

2.外 套 膜

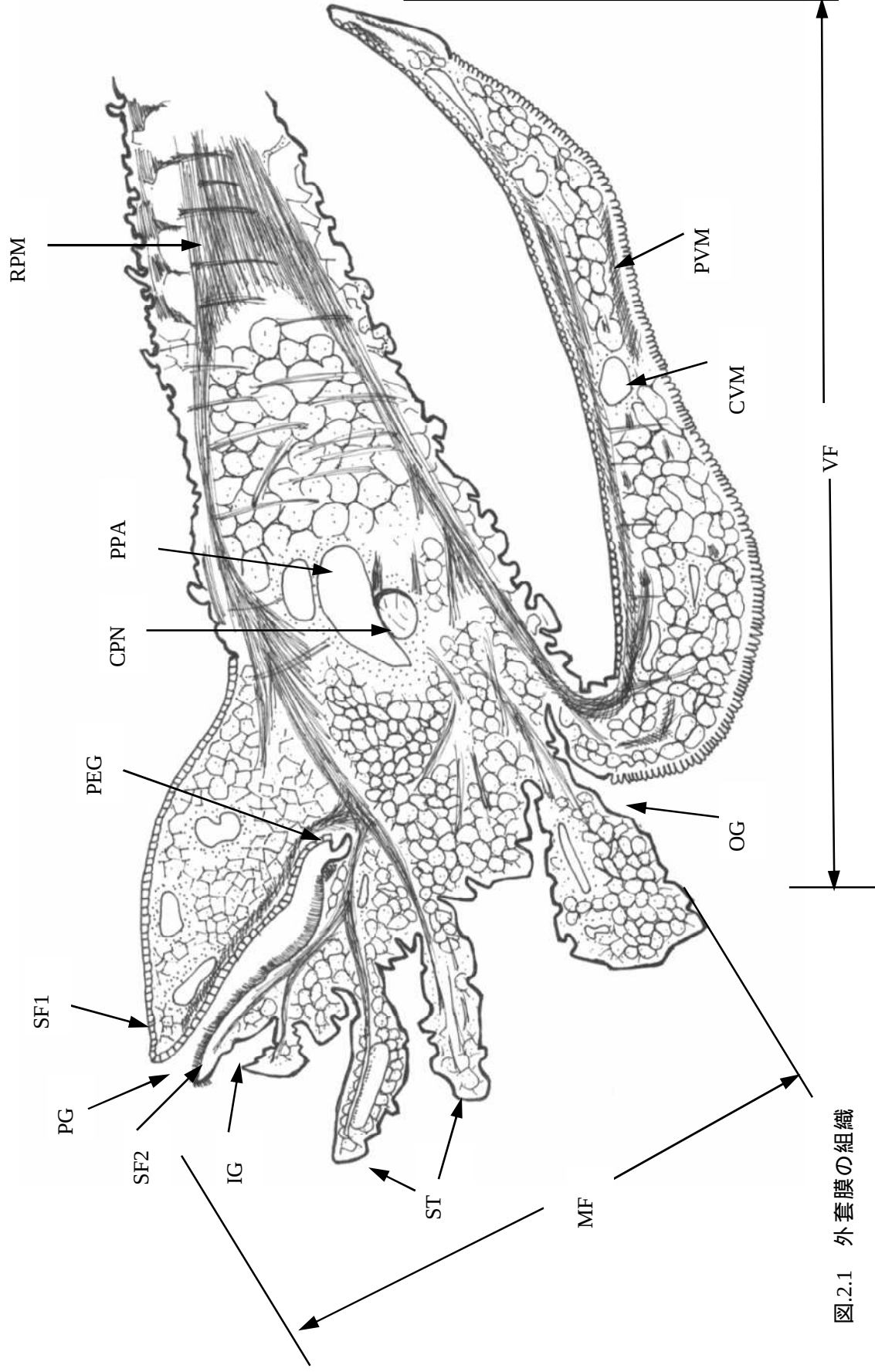


図.2.1 外套膜の組織

CPN:環外套神経(circum pallial nerve), CVM:環縁膜筋(concentric velum muscle), IG:内溝(inner groove), MF:中褶(middle fold), OG:外溝(outer groove), PEG:殻皮腺(Periostracal gland), PG:殻皮溝(periostracal groove), PPA:後外套動脈(posterior pallial artery), PVM:放射縁膜筋(radial velum muscle), RPM:放射外套筋(radial pallial muscle), SF1:第1次外褶(primary shell fold), ST:触手(tentacle), SF2:第2次外褶(secondary shell fold), VF:内褶(velar fold)

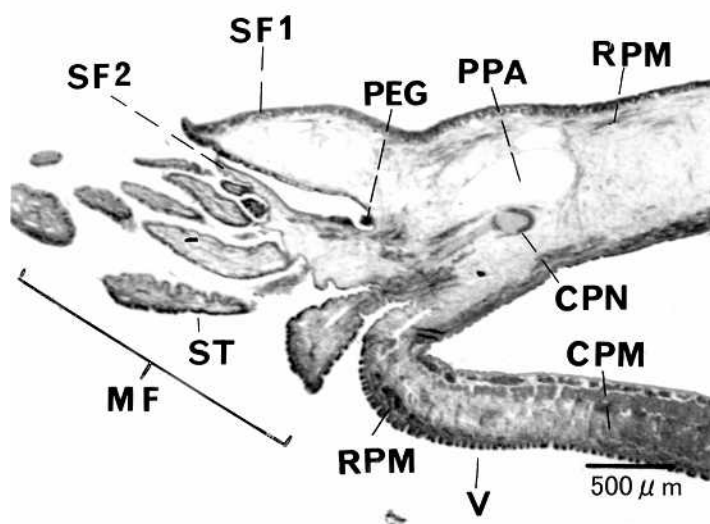


图.2.2

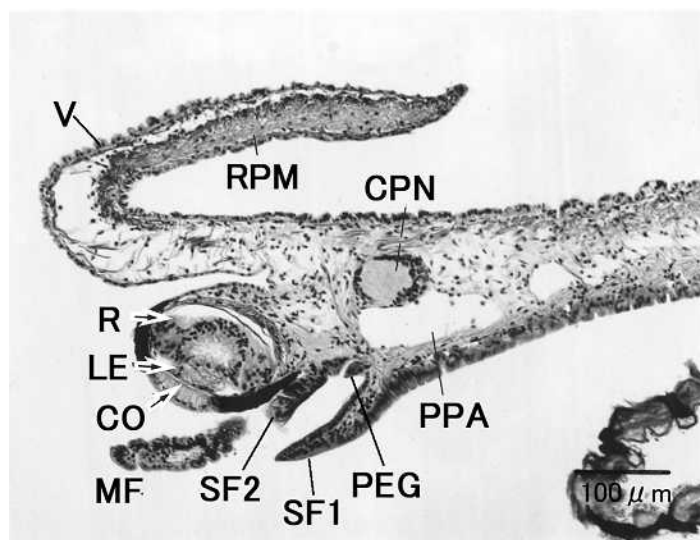


图.2.3

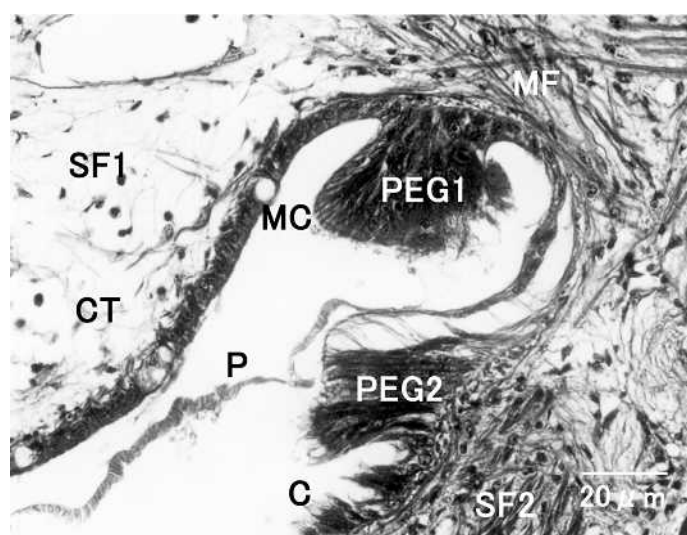


图.2.4

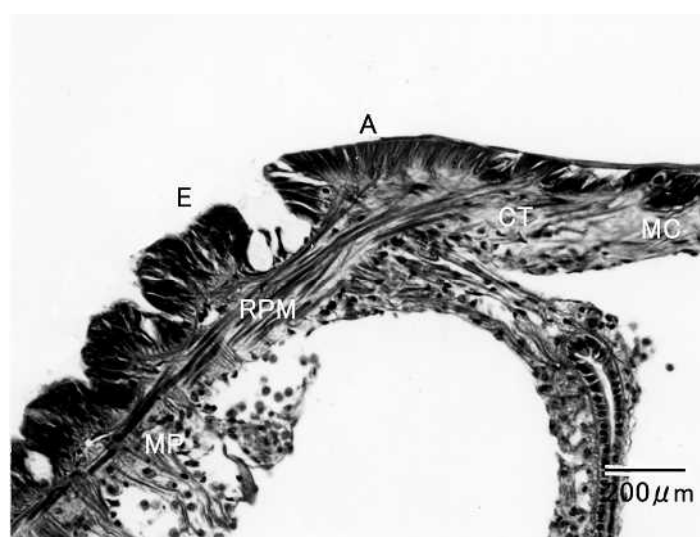


图.2.5

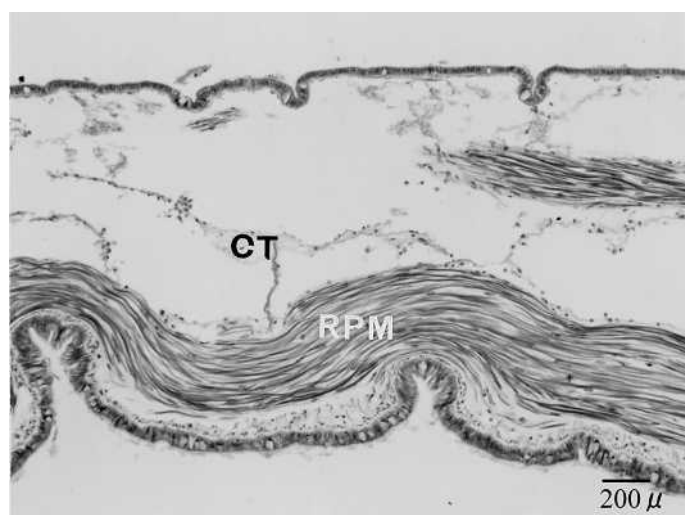


图.2.6

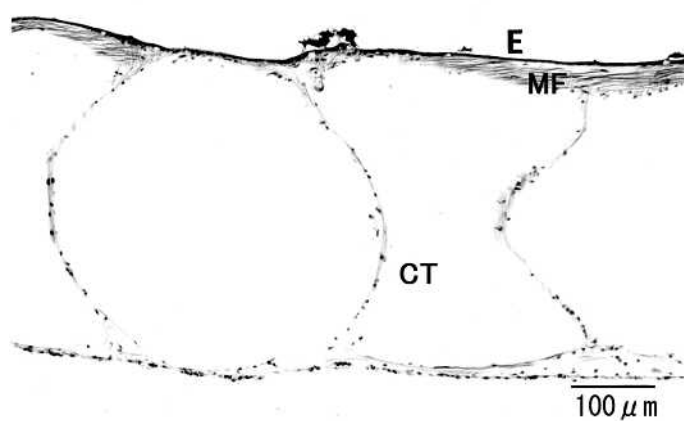


图.2.7

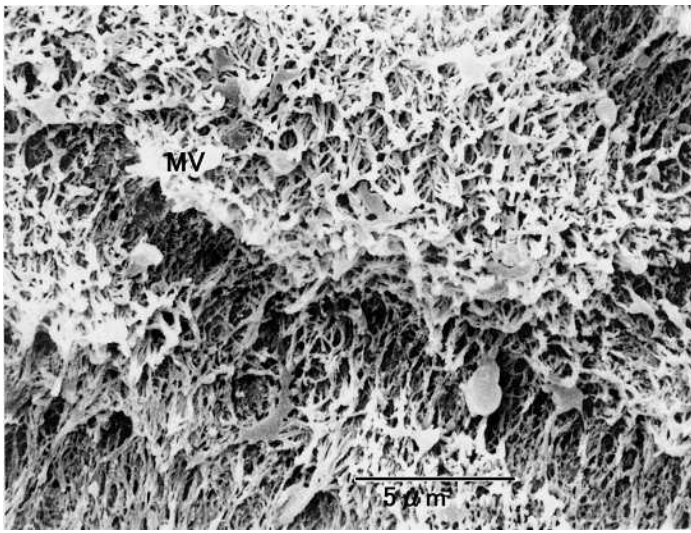


图.2.8

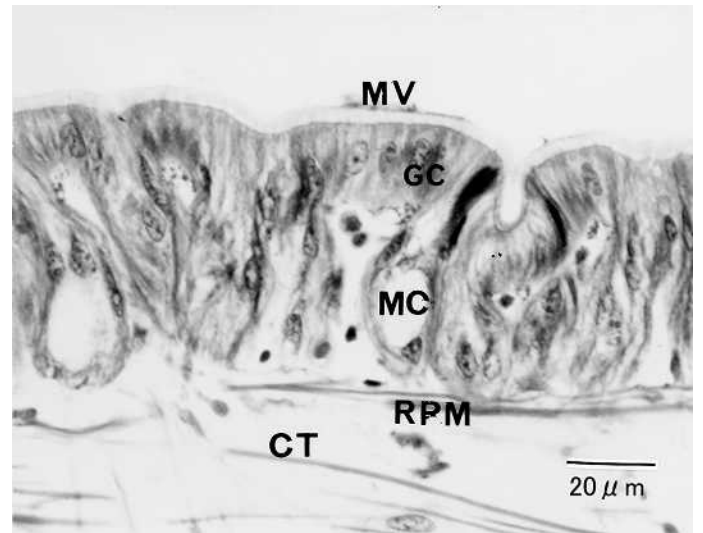


图.2.9

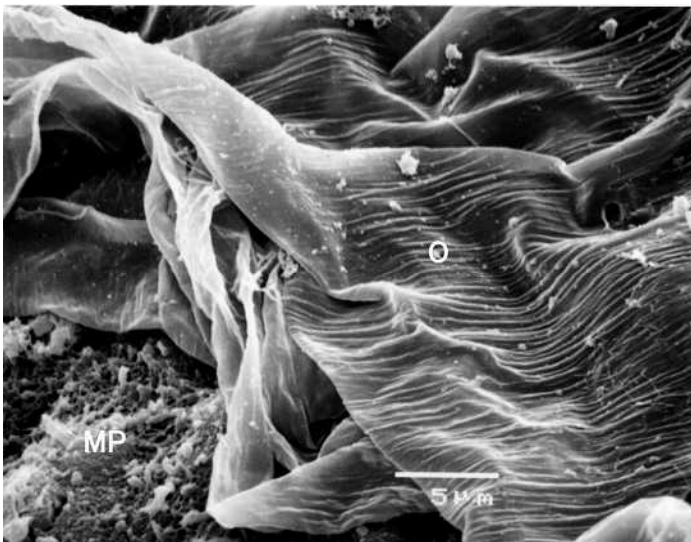


图.2.10

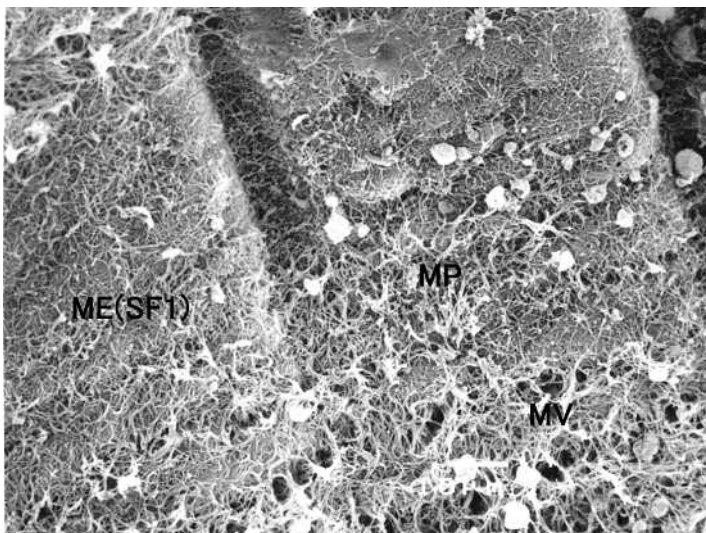


图.2.11

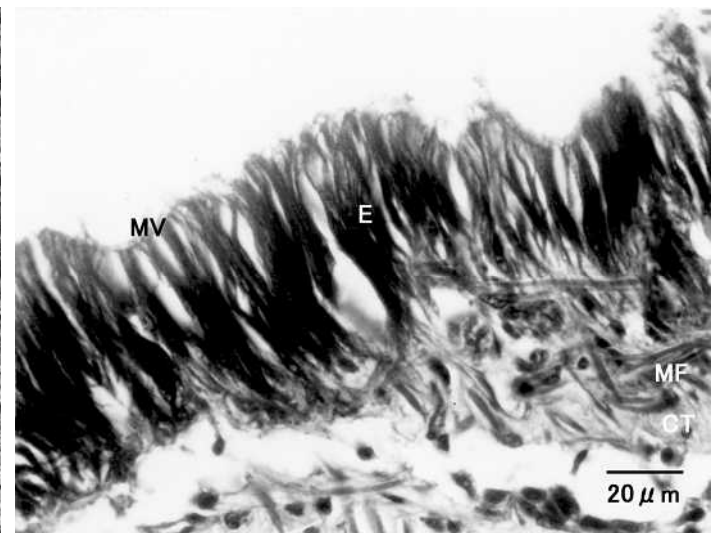


图.2.12

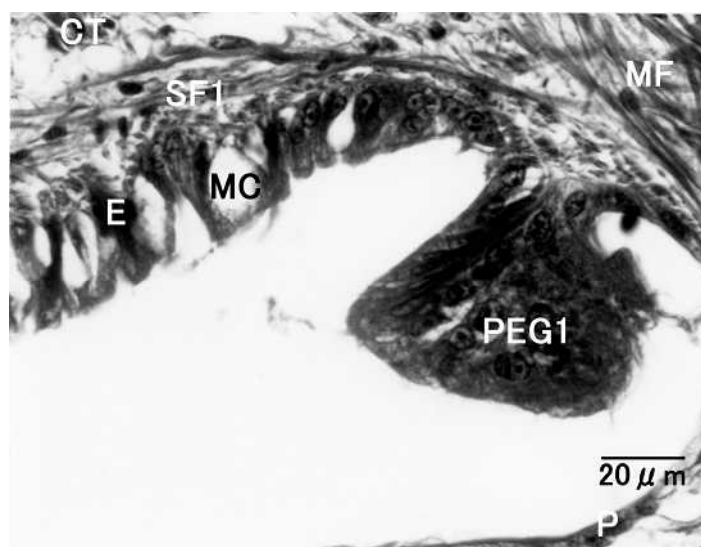


图.2.13

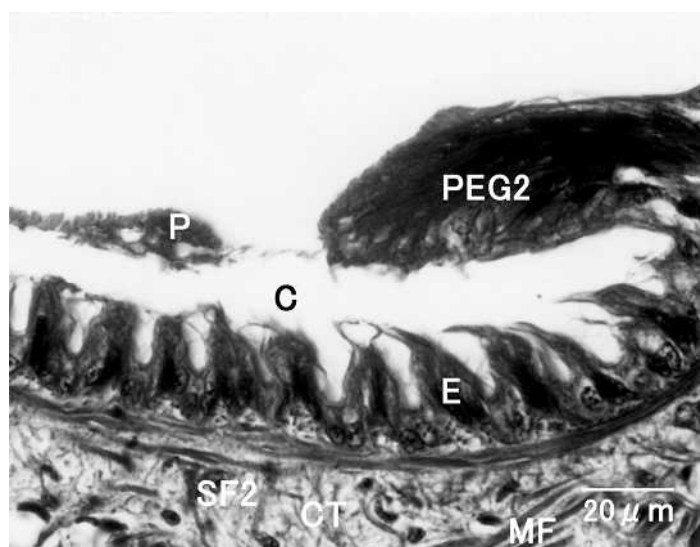


图.2.14

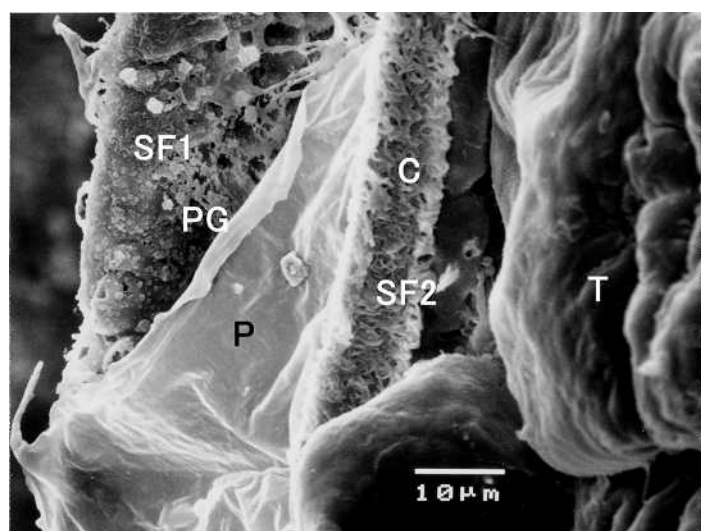


图.2.15

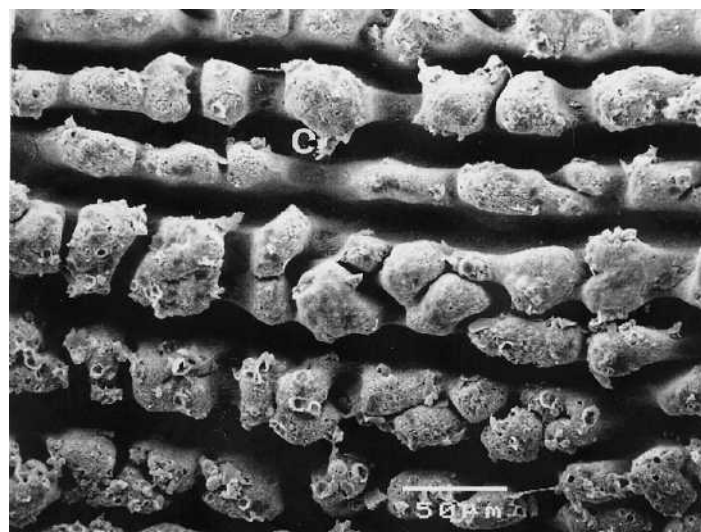


图.2.16

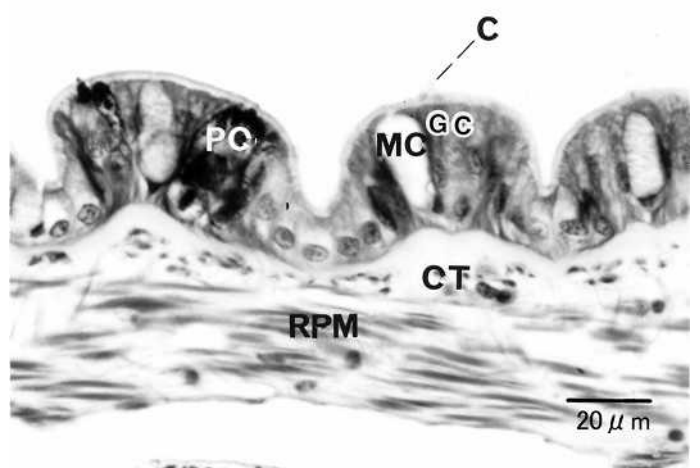


图.2.17



图.2.18

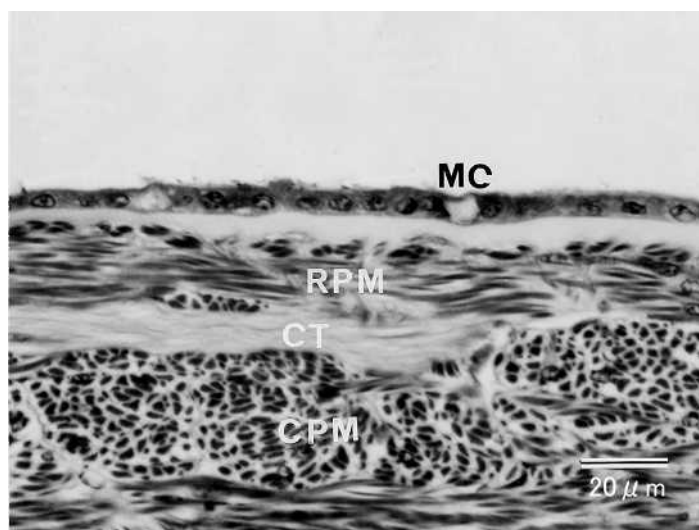


图.2.19

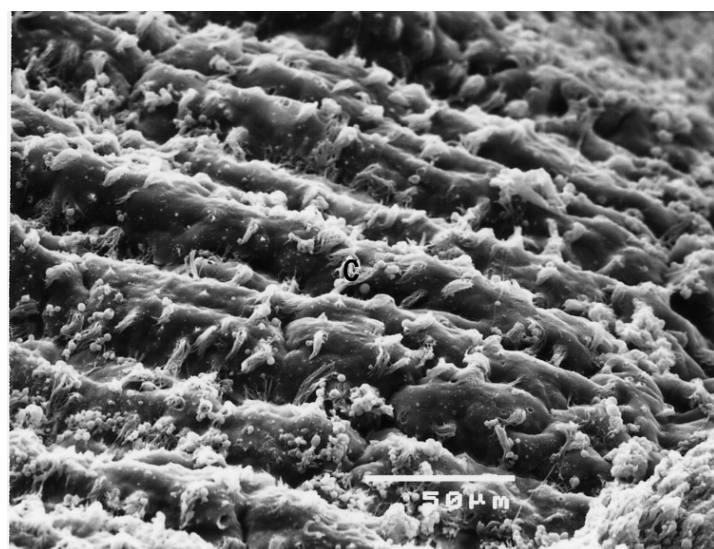


图.2.20

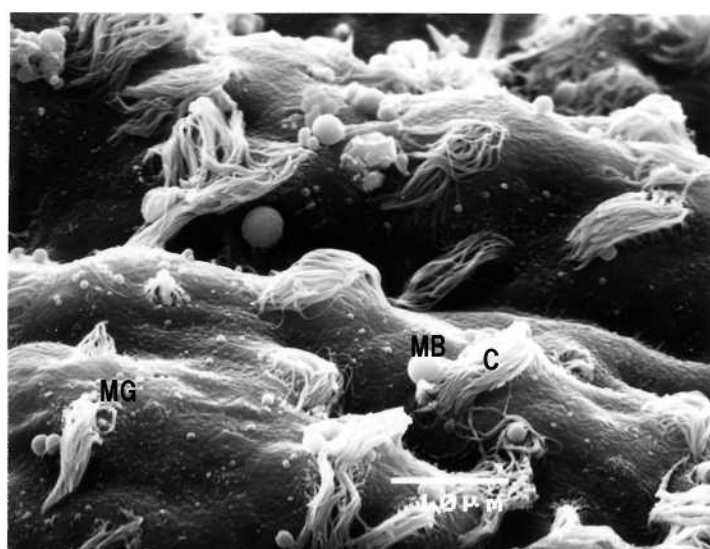


图.2.21

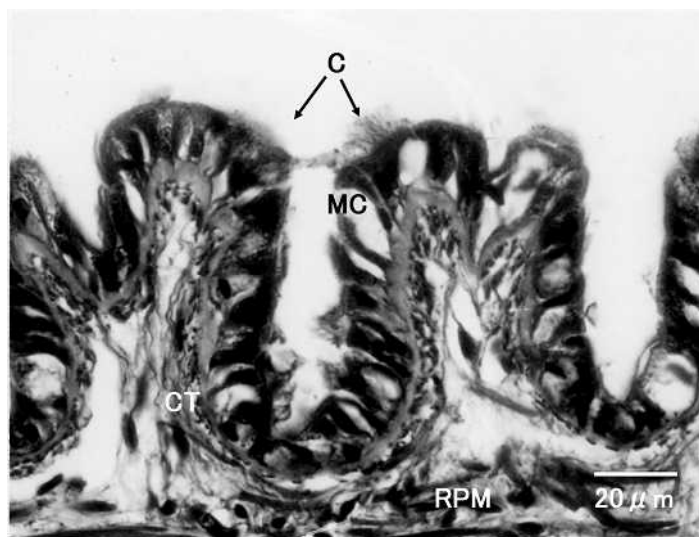


图.2.22

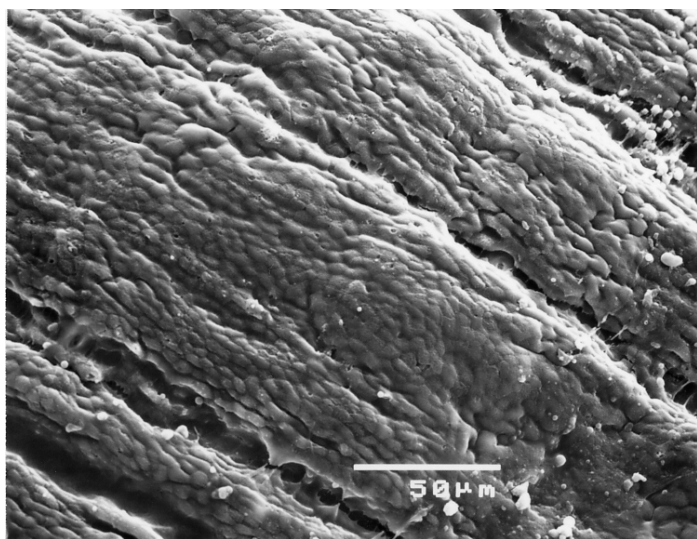


图.2.23

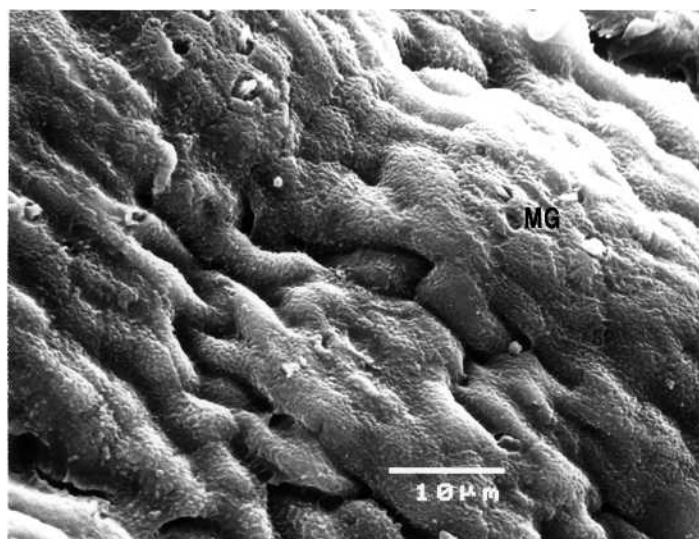


图.2.24

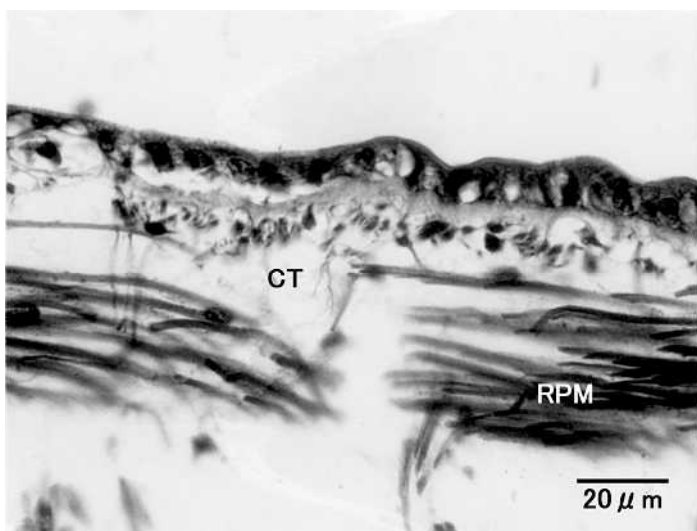


图.2.25

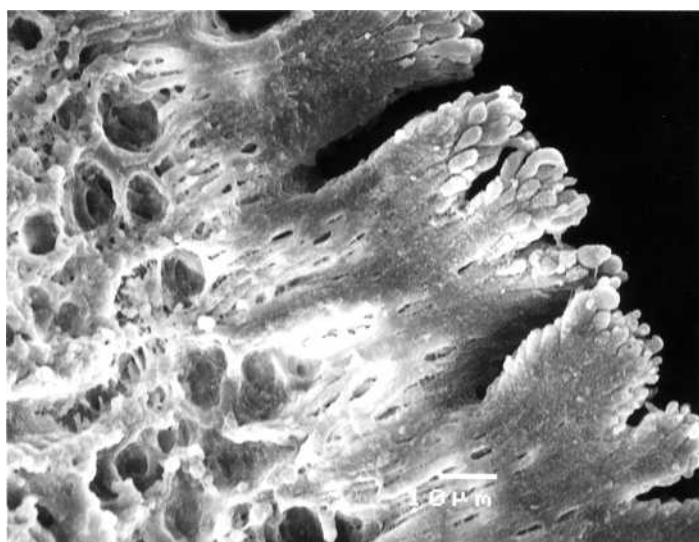


图.2.26

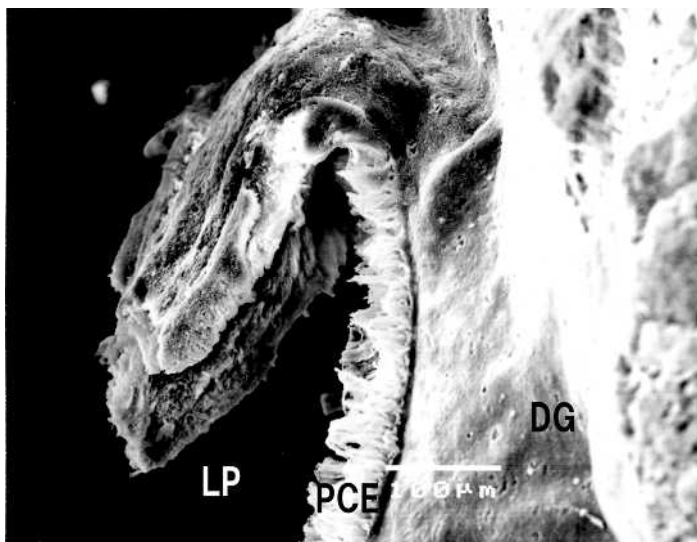


图.2.27

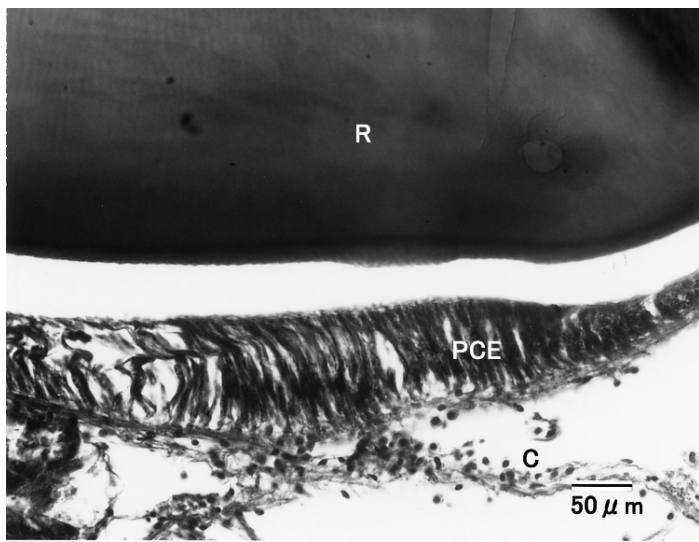


图.2.28

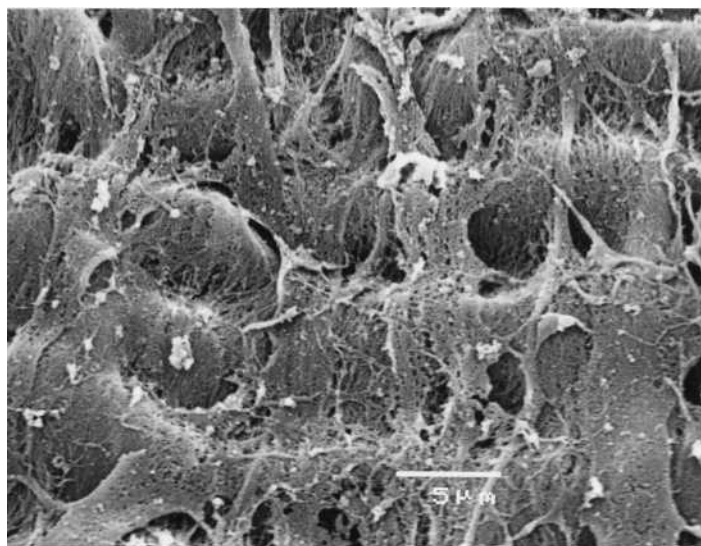


图.2.29

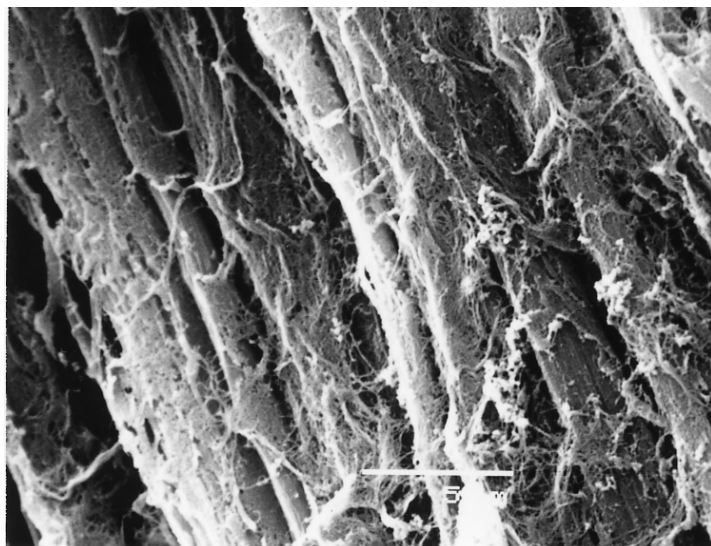


图.2.30

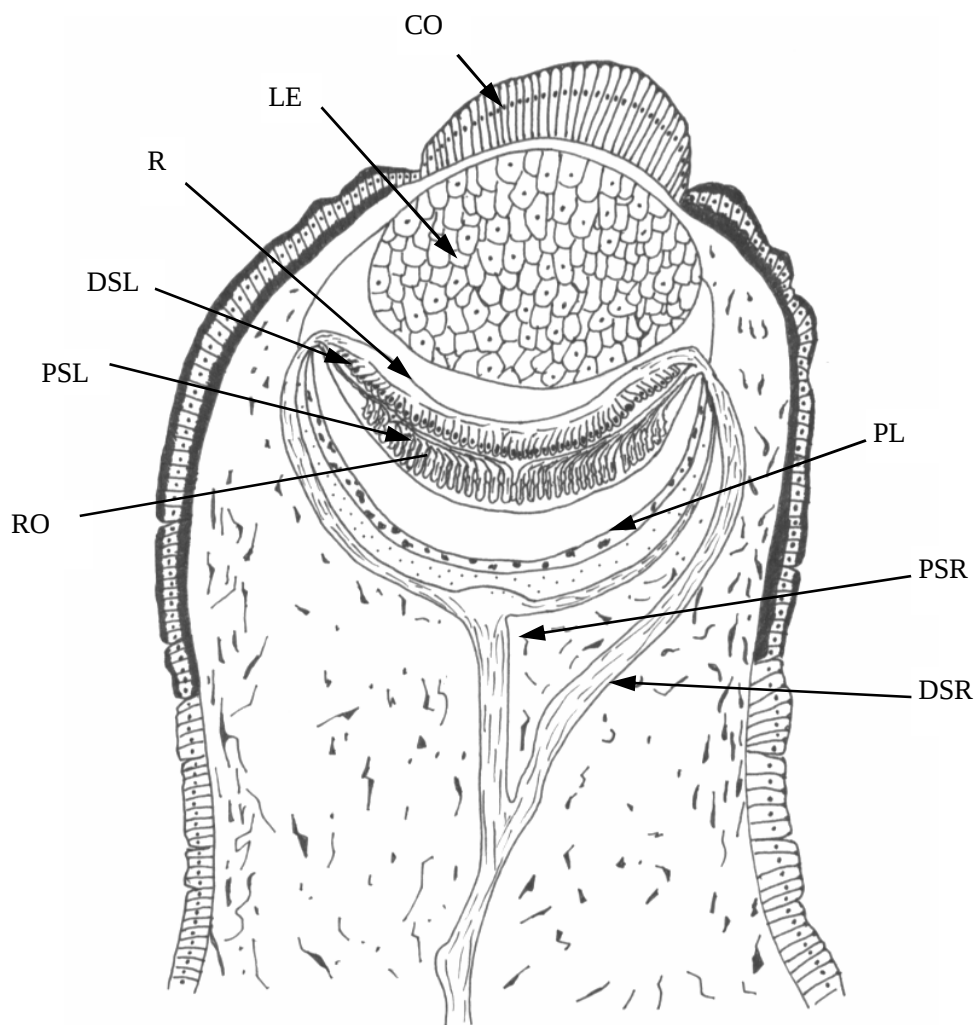


図2.31 目の組織図

CO:角膜(cornea), DSL:抹消神経層(distal sensory layer), DSR:抹消神経分岐(distal sensory ramus), LE:レンズ(lens), ON:眼神経(optic nerve), PL:色素層(pigment layer), PSL:中枢神経層 (proximal sensory layer), PSR:中枢神経分岐(proximal sensory ramus), R:網膜(retina), RO:桿細胞(rod)



图.2.32

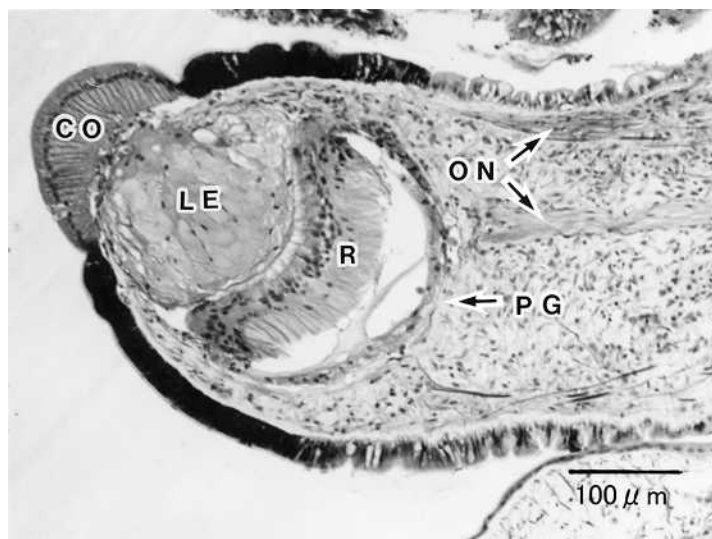


图.2.33

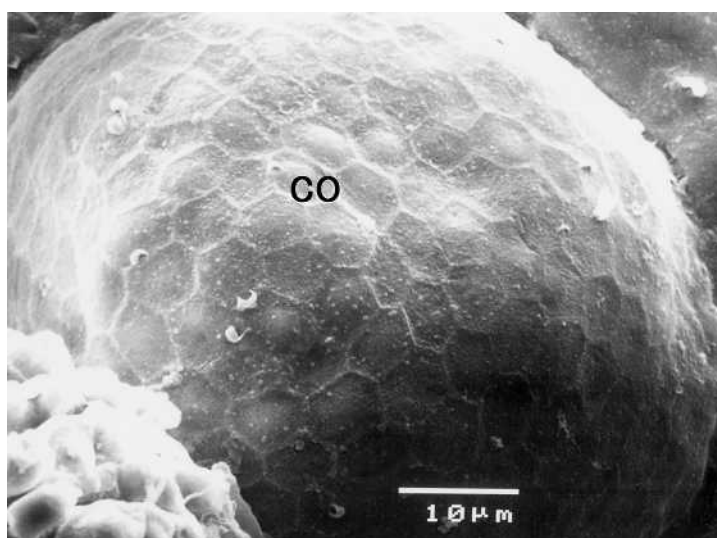


图.2.34

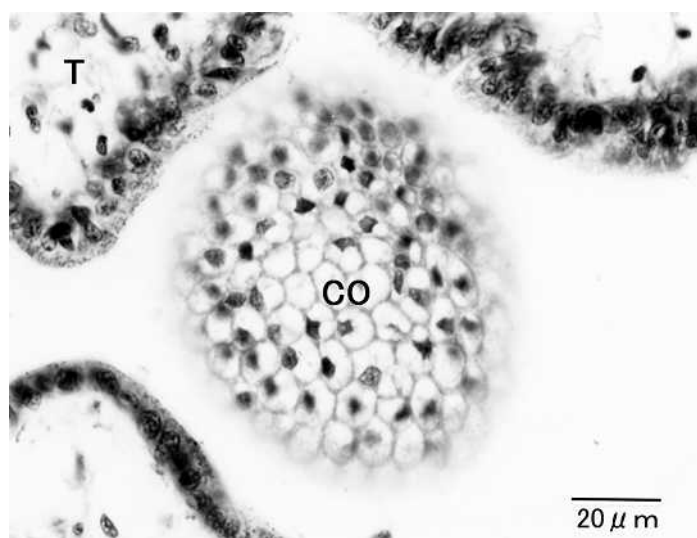


图.2.35

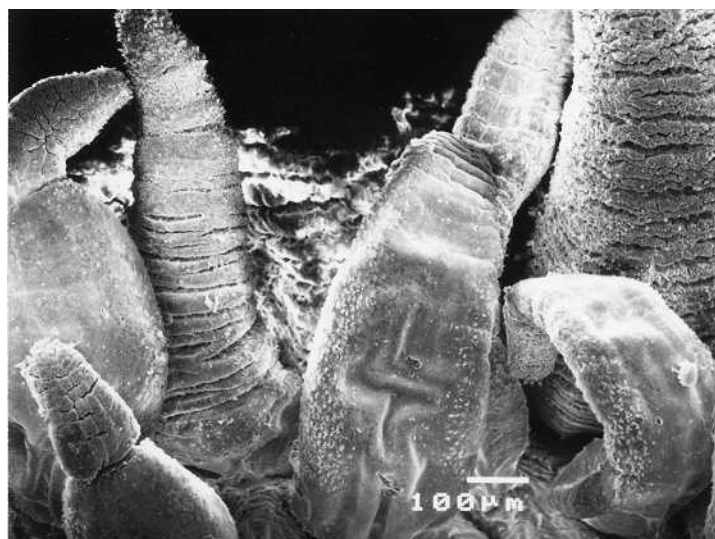


图.2.36

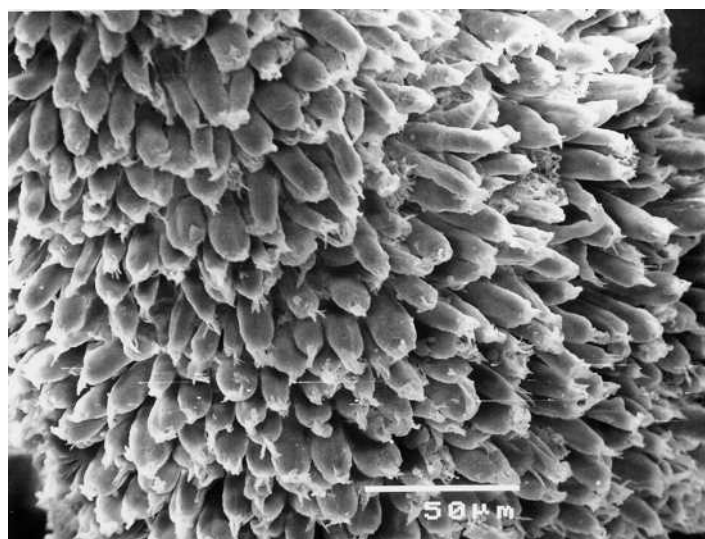


图.2.37

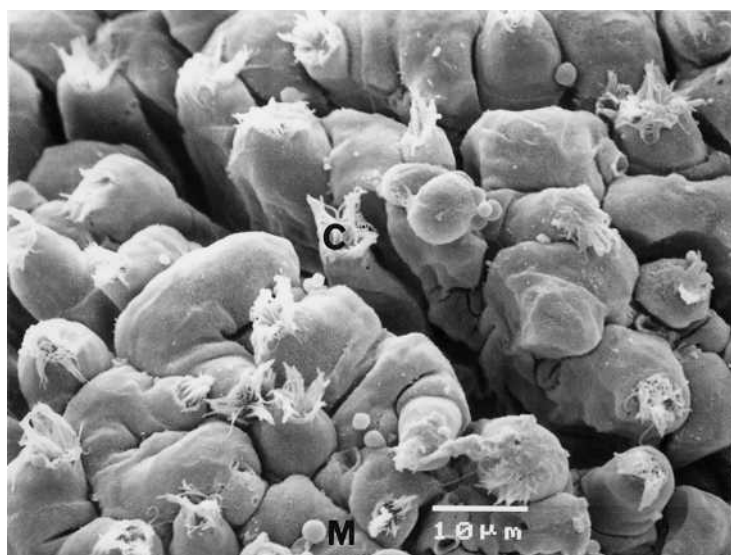


图.2.38

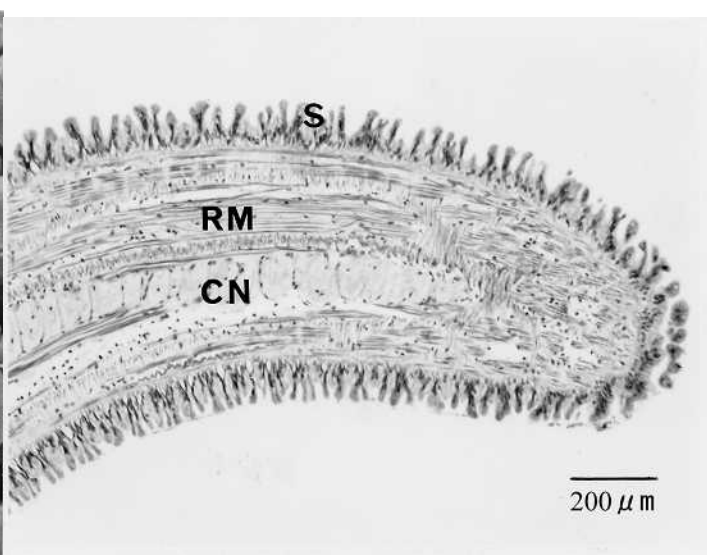


图.2.39

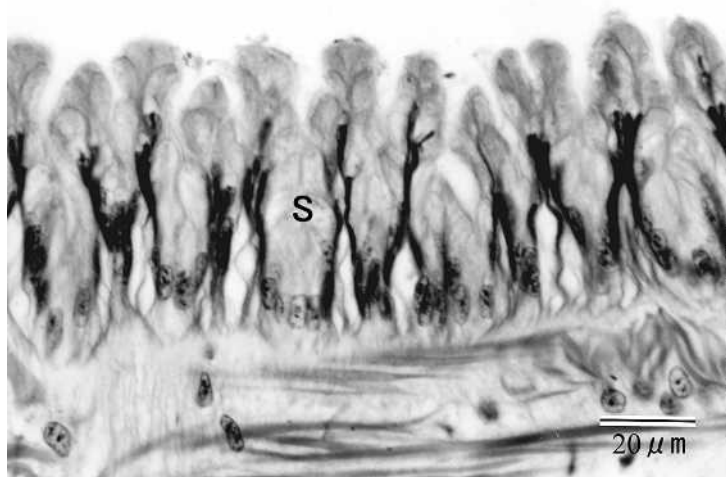


图 2.40

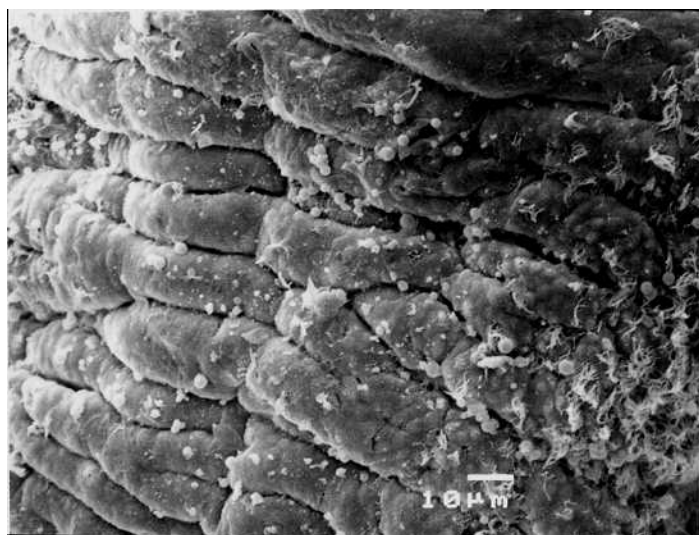


图.2.41

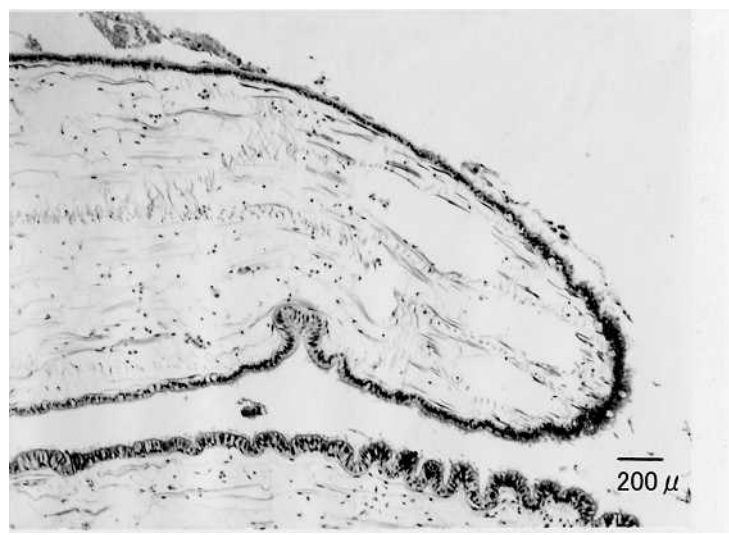


图.2.42

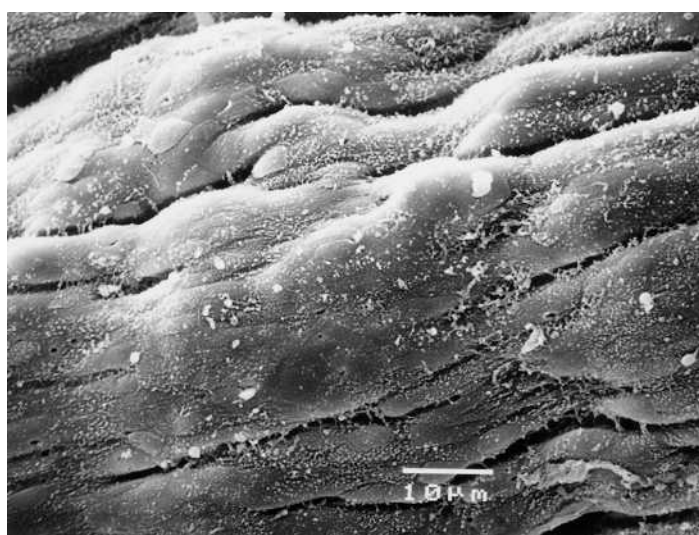


图.2.43

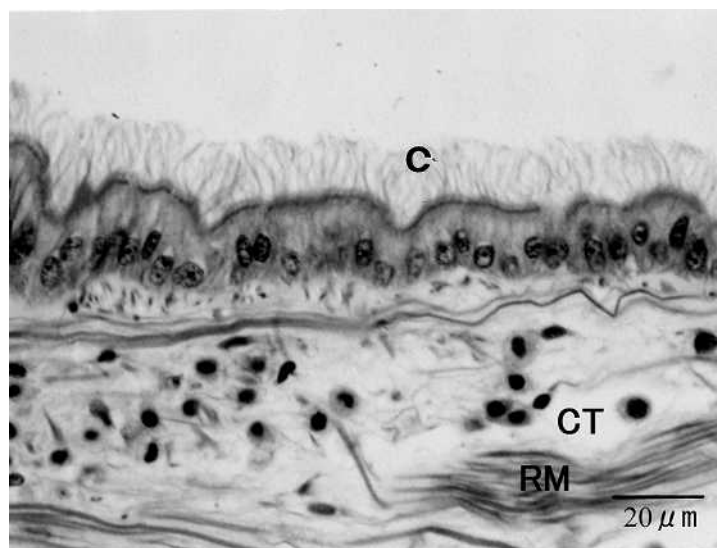


图2.44

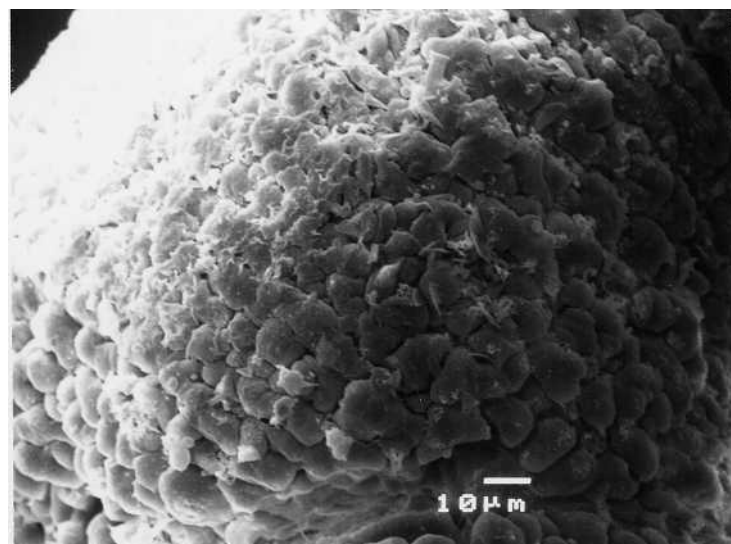


图2.45

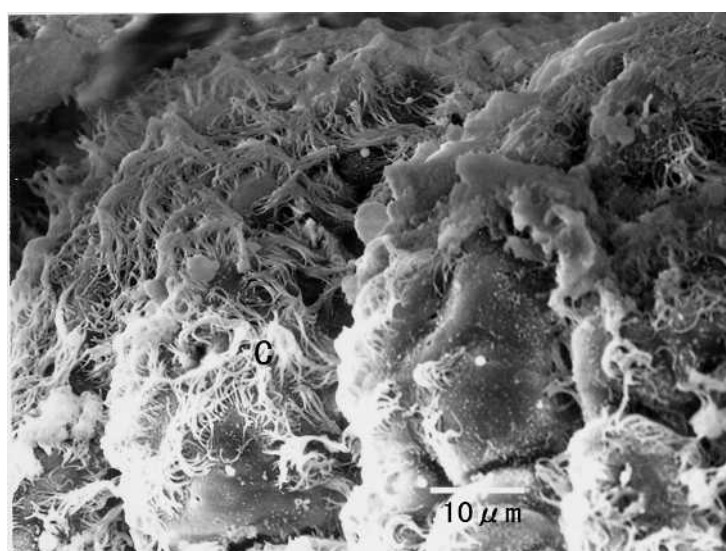


图2.46

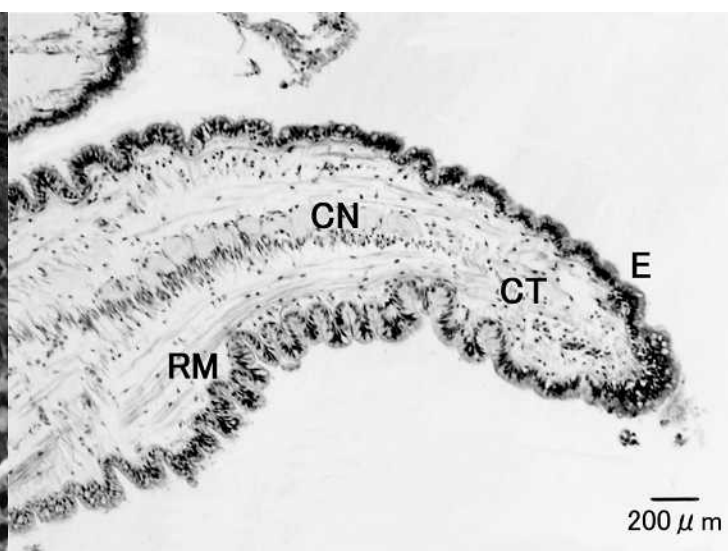


图2.47

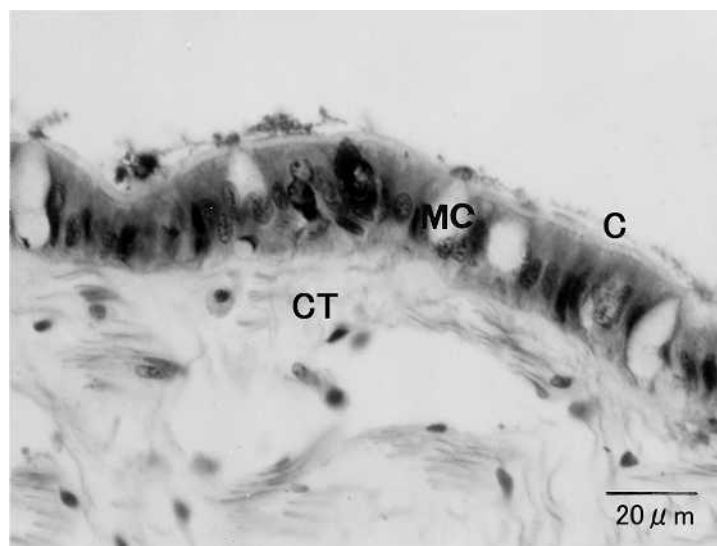


图2.48

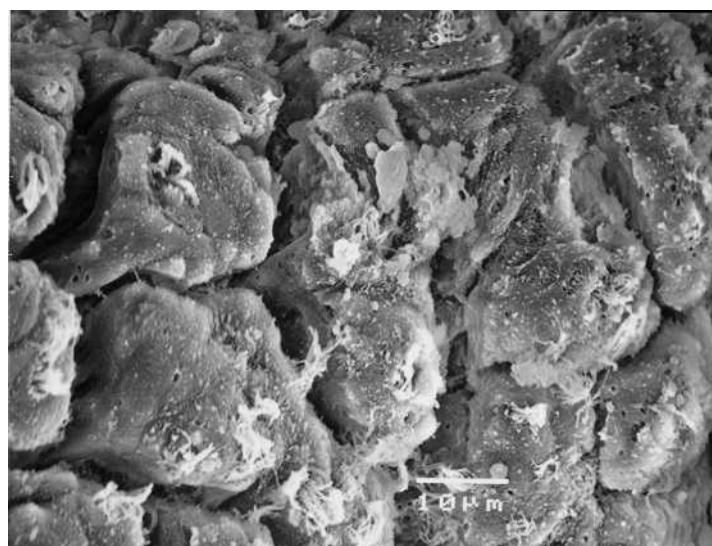


图2.49

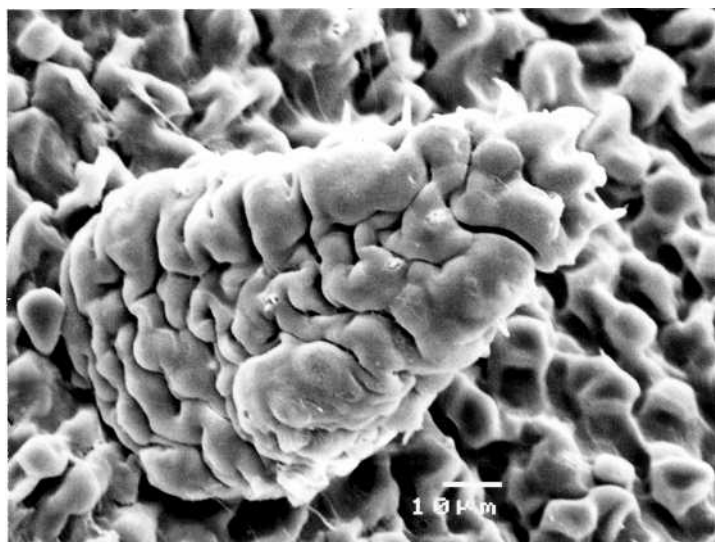


图.2.50

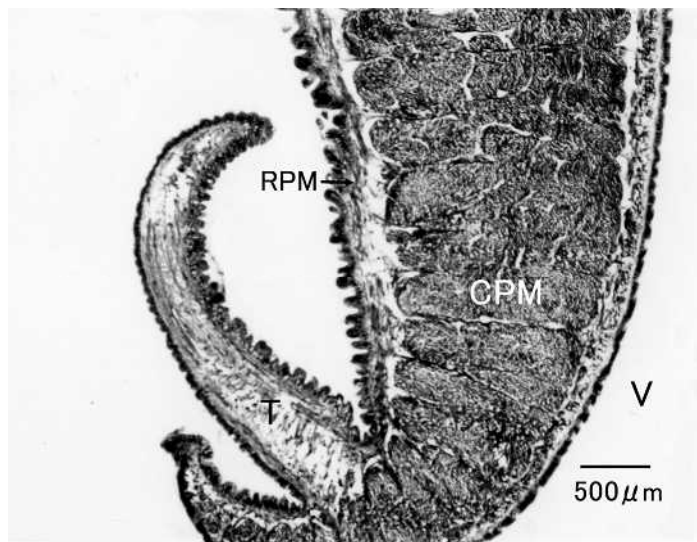


图.2.51

図.2.2. 成貝の外套膜(mantle). CPN:環外套神経(circumpallial nerve), CPM:環縁膜筋(circumpallial muscle), MF:中褶(middle fold), PEG:殻皮腺(periostracal gland), PPA:後外套動脈(posterior pallial artery), RPM:放射外套筋(radial pallial muscle), SF1:第一次外褶(primary shell fold), SF2:第二次外褶(secondary shell fold), ST:感覚触手(sensory tentacle), 内褶(velar fold)

図.2.3. 稚貝の外套膜(mantle). CO:角膜(cornea), CPN:環外套神経(circumpallial nerve), LE:レンズ(lens), MF:中褶(middle fold), PEG:殻皮腺(periostracal gland), PPA:後外套動脈(posterior pallial artery), RPM:放射外套筋(radial pallial muscle), SF1:第一次外褶(primary shell fold), SF2:第二次外褶(secondary shell fold), V:内褶(velar fold), R:桿細胞(rod)

図.2.4. 殻皮溝(periostracal groove)内の組織像. C:纖毛(cilia), CT:結合組織(connective tissue), MF:筋繊維(muscle fiber), P:殻皮(pericardium), PEG1:第一次殻皮腺(first periostracal gland), PEG2:第二次殻皮腺(second periostracal gland), SF1:第一次外褶(primary shell fold), SF2:第二次外褶(secondary shell fold)

図.2.5. 貝殻付着付近の外套縁膜 (mantle pallial)の組織像. A:付着部位(attachment part), CT:結合組織(connective tissue), E:表皮(epithelium), MC:外套膜中心(mantle center), MP:外套縁膜 (mantle pallial), RPM:放射外套筋(radial pallial muscle)

図.2.6. 貝殻付着付近の外套縁膜 (mantle pallial)の組織像. CT:結合組織(connective tissue), RPM:放射外套筋(radial pallial muscle)

図.2.7. 閉殻筋付近の外套膜中心(mantle center)の組織像. CT:結合組織(connective tissue), E:表皮(epithelium), MF:筋繊維(muscle fiber)

図.2.8. 外套縁膜(mantle pallial)表面の電顕像. MV:微絨毛(microvilli)

図.2.9. 外套膜縁(mantle pallial)の組織像. CT:結合組織(connective tissue), GC:杯細胞(goblet cell), MC:粘液細胞(mucus cell), MV:微絨毛(microvilli), RPM:放射外套筋(radial pallial muscle)

図.2.10. 外套縁膜 (mantle pallial)で形成されている角質層(ostracum). MP:外套縁膜 (mantle pallial), O: 角質層(ostracum)

図.2.11. 外套膜縁(mantle edge)と外套縁膜(mantle pallial)の表面電顕像. ME(SF1):外套膜縁(mantle edge)- SF1:第一次外褶(primary shell fold), MP:外套縁膜(mantle pallial), MV:微絨毛(microvilli)

図.2.12 外套膜縁(mantle edge)[第一次外褶(primary shell fold). E:表皮(epithelium), CT:結合組織(connective tissue), MF:筋繊維(muscle fiber)

図.2.13. 殻皮溝(periostracal groove)内の第一次殻皮腺(primary periostracal gland)の組織像. CT:結合組織(connective tissue), E:表皮細胞(epithelium cell), MC:粘液細胞(mucus cell), MF:筋繊維(muscle fiber), P:殻皮(pericardium), PEG1:第一次殻皮腺(primary periostracal gland), SF1:第一次外褶(primary shell fold)

図.2.14. 殻皮溝(periostracal groove)内の第二次殻皮腺(secondary periostracal gland)の組織像. C:纖毛(cilia), CT:結合組織(connective tissue), E:表皮細胞(epithelium cell), MF:筋繊維(muscle fiber), P:殻皮(pericardium), PEG2:第二次殻皮腺(secondary periostracal gland), SF2:第二次外褶(secondary shell fold)

図.2.15. 外褶(shell fold)付近の電顕像. C:纖毛(cilia), P:殻皮(pericardium), PG:殻皮溝(periostracal groove), SF1:第一次外褶(primary shell fold), SF2:第二次外褶(secondary shell fold), T:触手(tentacle)

図.2.16. 内褶(middle fold)表面の電顕像. C:繊毛(cilia)

図.2.17. 内褶(middle fold)の組織像. C:繊毛(cilia), CT:結合組織(connective tissue), GC:杯細胞(goblet cell), MC:粘液細胞(mucus cell), PC:色素細胞(pigment cell), RPM:放射外套筋(radial pallial muscle)

図.2.18. 内褶(vellar fold)の外套腔(mantle cavity)側の電顕像.

図.2.19. 内褶(vellar fold)の外套腔(mantle cavity)側の組織像. CPM: 環外套筋(circumpallial muscle), CT:結合組織(connective tissue), MC:粘液細胞(mucus cell), RPM:放射外套筋(radial pallial muscle)

図.2.20. 外套縁膜(mantle pallial)の外套腔(mantle cavity)側の電顕像. C:繊毛(cilia)

図.2.21. 外套縁膜(mantle pallial)の外套腔(mantle cavity)側の電顕像. C:繊毛(cilia), MB:粘液ボール(mucus ball), MG:粘液腺(mucus gland)

図.2.22. 外套縁膜(mantle pallial)の外套腔(mantle cavity)側の表皮電顕像. C:繊毛(cilia), CT:結合組織(connective tissue), MC:粘液細胞(mucus cell), RPM:放射外套筋(radial pallial muscle)

図.2.23. 外套膜中心(mantle center)の外套腔(mantle cavity)側の表皮電顕像.

図.2.24. 外套膜中心(mantle center)の外套腔(mantle cavity)側の表皮電顕像.MG:粘液腺(mucus gland)

図.2.25. 外套膜中心(mantle center)の外套腔(mantle cavity)側の組織像. C:繊毛(cilia), CT:結合組織(connective tissue), RPM:放射外套筋(radial pallial muscle)

図.2.26. 蝶番(hinge)付近の外套膜(mantle)の電顕像.

図.2.27. 靱帯(ligament)付近の電顕像. PCE:外套膜繊毛細胞(pallial ciliate cell), DG:中腸腺(digestive gland), LP:靱帯孔(ligament pit)

図.2.28. 靱帯(ligament)付近の外套膜(mantle)の組織像. PCE:外套膜繊毛細胞(pallial ciliate cell), CT:結合組織(connective tissue), R:内靱帯(resilium)

図.2.29. 外套膜(mantle)内の結合組織(connective tissue)の電顕像.

図.2.30. 外套膜(mantle)内の筋繊維(muscle fiber)の電顕像.

図.2.32. 目(eye)の電顕像. CO:角膜(cornea)

図.2.33. 目(eye)の組織像. CO:角膜(cornea), LE:レンズ(lens), ON:眼神経(optic nerve), PG:色素顆粒(pigment granule), R:網膜(retina)

図.2.34. 目(eye)の電顕像. CO:角膜(cornea)

図.2.35. 目(eye)の組織像. CO:角膜(cornea), T:触手(tentacle)

図.2.36. 中褶(middle fold)の触手(tentacle)電顕像.

図.2.37. 感覚触手(sensory tentacle)における感覚乳頭突起(sensory pallilla)電顕像.

図.2.38. 感覚触手(sensory tentacle)における感覚乳頭突起(sensory pallilla)電顕像. C:繊毛(cilia), M:粘液(mucus)

図.2.39. 感覚触手(sensory tentacle)における感覚乳頭突起(sensory pallilla)組織像. CN:中央触手神経(central tentacular nerve), RM:後引筋肉(retractor muscle), S:乳頭突起(sensory pallilla)

図.2.40. 感覚触手(sensory tentacle)組織像. S:乳頭突起(sensory pallilla)

図.2.41. 中褶(middle fold)の触手 (tentacle)電顕像.

図.2.44. 中褶(middle fold)の触手 (tentacle)の先端部組織像.

図.2.45. 中褶(middle fold)の触手 (tentacle)の中央部電顕像.

図.2.44. 中褶(middle fold)の触手 (tentacle)組織像. C:繊毛(cilia), CT:結合組織(connective tissue), RM:後引筋肉(retractor muscle)

図.2.45. 中褶(middle fold)の触手 (tentacle)先端部の組織像.

図.2.46. 中褶(middle fold)の触手 (tentacle)先端部の電顕像. C:繊毛(cilia)

図.2.47. 中褶(middle fold)の触手 (tentacle)の組織像. C:繊毛(cilia), CN:中央触手神経(central tentacular nerve), CT:結合組織(connective tissue), RM:後引筋肉(retractor muscle)

図.2.48. 中褶(middle fold)の触手 (tentacle)中央部の組織像. C:繊毛(cilia), CT:結合組織(connective tissue), MC:粘液細胞(mucus cell)

図.2.49. 中褶(middle fold)の触手 (tentacle)中央部の電顕像. C:繊毛(cilia)

図.2.50. 内褶 (vellar fold)先端の触手 (tentacle)の電顕像.

図.2.51. 内褶 (vellar fold)先端の触手 (tentacle)の組織像. CPM:環縁膜筋(circumpallial muscle), RPM:放射外套筋(radial pallial muscle), T:触手(tentacle), V:内褶(vellar fold)