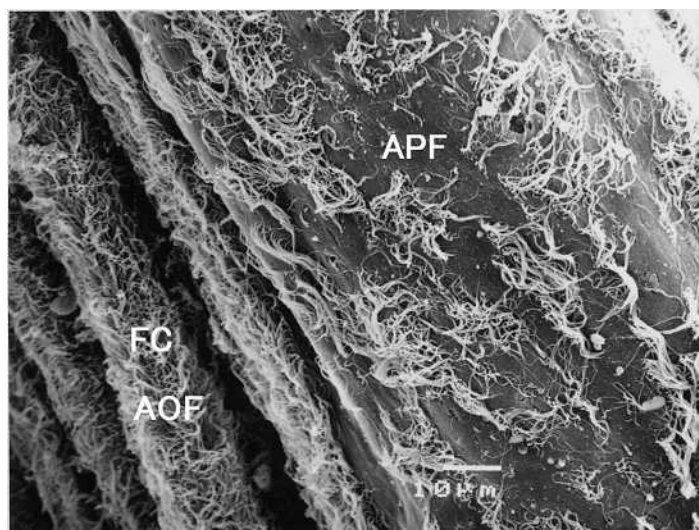


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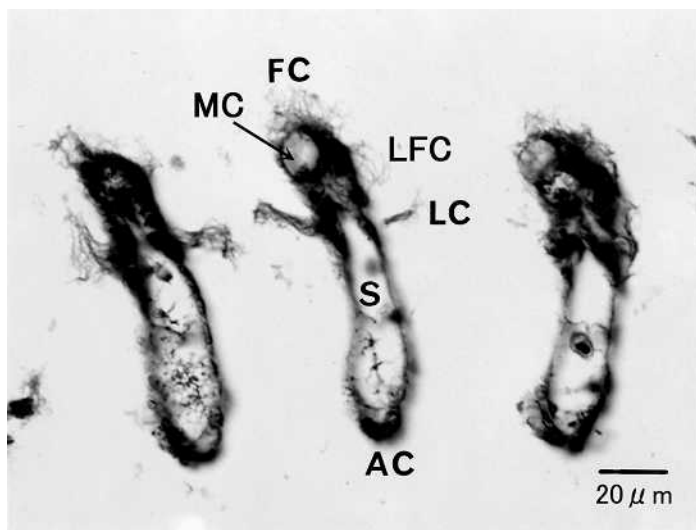


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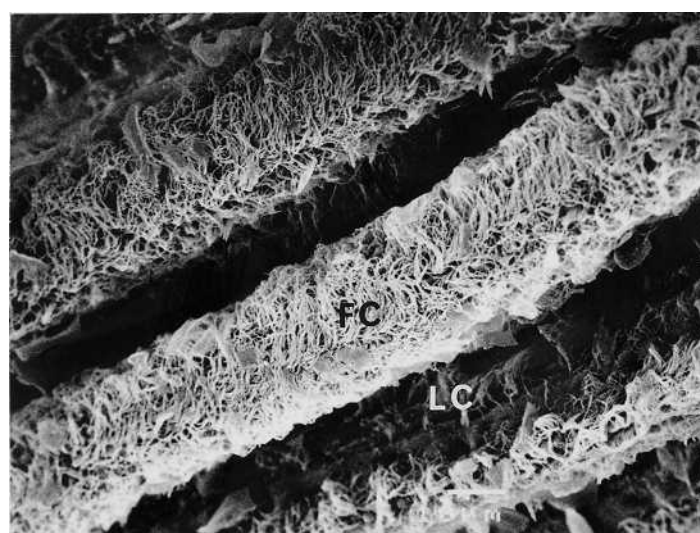


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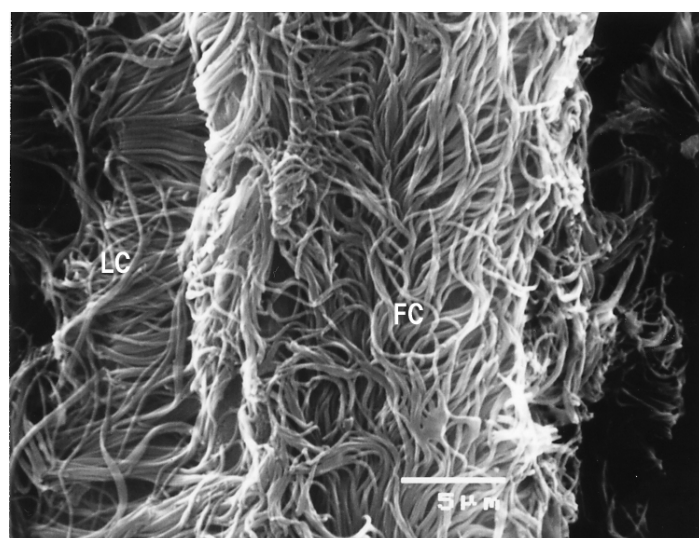


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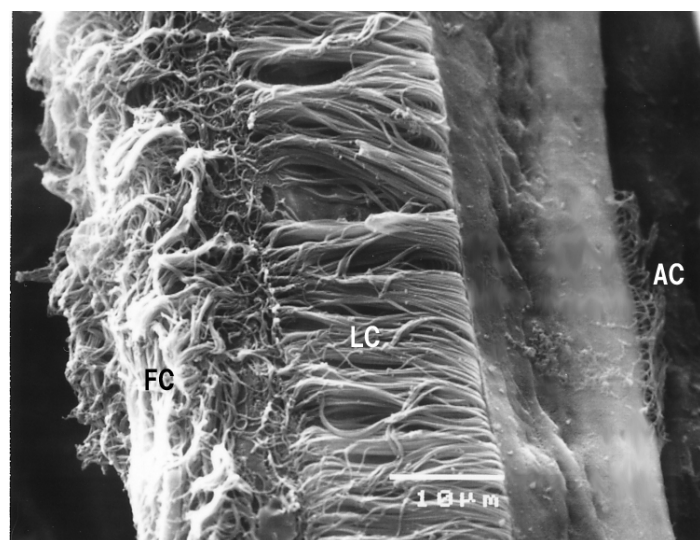


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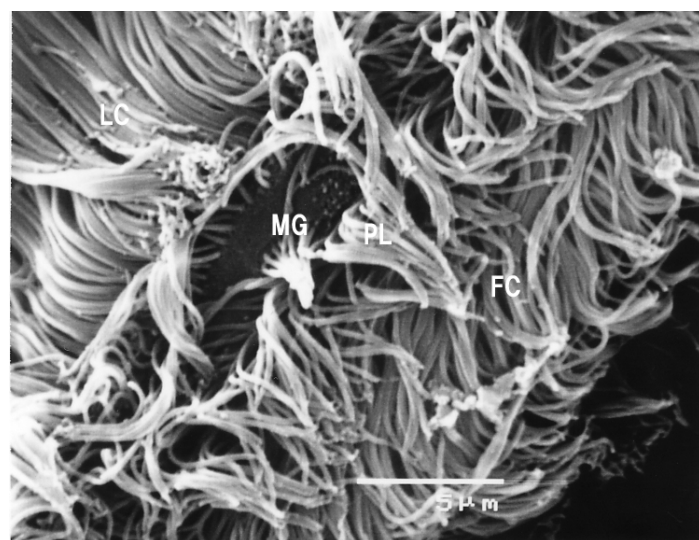


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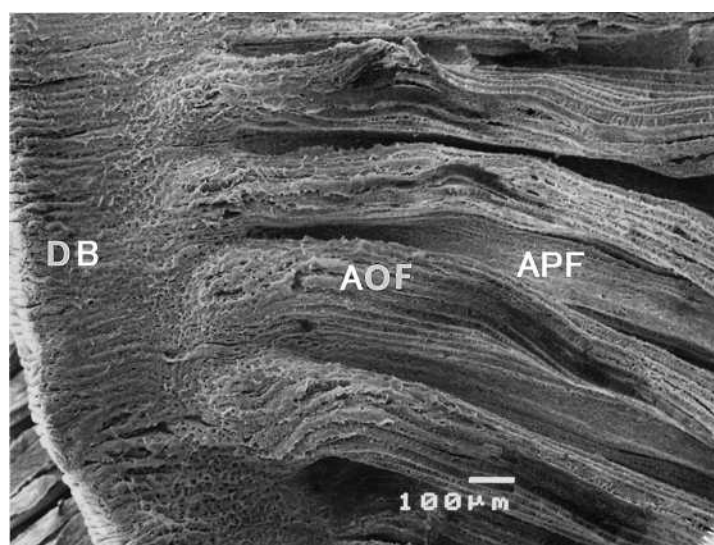


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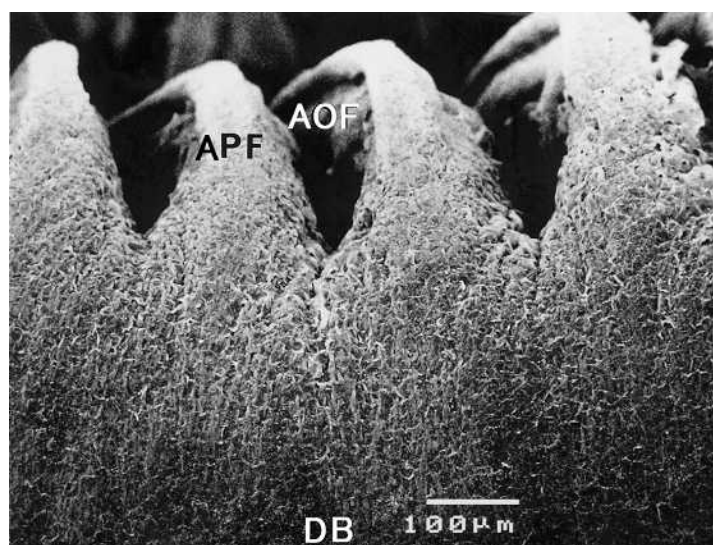


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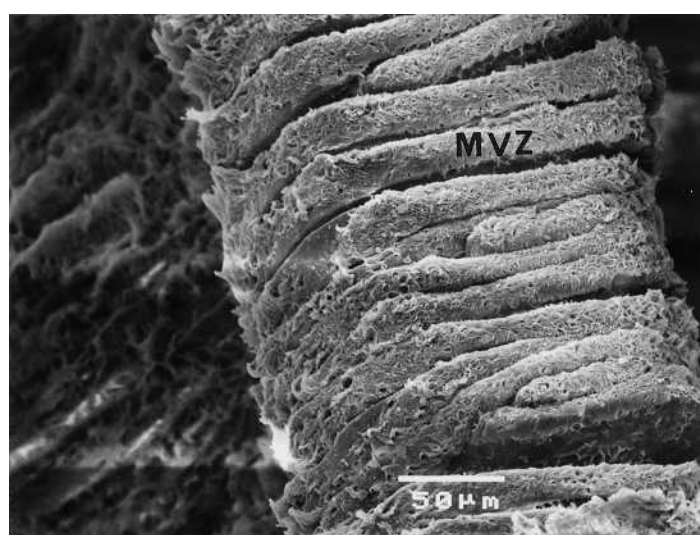


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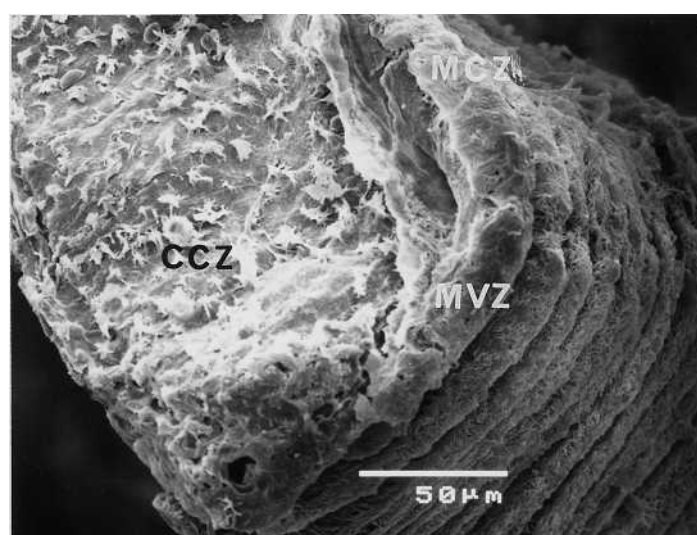


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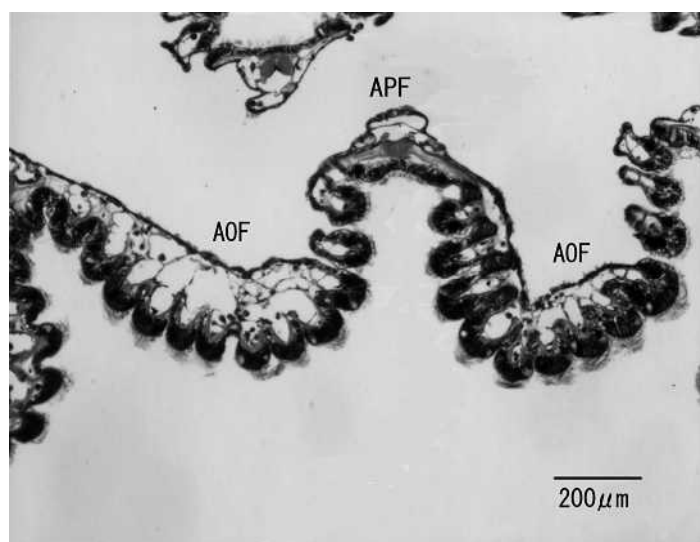


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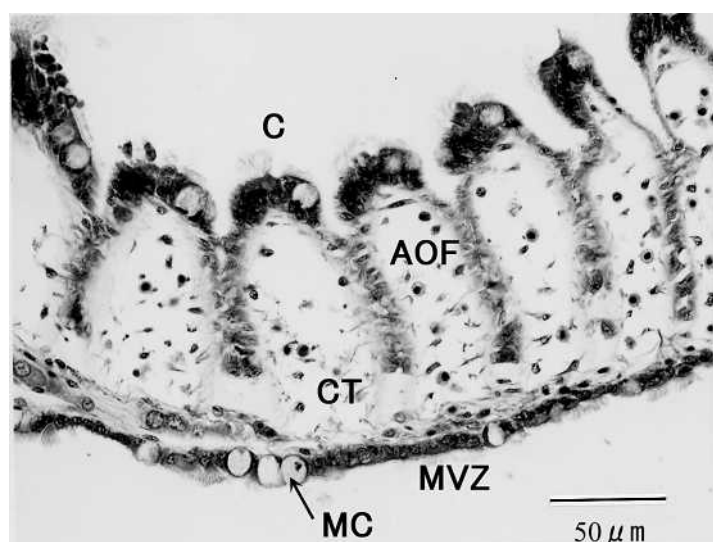


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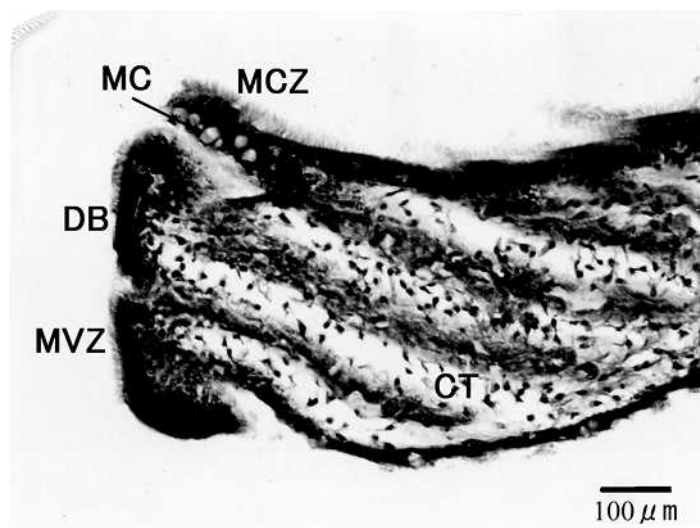


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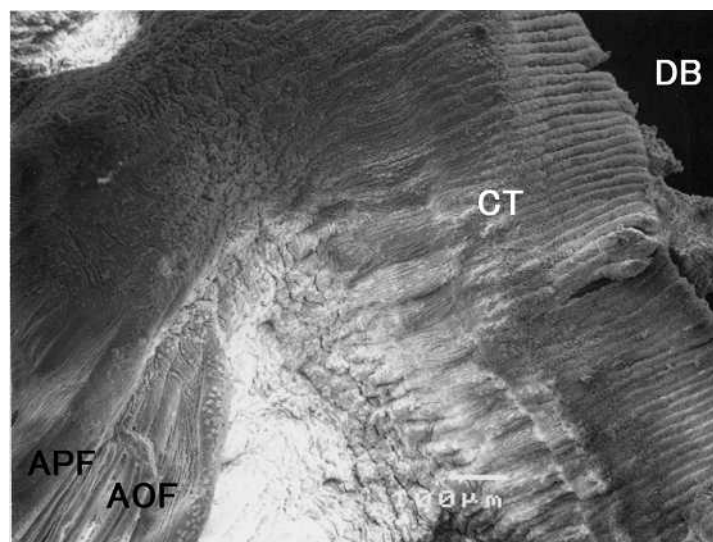


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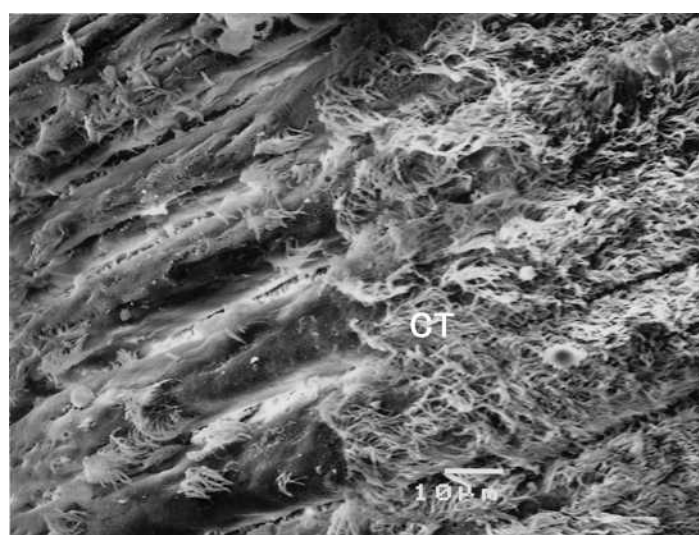


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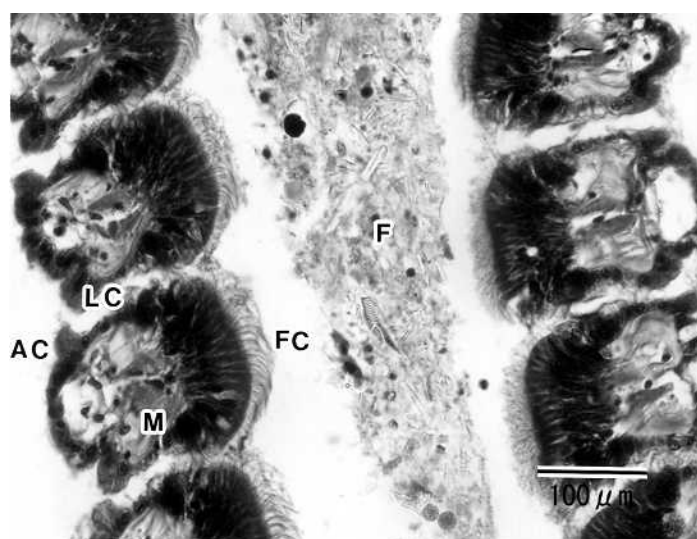


图.3.59



图.3.60

図.3.2. 鰓懸垂膜(suspentory membrane)と鰓弓(gill arch)の組織図. AB V:入鰓血管(afferent branchial vessel), AV:入鰓弁血管(afferent vessel), BN:鰓神経(branchial nerve), C:繊毛(cilia), EB V:出鰓弁血管(efferent branchial vessel), GA:鰓弓(gill arch), IV:連合結合血管(interconnecting vessel), PF:第一次鰓弁(principal filament), SM:鰓懸垂膜(suspentory membrane)

図.3.3. 鰓懸垂膜(suspentory membrane)の組織図. C:繊毛(cilia), CT:結合組織(connective tissue), E:表皮(epithelium), MF:筋繊維(muscle fiber)

図.3.4. 鰓懸垂膜(suspentory membrane)表皮(epithelium)付近の組織図. C:繊毛(cilia), CT:結合組織(connective tissue), MC:粘液細胞(mucus cell), MF:筋繊維(muscle fiber)

図.3.5. 鰓中央部の鰓懸垂膜(suspentory membrane)表面の電顕像. C:繊毛(cilia)

図.3.6. 鰓後部の鰓懸垂膜(suspentory membrane)表面の電顕像. C:繊毛(cilia)

図.3.7. 鰓弓(gill arch)表面の電顕像.

図.3.8. 鰓弁向下枝(descending branch of principal filament)の電顕像. AV:入鰓弁血管(afferent vessel), DRE:背呼吸拡散(dorsal respiratory expansion), EV:出鰓弁(efferent vessel), IV:連合結合血管(interconnecting vessel), PF: 第一次鰓弁(principal filament)

図.3.9. 第一次鰓弁向下枝(descending branch of principal filament)の電顕像. AV:入鰓弁血管(afferent vessel), C:繊毛(cilia), IV:連合結合血管(interconnecting vessel)

図.3.10. 第一次鰓弁(principal filament)と背呼吸拡散(dorsal respiratory expansion) の組織図. AV:入鰓弁血管(afferent vessel), IV:連合結合血管(interconnecting vessel), EV:出鰓血管(efferent vessel), OF: 第二次鰓弁(ordinary filament) , PF: 第一次鰓弁(principal filament), ST:支持構造(supporting structure)

図.3.11. 入鰓血管(afferent vessel)と連合結合血管(interconnecting vessel)の組織図. AV:入鰓血管(afferent vessel), C:繊毛(cilia), HC:血球(hemocyte), IV:連合結合血管(interconnecting vessel)

図.3.12. 鰓弁血管(afferent vessel)表面の電顕像. C:繊毛(cilia), M:粘液(mucus)

図.3.13. 第一次鰓弁(principal filament)と背呼吸拡散(dorsal respiratory expansion) の組織図. AV:入鰓弁血管(afferent vessel), IV:連合結合血管(interconnecting vessel), PF: 第一次鰓弁(principal filament)

図.3.14. 連合結合血管(interconnecting vessel)の組織図. C:繊毛(cilia), HC:血球(hemocyte), PC:壁柱細胞(pillar cell), PVC:被蓋細胞(pavement cell)

図.3.15. 連合結合血管(interconnecting vessel)表面の電顕像. C:繊毛(cilia)

図.3.16. 第一次鰓弁(principal filament)と連合結合血管(interconnecting vessel)の組織図. AC:反前面繊毛(abfrontal cilia), DC:濃染キチン質(dense staining chitin), EV:出鰓血管(efferent vessel), FM:前面繊毛中央束 (median tract of frontal cilia) , FL:前面繊毛側束(lateral tract of frontal cilia), IV:連合結合血管(interconnecting vessel), LC:側繊毛(lateral cilia), MG:粘液腺(mucus gland), OF:第二次鰓弁(ordinary filament), PF:第一次鰓弁(principal filament), PC:薄染キチン質(pale staining chitin),

図.3.17. 第一次鰓弁(principal filament)側面表面の電顕像. C:繊毛(cilia)

図.3.18. 第一次鰓弁(principal filament)の前面の電顕像. FM:前面繊毛中央束 (median tract of frontal cilia) , FL:前面繊毛側束(lateral tract of frontal cilia), LC:側繊毛(lateral cilia), PL:側面繊毛前—前面繊毛(pro-latero-frontal cilia), S:繊毛突起(ciliated spur)

図.3.19. 入鰓弁血管(afferent vessel)と出鰓弁血管(efferent vessel)の結合部の電顕像. AV:入鰓弁血管(afferent vessel), C:繊毛(cilia), EV:出鰓弁血管(efferent vessel), IV:連合結合血管(interconnecting vessel), PL:側面繊毛前—前面繊毛(pro-latero-frontal cilia)

図.3.20. 第一次鰓弁(principal filament)の連合結合血管(interconnecting vessel)と第二次鰓弁(ordinary filament)の電顕像. IV:連合結合血管(interconnecting vessel), OF:二次鰓弁(ordinary filament), PF:第一次鰓弁(principal filament), S:繊毛突起(ciliated spur)

図.3.21. 第一次鰓弁(principal filament)と第二次鰓弁(descending ordinary filament)の電顕像. OF:二次鰓弁(ordinary filament), PF:第一次鰓弁(principal filament), S:繊毛突起(ciliated spur)

図.3.22. 背側(dorsal)の向下第二次鰓弁(descending filament)の背呼吸拡散(dorsal respiratory expansion)と第二次鰓弁(ordinary filament)の組織図. AV:入鰓弁血管(afferent vessel), EV: 出鰓弁血管(efferent vessel), IV: 連合結合血管(interconnecting vessel), OF: 第二次鰓弁(ordinary filament), PF: 第一次鰓弁(primary filament), ST:支持構造(supporting structure)

図.3.23. 稚貝での背側(dorsal)の向下第二次鰓弁(descending filament)の背呼吸拡散(dorsal respiratory expansion)と第二次鰓弁(ordinary filament)の組織図. AV:入鰓弁血管(afferent vessel), EV: 出鰓弁血管(efferent vessel), IV: 連合結合血管(interconnecting vessel), OF:第二次鰓弁(ordinary filament), PF: 第一次鰓弁(primary filament)

図.3.24. 向下第二次鰓弁(descending ordinary filament)の組織図. AC:反前面繊毛(abfrontal cilia), FC: 前面繊毛(frontal cilia), LC:側繊毛(lateral cilia), LFC:側前面細胞(lateo-frontal cilia), MC:粘液細胞(mucus cell), S:隔膜(septum)

図.3.25. 向下第二次鰓弁(descending ordinary filament)の組織図. LC:側繊毛(lateral cilia), HC:血球(hemocyte), MC:粘液細胞(mucus cell)

図.3.26. 向下第二次鰓弁(descending ordinary filament)の組織図. MC:粘液細胞(mucus cell)

図.3.27. 二次鰓弁(ordinary filament)と繊毛突起(ciliated spur)の電顕像. C:繊毛(cilia), FC:前繊毛(frontal cilia), LC:側繊毛(lateral cilia), OF:第二次鰓弁(ordinary filament), S:繊毛突起(ciliated spur)

図.3.28. 繊毛突起(ciliated spur)の電顕像. C:繊毛(cilia), S:繊毛突起(ciliated spur)

図.3.29. 第一次鰓弁(principal filament)結合部の繊毛突起(ciliated spur)の電顕像. C:繊毛(cilia), S:繊毛突起(ciliated spur)

図.3.30. 第二次鰓弁(ordinary filament)と繊毛突起(ciliated spur)の組織図. EV:出鰓弁血管(efferent vessel), HC:血球(hemocyte), MC:粘液細胞(mucus cell), OF:第二次鰓弁(ordinary filament), PF:第一次鰓弁(primary filament), S:繊毛突起(ciliated spur)

図.3.31. 腹曲(ventral bend)の向上鰓弁(ascending filament)電顕像. AOF:向上第二次鰓弁(ascending ordinary filament), APF:向上第一次鰓弁(ascending principal filament), VB:腹曲(ventral bend)

図.3.32. 腹曲(ventral bend)の電顕像. AOF:向上第二次鰓弁(ascending ordinary filament)

図.3.33. 腹曲(ventral bend)の第二次鰓弁(ordinary filaments)の電顕像. FC:前面繊毛(frontal cilia), LC: 側繊毛(lateral cilia)

図.3.34. 腹曲(ventral bend)の組織図. LC:側繊毛(cilia), HC:血球(hemocyte), MC:粘液細胞(mucus cell), OF: 第二次鰓弁(ordinary filament)

図.3.35. 腹曲(ventral bend)の二次鰓弁(ordinary filaments)の結合部の電顕像. CD:繊毛盤(ciliated disc), FC:前面繊毛(frontal cilia), LC:側繊毛(lateral cilia), OF:二次鰓弁(ordinary filament)

図.3.36. 繊毛盤(ciliated disc)の電顕像. CD:繊毛盤(ciliated disc)

図.3.37. 腹曲(ventral bend)の第一次鰓弁(principal filament)と第二次鰓弁(ordinary filament)の結合構造の電顕像. IJ:薄板間結合(interlamellar junction), PF: 第一次鰓弁(principal filament), 第OF:二次鰓弁(ordinary filament)

図.3.38. 稚貝の腹曲(ventral bend)の側面の電顕像. AF:向上鰓弁(ascending filament), CD:繊毛盤(ciliated disc), DF:向下鰓弁(descending filament), IJ:薄板間結合(interlamellar junction)

図.3.39. 腹曲(ventral bend)付近の向下鰓弁(descending filament)と向上鰓弁(ascending filament)の組織図. AOF:向上第二次鰓弁(ascending ordinary filament), APF:向上第一次鰓弁(ascending principal filament), DPF:向下第一次鰓弁(descending principal filament), DOF:向下第二次鰓弁(descending ordinary filament), ILS:薄板間膜(interlamella septum)

図.3.40. 腹曲(ventral bend)付近の向下鰓弁(descending filament)と向上鰓弁(ascending filament)の組織図. AOF:向上第二次鰓弁(ascending ordinary filament), APF:向上第一次鰓弁(ascending principal filament), DPF:向下第一次鰓弁(descending principal filament), DOF:向下第二次鰓弁(descending ordinary filament), ILS:薄板間膜(interlamella septum), S:繊毛突起(ciliated spur)

図.3.41. 向上鰓弁(ascending filaments)の裏面の電顕像. APF:向上一次鰓弁(ascending principal filament), AOF:(ascending ordinary filaments), EV:出鰓弁血管(efferent vessel), S:繊毛突起(ciliated spur)

図.3.42. 向上第一次鰓弁(ascending principal filament)と向上第二次鰓弁(ascending ordinary filament)の組織図. EV:出鰓弁血管(efferent vessel), OF:第二次鰓弁(ordinary filament), PF:第一次鰓弁(primary filament), ST:支持構造(supporting structure)

図.3.43. 向上第一次鰓弁(ascending principal filament)と向上第二次鰓弁(ascending ordinary filament)の組織図. AC:反前面繊毛(abfrontal cilia), DC:濃染キチン質(dense staining chitin), FCO:第二次鰓弁前面繊毛(frontal cilia of ordinary filament), FM:前面繊毛中央束 (median tract of frontal cilia), FL:前面繊毛側束(lateral tract of frontal cilia), LC:側繊毛(lateral cilia), LCO:第二次鰓弁側繊毛(lateral cilia of ordinary filament), MG:粘液腺(mucus gland), NC:無繊毛細胞(non-ciliated cells), OF:二次鰓弁(ordinary filament), PF:第一次鰓弁(principal filament), PC:薄染キチン質(pale staining chitin), PL:側繊毛前—前面繊毛(pro-lateral-frontal cilia), S:隔膜(septum)

図.3.44. 向上第一次鰓弁(ascending principal filament)と向上第二次鰓弁(ascending ordinary filament)の電顕像. AOF:向上第二次鰓弁(ascending ordinary filament), APF:向上第一次鰓弁(ascending principal filament), FC:前面繊毛(frontal cilia)

図.3.45. 向上第二次鰓弁(ascending ordinary filament)の組織図. AC:反前面繊毛(abfrontal cilia), FC:前面繊毛(frontal cilia), LC:側繊毛(lateral cilia), LFC:側前面繊毛(lateo-frontal cilia), MC:粘液細胞(mucus cell), S:隔膜(septum)

図.3.46. 向上第二次鰓弁(ascending ordinary filament)前面の電顕像. FC:前繊毛(frontal cilia), LC:側繊毛(lateral cilia)

図.3.47. 向上第二次鰓弁(ascending ordinary filament) 前面の電顕像. FC:前繊毛(frontal cilia), LC:側繊毛(lateral cilia)

図.3.48. 向上第二次鰓弁(ascending ordinary filament) 側面の電顕像. AC:反前面繊毛(abfrontal cilia), FC:前繊毛(frontal cilia), LC:側繊毛(lateral cilia)

図.3.49. 向上第二次鰓弁(ascending ordinary filament) 前面の電顕像. FC:前繊毛(frontal cilia), LC:側繊毛(lateral cilia), MG:粘液腺(mucus gland)

図.3.50. 背曲(dorsal bend)側の向上鰓弁(ascending filament)の電顕像. APF:向上第一次鰓弁(ascending principal filament), AOF:向上第二次鰓弁(ascending ordinary filament), DB:背曲(dorsal bend)

図.3.51. 背曲(dorsal bend)付近の向上鰓弁(ascending filament)の電顕像. APF:向上第一次鰓弁(ascending principal filament), AOF:向上第二次鰓弁(ascending ordinary filament), DB:腹曲(dorsal bend)

図.3.52. 向上鰓弁(ascending filaments)の腹曲(dorsal bend)末端電顕像. MVZ:微絨毛域(microvilli zone)

図.3.53. 向上第一次鰓弁(ascending principal filament)の背曲(dorsal bend)の電顕像. CCZ:中央繊毛域(central ciliated zone), MCZ:縁繊毛域(marginal ciliated zone), MVZ:微絨毛域(microvilli zone)

図.3.54. 背曲(dorsal bend)側の向上第一次鰓弁(ascending principal filament)と向上第二次鰓弁(ascending ordinary filaments)の電顕像. APF:向上第一次鰓弁(ascending principal filaments), AOF:向上第二次鰓弁(ascending ordinary filaments)

図.3.55. 向上第二次鰓弁(ascending ordinary filaments)の腹曲(dorsal bend)の組織図. AOF:向上二次鰓弁(ascending ordinary filaments), C:繊毛(cilia), CT:結合組織(connective tissue), MC:粘液細胞(mucus cell), MVZ:微絨毛域(microvilli zone)

図.3.56. 背曲(dorsal bend)の組織像. CT:結合組織(connective tissue), DB:腹曲(dorsal bend), MC:粘液細胞(mucus cell), MCZ:縁繊毛域(marginal ciliated zone), MVZ:微絨毛域(microvilli zone)

図.3.57. 向上鰓弁(ascending filaments)の裏面電顕像. APF:向上第一次鰓弁(ascending principal filament), AOF:向上第二次鰓弁(ascending ordinary filaments), CT:繊毛束(ciliated tract), DB:腹曲(dorsal bend)

図.3.58. 背曲(dorsal bend)付近の裏面の電顕像. CT:繊毛束(ciliated tract)

図.3.59. 鰓(gill)の唇弁(labial palp)付近の組織図. AC:反前面繊毛(abfrontal cilia), F:餌料(food), FC:前面繊毛(frontal cilia), LC:側繊毛(lateral cilia), M:筋繊維(muscle fiber)

図.3.60. 鰓(gill)の後部末端(terminal part)の電顕像.