

SOLITARNE SENONIJSKE KORALE
IZ STRANIC IN Z MEDVEDNICE

(Z DVEMA SLIKAMA V BESEDILU IN 31 TABLAMI V PRILOGI)

SOLITARY SENONIAN CORALS FROM STRANICE AND
MT MEDVEDNICA (NW YUGOSLAVIA)

(WITH TWO FIGURES IN TEXT AND 31 PLATES IN ANNEX)

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UVOD

Iz okolice Stranic in Zreč pri Slovenskih Konjicah so bile omenjane zgornjekredne korale že v prejšnjem stoletju (REUSS 1854, TELLER 1889, glej tudi RAKOVEC 1933).

Leta 1957 so to ozemlje natančno kartirali geologi Geološkega zavoda iz Ljubljane pod vodstvom inž. M. HAMRLA. Najožjo okolico Stranic in Zreč je obdelal L. ŽLEBNIK (1957), leto dni pozneje pa njen zahodni del še K. KRIŽMAN (1958). Oba omenjata bogata nahajališča koral rodu *Cyclolites* na raznih krajih.

Rod »*Cyclolites*« sodi med tipične negrebenske ali ahermatipne predstavnike gosauskih koral, ki pri nas doslej še ni bil opisan. Zato sem se odločila, da te korale natančneje paleontološko obdelam.

Pri ponovnih terenskih ogledih nismo mogli dobiti nobenih fosilov več. Kamnolom v Stranicah je bil uničen pri izkoriščanju okoliških dolomitov, premogovni odvali pa so po prenehanju rudarske dejavnosti tako močno porasli s travo in grmičevjem, da kljub prekopavanju nismo našli plasti z omenjenimi koralami. Zato sem za obdelavo zbrala ves fosilni material iz raznih zbirk, ki so ga v omenjenih nahajališčih našli razni dosednji raziskovalci.

Največ koral iz okolice Stranic je zbrala in ohranila dr. KSENIJA KRIŽMAN-GROSSHEIDE. Njena zbirka obsega 78 primerkov. Ti so označeni s številkami od 1 do 78 in so shranjeni v Inštitutu za paleontologijo SAZU. Trije vzorci iz Stranic, ki so obdelani v razpravi, so shranjeni v paleontološki zbirki Katedre za paleontologijo in geologijo FNT Univerze v Ljubljani. Označeni so s številkami 1031 a, b in 1035, medtem ko najditelj ni znan. Dva primerka iz Zreč sta shranjena v velenjskem muzeju. Označena sta Ve —1, Ve —2. En vzorec je dobil inž. FRANC DROBNE pri vrtanju v Radani vasi leta 1976. To je vzorec št. 79, shranjen v Inštitutu za paleontologijo SAZU. Enajst primerkov koral iz Radane vasi (označeni so W —1 do W —11) je shranjenih v Prirodoslovnem muzeju na Dunaju. Zbral jih je GLASSNER leta 1904.

Poleg omenjenih koral iz okolice Stranic so v tej razpravi obdelane tudi podobne solitarne korale z Medvednice pri Zagrebu. Zbrala jih je prof. DONATA DEVIDÉ-NEDĚLA. Označeni so z dvojnimi številkami in so shranjeni v Geološko-paleontološkem zavodu Prirodoslovno-matematične fakultete v Zagrebu.

Iz slovenskih in hrvaških nahajališč skupaj je obdelanih 135 primerkov koral. To število je v primerjavi z znanimi nahajališči v Gosauu v Avstriji, v Sümegu na Madžarskem, v Corbièresu in Provansi v južni Franciji, kjer je znanih več tisoč primerkov solitarnih koral, zelo majhno. Vendar so naši primerki po strukturi različni, saj sem lahko določila 30 vrst, od tega tri

no. Vrste pripadajo 10 rodovom. Med vrstami so tudi tipične vrste, ki so omogočile, da smo nahajališča v Stranica lahko uvrstili v santonijsko-kampanijsko starost zgornje krede.

KRIŽMAN-ova je svojo zbirko poklonila Inštitutu za paleontologijo SAZU, za kar se ji najlepše zahvaljujem.

Zahvaljujem se tudi vodstvu Prirodoslovesnega muzeja na Dunaju, muzeja v Velenju in Katedre za geologijo in paleontologijo FNT Univerze v Ljubljani kakor tudi prof. DONATI DEVIDÉ-NEDÉLA, da so dali material v obdelavo. Nadalje se zahvaljujem fotografkinji CARMEN NAROBÈ za izdelavo vseh fotografij, višji tehnični sodelavki MILOJKI HUZZAN za tehnično opremo razprave ter mag. MILENI SHEPPARD za prevod v angleški jezik. Akademiku prof. dr. IVANU RAKOVCU iskrena hvala za kritični pregled teksta in dragocene nasvete.

OPIS NAHAJALIŠČ

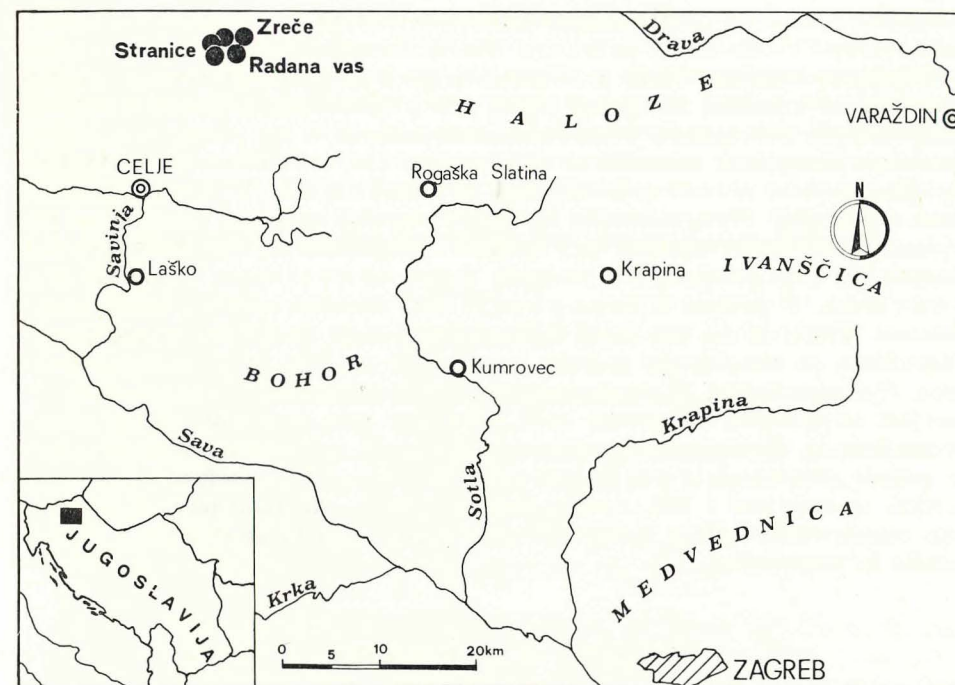
Novejše geološke podatke o okolici Stranic in Zreč dobimo v poročilih ŽLEBNIK-a (1957) in KRIŽMAN-ove (1958).

V glavnem lahko iz teh poročil povzamemo, da zgornjekredne plasti sestavljajo rudistni apneneci, med katere se v spodnjih delih lateralno vrivajo plasti laporja in lapornega apnenca, ki vsebujejo solitarne korale in drugo favno. Zgornjekredni skladi leže diskordantno na triadnem dolomitu, na njih pa leže ploščati apneneci in konglomerati, ki so verjetno že oligocenske starosti (ŽLEBNIK 1957: 3—7).

Koralna favna v okolici Stranic in Zreč je bila najdena v naslednjih nahajališčih:

- v nekdanjem kamnolomu blizu cerkve v Stranica in v istem horizontu pri EDWARD-ovem rovu (vzorci: 52 do 73, 75, 77 do 78, 1031 a, b, 1035);
- v premogovnem odvalu pri Ruglju (vzorci: 1, 2, 4 do 27, 32, 34, 36 do 51 76);
- v premogovnem odvalu pri Dobravi (vzorci: 28, 31, 33);
- v premogovnem odvalu v Radani vasi (vzorci W —1 do W —11, 79);
- v premogovnem odvalu v Zrečah (vzorci: Ve —1, Ve —2).

Edino nahajališče, kjer so bile korale najdene na primarnem mestu, v profilu, je nekdanji kamnolom v Stranica. Le-ta je bil, žal, leta 1974 uničen pri odprtju večjega kamnoloma v bližnjem dolomitu. Že PLENIČAR (1971), ki je obdelal rudistno favno iz nekdanjega kamnoloma, piše, da je »imel priliko videti njegov zadnji ostanek, ki se je kmalu zrušil v kup gruča«, medtem ko ŽLEBNIK (1957) in KRIŽMAN (1958) še opisujeta naslednje zapovrstje plasti v njem: Spodaj leži svetel radiolitni apnenec, na njem nekoliko brečast apnenec, sledi do 1 m debela plast sivega laporja in temnega premoškega skrilavca. Na laporju leži plastovit miliolidni apnenec in prav zgoraj hipuritni apnenec. Razen omenjenega lapornega vložka je še več nižjih horizontov laporja, ki so vloženi med nekoliko brečast radiolitni apnenec. K temu opisu KRIŽMAN-ova še dodaja, da je našla v lapornem horizontu v bazi apnenca razne korale rodu *Cyclolites*. ŽLEBNIK pa omenja korale *Cyclolites* severozahodno od



Sl. 1. Pregledna karta z nahajališči koral

Fig. 1. Situation map showing coral fossil localities

EDWARD-ovega rova, v laporni plasti, ki je neposredno nadaljevanje horizonta v kamnolomu.

V vseh drugih nahajališčih, to je pri Ruglju, pri Dobravi, pa tudi v Radani vasi in Zrečah so bile korale najdene v premogovnih odvalih, torej na sekundarnem mestu. GLASSNER ima na etiketi vzorcev iz Radane vasi napisano »Hangend der Kohle«. Ker gre tudi v teh nahajališčih za iste vrste kot v Stranica, moremo sklepati, da se korale v vsej okolici pojavljajo v istem stratigrafskem horizontu, to je v bazi hipuritnih apnencev. So santonijsko-kampanijske starosti, kar bomo natančneje razložili v poglavju o stratigrafski primerjavi vrst.

Nahajališča koral na Medvednici je odkrila DONATA DEVIDÉ-NEDÉLA v naslednjih krajih:

- Vrabečka gora (vzorci: 1 —1, 1 —2, 1 —3, 2—1 do 2 —9, 2 —11, 2 —14, 2 —16, 3 —2, 3 —3);
- Novaki (vzorci: 4 —1, 5 —1, 6 —1, 6 —3, 7 —1);
- Rušovski brijeg (vzorci: 11 —1, 11 —2, 11 —3, 11 —6, 11 —8, 11 —9);
- Veliki potok (vzorec: 8 —1).

Korale se pojavljajo v laporjih, katerih starost je senonijska. Natančnejša lega na terenu ni ugotovljena.

SISTEMATSKI OPIS FAVNE

Obdelane vrste uvrščam v sistem, ki ga je na podlagi revizije mnogih starejših zbirk izdelal ALLOITEAU (1952; 1957). Ta sistem, ki bazira v pretežni meri na tipih mikrostrukture, je mestoma nezanesljiv, saj vemo, da je mikrostruktura mnogokrat sekundarno spremenjena (M. et L. BEAUVAIS 1973). Upoštevam zaenkrat ALLOITEAU-jev podred Meandriina. V njegove nove rodove *Aulosmilium*, *Phragmosmilium* in *Rennensismilium* uvrščam vrste, ki so bile v starejši literaturi opisane pri rodovih *Placosmilium* in *Trochosmilium*. Rod *Dasmiopsis* sem premestila iz podreda *Caryophylliina* v podred Meandriina. V podred *Caryophylliina* uvrščam nov rod *Conicosmilio trochus*. Vrste, ki so bile svoj čas pripisane rodu *Cyclolites*, pozneje rodu *Cunolites*, so raziskovalci zadnjih let razdelili na štiri nove rodove: *Cunolites*, *Plesiocunolites*, *Plesiocunolitopsis* in *Paracunolites*. Pri natančni primerjavi strukturnih elementov vseh teh rodov sem ugotovila, da so razlike premajhne in da meje med posameznimi rodovi ne moremo postaviti. Zato te rodove priznavam le kot podrodove v okviru rodu *Cunolites*. Izraz »septoteka« uporabljam v WELLS-ovem pomenu (1956), strinjam pa se z ugotovitvijo raziskovalcev (MORI et al. 1977), da predstavlja ta le stopnjo v razvoju euteke in pseudoteke.

Classis: ANTHOZOA

Ordo: SCLERACTINIA BOURNE 1900

Subordo: MEANDRIINA ALLOITEAU 1952

ALLOITEAU je večino rodov iz družine Meandrinidae, po WELLS-u (1956: 413) uvrščene v podred Faviina, izločil, in ustanovil nov podred Meandriina. Pridružil mu je tudi nekaj rodov iz podreda Caryophylliina. Od favid in kariofild ga loči po mikrostrukтури in endoteki. Mikrostruktura je iz drobnih sklerodermitev, ki so vedno združeni v enostavne trabekule. V steni so te trabekule v več nivojih in tvorijo lamelarno mikrostrukturo. Pri favinah pa so sklerodermiti v divergentnih in sestavljenih trabekulah. Vendar te razlike ne moremo opazovati dosledno, zato je zaenkrat še vprašanje, če bo subordo Meandriina mogel obstati.

Familia: MEANDRIIDAE ALLOITEAU 1952

Subfamilia: MEANDRIINAE VAUGHAN et WELLS 1943

Genus: *Aulosmilium* ALLOITEAU 1952

Za tipično vrsto rodu *Aulosmilium* je ALLOITEAU izbral vrsto *Placosmilium archiaci* FROMENTEL 1862. Ugotovil je, da mora biti veliko krednih vrst rodu *Placosmilium* revidiranih in premeščenih drugam. Tipična vrsta rodu *Placosmilium*, to je *Turbinolia cymbula* MICHELIN 1846 je namreč kolonijska koralina in ima favidno mikrostrukturo (ALLOITEAU 1957: 85).

Rod *Aulosmilium* je solitarna, turbinantno flabelatna, od strani stisnjena koralina s fibrolamelarno mikrostrukuro, lamelarno kolumelo in septotekalno steno. Podobna je rodu *Phyllosmilium* FROMENTEL 1862, toda ta ima periferni disepimentarij (ALLOITEAU 1957: 84). Rod *Aulosmilium* priznava tudi WELLS (1956: 414), uvršča ga v družino Meandrinidae, v podred Faviina (glej zgoraj).

Aulosmilium cuneiformis (MILNE-EDWARDS et HAIME 1849)

Tab. 1—2

- 1849 *Placosmilium cuneiformis*. MILNE-EDWARDS et HAIME: n. v.
 1854 *Placosmilium cuneiformis*. REUSS: 83—84, Taf. 2, Fig. 5—7
 1903 *Placosmilium cuneiformis*. FELIX: 335—339, Textfig. 61—63
 1914 *Placosmilium cuneiformis*. FELIX: 222
 1930 *Placosmilium cuneiformis*. OPPENHEIM: 500—509, Taf. 25, Fig. 5—11
 1943 *Placosmilium cuneiformis*. VAUGHAN et WELLS: Pl. 22, Fig. 2; Pl. 35, Fig. 1
 1952 *Placosmilium cuneiformis*. ALLOITEAU: Fig. 60
 1956 *Aulosmilium cuneiformis*. WELLS: 414, Fig. 313/4 a—c
 1957 »*Placosmilium*« *cuneiformis*. ALLOITEAU: 100, Fig. 55—56

Opis: Solitarna koralina je flabelatne oblike, od strani sploščena. Spodaj je koničasta, navzgor se razširi, tako da je kot med obema stranskima robovoma 90°. Čaša je ozka elipsa, poglobljena za približno 5 mm. Zunanja stran koraluma ima ostanke epiteke. Septa so kompaktna, podaljšujejo se navzven v koste. Razvitih je 5—6 ciklov. Prvi trije, to je 24 sept, so enako dolgi in enako debeli. Na aksialnem delu se odebelijo v obliki črke T in se spajajo s sosednjimi septi. Četrti cikel je skoraj enako dolg, toda tanjši. Tudi ta se mestoma spaja z odebelitvami drugih sept. Peti cikel je še krajši, šesti pa navadno samo v steni (euteka). Lateralna stran sept ima redke zobce. Kolumela je dolga, lamelarna, na nekaterih mestih je spojena z odebeljenimi konci sept. Endoteka je iz perifernih disepimentov. Stena je septotekalna. Mikrostruktura je iz drobnih sklerodermitev, ki so nanizani tesno drug ob drugem in tvorijo enostavne trabekule.

Dimenzije:

	Stranice	REUSS	FELIX
višina koraluma (h)	25—40 mm	30—40 mm	35 mm
daljši premer čaše (D)	22—25 mm	20—40 mm	30 mm
krajši premer čaše (d)	15—35 mm	10—30 mm	15 mm
število sept (s)	ca 165	—	do 194

Septa so vedno v heksamernem sistemu po pravilu 6 + 6 + 12 + 24 + 48 + S 6.

Primerjava: ALLOITEAU (1957: 100, Fig. 53—56) je vrsto *Placosmilium cuneiformis* pri reviziji imenoval z njenim starim rodovnim imenom, čeprav je ugotovil, da ima drugačno strukturo in ni kolonijska. WELLS (1956: 414) jo je uvrstil v rod *Aulosmilium*. Vprašanje je, zakaj ni ALLOITEAU sam te vrste prištel

k svojemu novemu rodu. Struktura sept, stena, kolumela in mikrostruktura so namreč povsem identični, le oblika koraluma je bolj široka. Zato je WELLS-ova uvrstitev sprejemljiva. *A. cuneiformis* se loči od tipične vrste le po bolj ozki in daljši čaši.

Razširjenost: Santonij južne Francije in Gosaua.

Nova nahajališča: Dobrava (pri Pavlaku) v Stranica (28, 31, 33), Radana vas (79), santonij-kampanij.

Aulosmilia aspera (SOWERBY 1831)

Tab. 3

- 1831 *Turbinolia aspera*. SOWERBY: n. v.
 1854 *Montlivaultia rudis*. REUSS: 102, Taf. 6, Fig. 14—15
 1854 *Placosmilia consobrina*. REUSS: 84, Taf. 5, Fig. 17—19
 ?1854 *Trochosmilia inflexa*. REUSS: 86, Taf. 5, Fig. 3—5
 1903 *Placosmilia arcuata*. FELIX: 339—341
 1930 *Placosmilia rudis*. OPPENHEIM: 510—517, Taf. 26, Fig. 7—10, 16, Taf. 29, Fig. 13—16, Taf. 48, Fig. 5
 1974 *Aulosmilia aspera*. L. et M. BEAUVAIS: 485

Opis: Flabelatna korala je spodaj s konico upognjena v smeri daljše osi. Navzgor se razširi pod kotom 70°. Čaša je ovalna, daljši in krajši premer sta v razmerju 2 : 1. Zunanja stran koraluma je rahlo rebrasta. Septa so zgrajena podobno kot pri prejšnji vrsti. Tudi kolumela je lamelarna. Koste so zelo kratke. Endoteka je redka, iz perifernih disepimentov. Mikrostruktura je iz enostavnih trabekel, ki potekajo po vsem septumu.

Dimenzije:

	Stranice	REUSS	
		<i>rudis</i>	<i>consobrina</i>
višina koraluma (h)	20 mm	do 50 mm	do 40 mm (v:D = 6:5)
daljši premer čaše (D)	20 mm	do 37 mm	do 35 mm (D:d = 2:1)
krajši premer čaše (d)	10 mm	do 20 mm	do 18 mm
število sept (s)	ca 90	do 120	do 96

Primerjava: FELIX je pri REUSS-ovi vrsti *Trochosmilia inflexa* ugotovil kolumelo, zato jo je priključil skupaj z vrsto *Placosmilia consobrina* k vrsti *Placosmilia arcuata*. OPPENHEIM je vse omenjene vrste spoznal za identične s SOWERBY-jevima vrstama *Turbinolia rudis* in *T. aspera*. Prednost je dal imenu *rudis*, čeprav je *aspera* prva opisana. L. in M. BEAUVAIS (1974) sta verjetno zaradi tega dala prednost imenu *aspera*. Ker je ime *rudis* uporabljeno pri triadnih koralah, dajem tudi sama naši vrsti ime *aspera*. Od vrste *A. cuneiformis* se loči po manjših dimenzijah ter nekoliko bilateralni rasti koraluma.

Razširjenost: Santonij južne Francije in Gosaua.

Novo nahajališče: Rugelj v Stranica (76), santonij-kampanij.

Genus: *Phragmosmilia* ALLOITEAU 1952

Na podlagi vrste *Trochosmilia inconstans* FROMENTEL 1862 je ALLOITEAU (1952: 636; 1957: 86) postavil nov rod *Phragmosmilia*. Podoben je rodu *Aulosmilia*, od katerega ga loči po malenkostnih razlikah v steni, epiteki, endoteki in mikrostrukturi. WELLS (1956: 414) rodu *Phragmosmilia* ni priznal in ga je kot sinonim priključil k rodu *Aulosmilia*. Razlike v steni, epiteki in endoteki res ne dovoljujejo ločitve dveh rodov. Toda mikrostruktura je tudi v našem primerku drugačnega tipa. Zato rod *Phragmosmilia* priznavam. Pri tem rodu so vlakna v trabekulah vedno natančno pravokotna na osrednjo temno os, medtem ko so pri rodu *Aulosmilia* lahko tudi poševna. Pri hidrozojih je HUDSON (1960) tako mikrostrukturo imenoval ortogonalno (s pravokotnimi vlakni) in heterogonalno (s pravokotnimi in poševnimi vlakni).

Phragmosmilia sp.

Tab. 4

Naš edini primerek 8—1 je trohoidne oblike, širši na eno stran. Baza je spodaj ravna. Čaša je okrogla. Septa so kompaktna, razvita v štirih neenakomernih ciklih. V aksialnem delu so mlajša septa mestoma spojena s starejšimi, tako da se upognejo skoraj pravokotno na njih. Ta upognjena septa je potem videti kot nekatere prečke, ki imajo enako mikrostrukturo kot septa. Lateralna stran sept nosi zelo redka zrnca. Kolumela je lamelarna in se mestoma stika s septi. Stena je ohranjena samo na enem mestu in je septotekalna. Mikrostruktura je opisana pri rodu in je taka, kot jo prikazuje ALLOITEAU (1957: Pl. 19, Fig. 9) za vrsto *Ph. crassa*.

Dimenzije: Višina koraluma je 10 mm, velikost čaše je 16 × 15 mm, sept je 48.

Primerjava: Iz senonija sta omenjeni dve vrsti tega rodu, to je tipična vrsta *Ph. inconstans* iz zgornjega santonija Sougraigne v južni Franciji ter *Ph. crassa* iz istega nahajališča. Zadnjo vrsto je ALLOITEAU samo imenoval in prikazal njeno mikrostrukturo, ni je pa opisal. Naš primerek ni v celoti ohranjen, pa tudi primerjava z dosedanjimi vrstami se ne ujema. Zato določitev nove vrste ni bila mogoča.

Novo nahajališče: Veliki potok (8—1), senonij.

Genus: *Dasmiopsis* OPPENHEIM 1930

OPPENHEIM (1930) je postavil rod *Dasmiopsis* na podlagi vrste *Trochocyathus lamellicostatus* REUSS 1854. Od rodu *Trochocyathus* ga loči po močno poudarjenih septih prvega in drugega cikla, tako da je zgornji rob čaše zelo rebrast. REUSS (1854) je že pri prvem opisu vrste omenil, da je kolumela slabo zaznavna. OPPENHEIM pa je pri ponovni preučitvi originalnega materiala ugotovil, da ima nekoliko globlje v koralumu močno lamelarno kolumelo.

Kljub temu sta ga ALLOITEAU (1952: 652) in WELLS (1956: 428) uvrstila v podred Caryophylliina in v družino Desmophyllidae, za katero so značilni rodovi brez kolumele in brez palov.

Naš primerek se povsem ujema z OPPENHEIM-ovim materialom. Ima močno lamelarno kolumelo, vsa aksialna struktura je podobna oni pri rodu *Aulosmilium*, mikrostruktura pa je lamelarno fibrozna. Zato sem rod *Dasmiopsis* uvrstila v družino Meandriidae.

Dasmiopsis lamellicostatus (REUSS 1854)

Tab. 5

1854 *Trochocyathus lamellicostatus*. REUSS: 79—80, Taf. 13, Fig. 17—19

1903 *Trochocyathus lamellicostatus*. FELIX: 353

1930 *Dasmiopsis lamellicostatus*. OPPENHEIM: 542—546, Taf. 20, Fig. 6—7, Taf. 26, Fig. 3

Opis: Korallum je trohoiden, spodaj koničast, zgoraj močno razširjen. Čaša je ovalna, v sredini poglobljena. Septa so kompaktna. Prva dva cikla sta dolga, segata do kolumele, tretji je nekoliko krajši in tanjši, četrti še krajši, peti pa samo v območju stene. Septa prvih dveh ciklov se na dorzalni strani podaljšujejo navzgor in tvorijo močno rebrast rob čaše. Mlajša septa so krajša tudi na zgornji strani, zato dosednji avtorji govore o šopasti rasti sept. Lateralna stran sept ima ostre in precej dolge zobce. Stena je septotekalna, kolumela je močna, lamelarna, toda globoko v korallumu. Endoteka je iz tankih perifernih disepimentov. Mikrostruktura je fibrolamelarna, to je iz več vzporednih trabekul, ki kažejo odebelitve ob lateralnih zobcih.

Dimenzije:

	Stranice	REUSS
višina koralluma (h)	20 mm	20 mm
daljši premer čaše (D)	30 mm	30 mm
krajši premer čaše (d)	25 mm	20 mm
število sept (s)	48 + S 5	48

Primerjava: je omenjena že pri rodu.

Razširjenost: Senonij Gosaua v Avstriji.

Novo nahajališče: Kamnolom v Stranica (78), santonij-kampanij.

Genus: *Phyllosmilium* FROMENTEL 1862

Rod *Phyllosmilium* je ALLOITEAU (1952: 635) uvrstil v novo družino Dendrogyriidae. To družino loči od družine Meandriidae po tem, da so primerki kolonialni in nimajo periteke. Kolumela je lamelarna. Vključil pa je

vanjo rodova *Phyllosmilium* in *Diploctenium*, ki sta solitarna. Tudi predstavniki družine Meandriidae imajo lamelarno kolumelo in so brez periteke, zato je postavitve družine Dendrogyriidae preširoka in vsaj ta dva solitarna rodova *Phyllosmilium* in *Diploctenium* ne spadata vanjo. Uvrščam ju v družino Meandriidae, kamor ju je uvrstil že WELLS (1956: 414).

Pri opisu rodu *Aulosmilium* sem podala razliko tudi z rodом *Phyllosmilium*. Ta rod ima periferni disepimentarij in se po strukturi približuje rodu *Diploctenium*.

Phyllosmilium sp.

Tab. 6, sl. 1—2

Vzorci 2 —10, 2 —11, 1 —3 in 2 —14 z Vrabečke gore so samo odlomljeni deli korallumov. Septalna struktura in sploščena flabelatna oblika kažeta na rod *Styllosmilium*. Vrsta se ne da ugotoviti.

Podobne mlade primerke opredeljujejo nekateri raziskovalci (ALLOITEAU 1952 b, GÉCZI 1959) kot mlade primerke vrst iz rodu *Diploctenium*. Menim, da tisti primerki, ki ne kažejo težnje k tvorbi peruti, sodijo v rod *Phyllosmilium* in ne k juvenilnim primerkom rodu *Diploctenium*.

Genus: *Diploctenium* GOLDFUSS 1826

Tipična vrsta rodu *Diploctenium* je *D. cordatum* GOLDFUSS 1826, ki jo nekateri paleontologi enačijo z vrsto *D. lunatum* MICHELIN 1846.

Oblika koralluma je podkvasta. Zaradi posebnega načina rasti ima ta rod nekoliko drugačno terminologijo za posamezne dele in strukturne elemente. Korallum začne rasti na konici, ki se imenuje pecelj. Septa se pahljačasto razraščajo navzgor in navzven in se ob straneh upogibljejo navzdol v peruti.

Nekateri raziskovalci uvrščajo v ta rod niz oblik od iztegnjenih do popolnoma zavitih (glej ALLOITEAU 1952 b, 1957, GÉCZI 1959, BENDUKIDZE 1965). GÉCZI meni, da so iztegnjene oblike verjetno predstavniki drugih rodov. Nekateri majhne primerke brez peruti pa vseeno ima za juvenilne primerke rodu *Diploctenium*.

Znanih je okoli 30 vrst tega rodu, ki nastopajo vse od zgornjega turonija do maastrichtija. Od teh je ALLOITEAU (1952 b) imenoval 14 novih vrst.

Diploctenium ferrumequinum REUSS 1854

Tab. 6, sl. 5—6

1854 *Diploctenium ferrum equinum*. REUSS: 89—90, Taf. 1, Fig. 13—14

1903 *Diploctenium ferrum-equinum*. FELIX: 351

1930 *Diploctenium ferrum-equinum*. OPPENHEIM: 530, Taf. 41, Fig. 13—13 a

1952 b *Diploctenium ferrum equinum*. ALLOITEAU: 545—546, Pl. 20, Fig. 7, 14, Textfig. 6—11

Opis: Koralum ima obliko kopita. Precej je oster, peruti so upognjene globoko navzdol. Septa so fina in se že malo nad pecljem začno pahljačasto razraščati. Razvitih je najmanj šest ciklov, kljub temu so na perifernem robu vsa septa enako debela. Aksialni podaljški sept tvorijo parietalno kolumelo. Endoteka je iz redkih disepimentov. Stena je septotekalna. Mikrostruktura ni ohranjena.

Dimenzije:

	Medvednica	OPPENHEIM	ALLOITEAU <i>D. uxacalcensis</i>
višina od peclja do vrha (h)	20 mm	13—22 mm	18,5 mm
višina od peruti do vrha (H)	32 mm	26—45 mm	26 mm
daljši premer čaše (D)	25 mm	24—40 mm	23 mm
krajši premer čaše (d)	5 mm	5—9,5 mm	5 mm
gostota sept (s)	24—25/10 mm	25/10 mm	35/10 mm

Primerjava: Naš primerek ima tipično podkvasto obliko, po kateri se ta vrsta zlahka spozna. Od REUSS-ovega originala se loči le po nekoliko krajših perutih. Vrsti *D. conjungens* REUSS in *D. noszkyi* GECZI imata bolj izbočen in širši koralum, *D. uxacalcensis* ALLOITEAU pa večje število sept.

Razširjenost: Santonij in kampanij Gosaua, zgornji santonij južne Francije.

Novo nahajališče: Vrabečka gora (2—4), senonij.

Diploctenium cf. *pavoninum* REUSS 1854

Tab. 6, sl. 3—4

1854 *Diploctenium pavoninum*. REUSS: 91, Taf. 1, Fig. 5—6

1903 *Diploctenium pavoninum*. FELIX: 351

1930 *Diploctenium pavoninum*. OPPENHEIM: 532—533, Taf. 41, Fig. 8

1952 b *Diploctenium* cf. *pavoninum*. ALLOITEAU: 566, Pl. 19, Fig. 15, Textfig. 18

Opis: Majhen koralum je podkvaste oblike. Pecelj in konca peruti so zaobljeni, ne pa koničasti. Peruti sta le nekoliko daljši od peclja. Septa so zelo gosta, v petih do šestih ciklih. Kolumela je parietalna. Mikrostruktura ni ohranjena.

Dimenzije:

	Medvednica	REUSS	ALLOITEAU
višina od peclja do vrha (h)	11 mm	14 mm	17 mm
višina od peruti do vrha (H)	11,5 mm	13—14 mm	18 mm
daljši premer čaše (D)	13 mm	16—17 mm	19 mm
krajši premer čaše (d)	4 mm	5—6 mm	5 mm
gostota sept (s)	36/10 mm	22—28/10 mm	36—38/10 mm

Primerjava: Naš primerek se v strukturnih značilnostih in razmerju dimenzij ujema s primerkom, ki ga je ALLOITEAU (1952 b) označil kot *D. cf. pavoninum*, le nekoliko je manjši od njega. Od originalov iz Avstrije se oba ločita po daljših perutih in gostejših septih. Podobna je tudi vrsta *D. falloti* iz santonija Katalonije (BATALER 1936: 11, Fig. 45—47), ki pa ima daljši pecelj in prav tako manj sept. Točna primerjava s številom sept je pri starejših avtorjih nesigurna, ker se ne navajajo natančno. FELIX (1903) pravi, da spada vrsta v skupino z najgostejšimi septi. Morda gre pri našem in ALLOITEAU-jevem primerku za novo vrsto, ki je pa ne morem opisati, ker imam na voljo samo en vzorec. Zato ga podobno kot ALLOITEAU označujem s cf. *pavoninum*.

Razširjenost: Senonij Gosaua, zgornji santonij južne Francije.

Novo nahajališče: Vrabečka gora (3—3), senonij.

Subfamilia: EUPHYLLIINAE ALLOITEAU 1952

Genus: *Rennensismilia* ALLOITEAU 1952

Rod *Rennensismilia* je postavil ALLOITEAU na podlagi vrste *Trochosmilia dydima* (GOLDFUSS 1826). Pri reviziji rodu *Trochosmilia* je ugotovil, da se številne kredne vrste, pripisane temu rodu, ločijo od tipične vrste rodu, to je od *Turbinolia corniculum* MICHELIN 1846. Ta vrsta ima nekontinuirana septa mlajših ciklov, fascikularno kolumelo in drugačno mikrostrukturo. ALLOITEAU je rod *Trochosmilia* uvrstil v podred Archaeoceniina (1949; 1952: 605; 1957: 22—24), WELLS (1956: 417) pa v podred Faviina. GILL in RUSSO (1973) sta ponovno preučila holotip in z elektronskimi posnetki ugotovila, da je mikrostruktura podobna oni pri rodu *Montlivaltia*, torej je bila WELLS-ova uvrstitev pravilna. Pomisleke pa še vedno zbuja porozna septa mlajših ciklov, ki so potemtakem značilna za podred Fungiina.

Rod *Rennensismilia* je po strukturi enak rodu *Aulosmilia*, le da nima kolumele. Mikrostruktura je fibrolamelarna v območju stene, v septih pa je iz enojnih trabekul. Endoteka obstoji iz vezikularnih disepimentov. WELLS (1956: 428) je ta rod uvrstil v podred Caryophylliina, ki pa nima endoteke ali zelo redko. Zaenkrat po ALLOITEAU-jevem predlogu uvrščam rod *Rennensismilia* v podred Meandriina. Predstavniki kariofilid so navadno trohoidno ceratoidni koralumi majhnih dimenzij.

Rennensismilia complanata (GOLDFUSS 1826)

Tab. 7—8

1826 *Turbinolia complanata*. GOLDFUSS: 53, Taf. 15, Fig. 10

1854 *Trochosmilia complanata*. REUSS: 85, Taf. 2, Fig. 3—4

1903 *Trochosmilia complanata*. FELIX: 328—329

?1930 *Phyllosmilia transiens*. OPPENHEIM: 521—522

?1974 *Phyllosmilia complanata*. L. et M. BEAUVAIS: 485

Opis: Solitarna korala je flabelatne, sploščene oblike. Spodaj je ostro koničasta, navzgor pahljačasto razširjena. Kot med zunanoma robovoma znaša ca. 80°. Čaša je podolgovata, ozka, poglobljena. Septa so kompaktna, razvita v 5—6 ciklih. V aksialnem delu se kuneiformno odebelijo in prosto končajo v prazni fosuli. Kolumele ni. Endoteka je iz tankih vezikularnih disepimentov. Stena je septotekalna, kostatna. Mikrostruktura je iz enostavnih trabekul v septih in fibrolamelarna v steni, verjetno zaradi zasnova mlajših ciklov sept. Na aksialnem delu sept so veliki sklerodermi.

Dimenzije:

	Medvednica	REUSS
višina koraluma (h)	30 mm	do 65 mm
daljši premer čaše (D)	40 mm	do 85 mm
krajši premer čaše (d)	12 mm	12 mm
število sept (s)	160 (6 + 6 + 12 + 24 + 48 + S 6)	do 232

Primerjava: FELIX je pri reviziji REUSS-ovega materiala izločil iz te vrste primerke, ki jih je REUSS (1854) pokazal na tab. 2, sl. 3—4, in jih priključil vrsti *Phyllosmilia transiens*. BEAUVAIS-ova (1974) sta vrsto *complanata* prav tako uvrstila v rod *Phyllosmilia*. Toda vrsta nima kolumele, zato ne more biti priključena k rodu *Phyllosmilia*. Ima vse značilnosti rodu *Rennensismilia*, zato jo dajem v ta rod.

Razširjenost: Santonij Gosaua v Avstriji in južni Franciji.

Novo nahajališče: Vrabečka gora na Medvednici (2 —8), senonij.

Rennensismilia subinduta (REUSS 1854)

Tab. 9

1854 *Trochosmilia subinduta*. REUSS: 87, Taf. 5, Fig. 15—16

1903 *Trochosmilia subinduta*. FELIX: 335—336

1930 *Trochosmilia subinduta*. OPPENHEIM: 497—499

?1954 *Trochosmilia subinduta*. KOLOSVÁRY: 101—102, Tab. 9, Fig. 14—16, Tab. 10, Fig. 1—2

Opis: Od koničaste baze se koralum navzgor močno razširi pod kotom 100°. Nekoliko bolj je nagnjen v eno stran, zaradi česar je nekoliko nesimetričen. Čaša je ovalna. Septa so razvita v 5—6 ciklih, podobno kot pri prejšnji vrsti. Mlajši cikli so tanjši. Mestoma je med dvema debelima septoma pet tanjših, mestoma le tri. Septa so vijugasta. Na lateralni strani imajo redka zrna. Kolumele ni, endoteka je iz perifernih vezikularnih disepimentov. Stena je septotekalna. Mikrostruktura ni ohranjena.

Dimenzije:

	Medvednica	REUSS	KOLOSVÁRY
višina koraluma (h)	20—30 mm	30 mm	10—15 mm
daljši premer čaše (D)	30—45 mm	50 mm	16—22 mm
krajši premer čaše (d)	20 mm	12 mm	12—14 mm
število sept (s)	ca 180	ca 180	(?)90—100

Primerjava: Naši primerki se ujemajo z originali po strukturnih lastnostih in po nesimetričnosti. Le čaša je bolj ovalna. KOLOSVÁRY-jevi primerki so mnogo manjši. Tudi ta vrsta spada v rod *Rennensismilia*.

Razširjenost: Senonij Gosaua na Avstrijskem in santonij-kampanij Sümege na Madžarskem.

Nova nahajališča: Radana vas pri Stranicah (W —11) santonij-kampanij, na Medvednici Vrabečka gora (2 —9, 3 —2 in [?]3 —1) ter Rušovski brijeg (11 —9), senonij.

Rennensismilia chondrophora (FELIX 1903)

Tab. 10

1903 *Trochosmilia chondrophora*. FELIX: 327, Taf. 24, Fig. 12

?1951 *Trochosmilia chondrophora*. PAŠIĆ: 176, Tab. 1, sl. 7

1954 *Trochosmilia chondrophora*. KOLOSVÁRY: 101, Tab. 9, Fig. 11—13

?1954 *Coelosmilia niobe*. KOLOSVÁRY: 105—106, 127, Tab. 11, Fig. 16—17

1961 *Trochosmilia chondrophora*. ŞURARU: 660, Pl. 7, Fig. 27—28

Širina čaše je približno enaka višini koraluma. Septa so kompaktna, razvita v 4—5 ciklih. Kolumele ni, septa v aksialnem delu so nekoliko odebeljena, mestoma so upognjena ali prelomljena. Stena je septotekalna, na našem primerku je ohranjena le na enem mestu. Endoteka je iz perifernih disepimentov. Mikrostruktura je iz enostavnih trabekul.

Dimenzije:

	Medvednica	FELIX	KOLOSVÁRY <i>C. niobe</i>
višina koraluma (h)	20 mm	20 mm	15 mm
daljši premer čaše (D)	21 mm	25 mm	20 mm
krajši premer čaše (d)	12 mm	15 mm	14 mm
število sept (s)	ca 96	96	96

Primerjava: FELIX-ova vrsta *Trochosmilia chondrophora* se po vseh strukturnih lastnostih ujema z rodnom *Rennensismilia*. Po ovalni čaši se približuje rodu *Smilotrochus*, ki je bolj trohoiden. KOLOSVÁRY-jeva vrsta *Coelosmilia niobe* je vrsti *R. chondrophora* zelo podobna, ujema se tudi v dimenzijah in gre morda za isto vrsto. Od vrst *R. complanata* in *subinduta* se *R. chondrophora* loči po manjšem številu sept in bolj ovalni čaši.

Razširjenost: Senonij Gosaua in Romunije, maastrichtij Fruške gore. *C. niobe* je iz santonija-kampanija na Madžarskem.

Novo nahajališče: Rušovski brijeg na Medvednici (11 —8), senonij.

Subordo: CARYOPHYLLIINA VAUGHAN et WELLS 1943

Familia: PARASMILIIDAE ALLOITEAU 1952

Subfamilia: DESMOPHYLLINAE VAUGHAN et WELLS 1943

Genus: *Conicosmilotrochus* nov. gen.

Ime: Rod je imenovan po podobnosti z rodом *Smilotrochus*.

Tipična vrsta: *Conicosmilotrochus stranicensis* n. sp.

Diagnoza in opis: Majhna ceratoidna korala ima koničasti pecelj, ki je nagnjen na eno stran. Čaša je ovalna do sploščena. Septa so v 4–5 ciklih. Prvih 12 sept bolj ali manj izstopa po debelini. Njihovi aksialni konci so v zgornjem delu koraluma ali zoženi ali betičasto odebeljeni, proti dnu koraluma so pa septa vedno odebeljena. Kolumele ni, le mestoma se septa dotikajo. Endoteke ni. Stena je septotekalna, kostatna. Lateralna stran sept je vedno nazobčana. Mikrostruktura je iz drobnih sklerodermitev, ki so nanižani v enostavnih trabekulah.

Primerjava in sistem: Po septalni strukturi nov rod lahko primerjamo z rodом *Smilotrochus* MILNE-EDWARDS et HAIME 1851, ki pa ima trohoidno-kuneiformne koralume in prisotno endoteko. Zato ga ALLOITEAU (1952: 633; 1957: 82–83) uvršča v podred Meandriina. Novi rod pa s svojo strukturo in obliko spada v podred Caryophylliina. Ker nima kolumele in ne palov, ga dajem v poddružino Desmophyllinae, ki spada v družino Parasmiliidae.

Conicosmilotrochus stranicensis n. gen. n. sp.

Tab. 11–12

Ime: Imenovana je po kraju Stranice

Holotip: Vzorec 77

Nahajališče: Nekdanji kamnolom v Stranica

Horizont: Santonij-kampanij

Material: Vzorci: 53, 56, (?) 57, 58, 59, 77, W —3, W —5

Diagnoza: *Conicosmilotrochus* z ovalno čašo. Septa v 5 ciklih, prvih 12 sept močno izstopa, proti sredini in proti dnu koraluma septa odebelijo.

Opis: Koralum je trohoidno-ceratoiden z zelo ostro upognjeno bazo ali pecljem. Navzgor se razširi za okoli 40°. Zunanja stran je rebrasta. Čaša je ovalna, razmerje med krajšim in daljšim premerom je 2:3. Septa so v heksamernem sistemu, v petih ciklih. 12 sept prvega in drugega cikla je mnogo debelejših in daljših kot ostala septa. Proti dnu koraluma odebelijo. Njihovi betičasti aksialni konci se tu skoraj stikajo in zapolnjujejo ves aksialni prostor. Med dvema debelima septoma so tri tanjša, le na daljšem koncu čaše se vrinejo še septa petega cikla in dajejo sistemu bilateralni videz. Vsa septa se navzven podaljšujejo v ostre koste. Lateralna stran sept ima precej goste trnke. Stena je septotekalna, kostatna. Kolumele in palov ni. Mikrostruktura je opisana pri rodu.

Dimenzije:

višina koraluma (h)	14–16 mm
daljši premer čaše (D)	8–10 mm
krajši premer čaše (d)	7–8 mm
število sept (s)	54–70 (6 + 6 + 12 + 24 + S 5)

Primerjava: Primerjava z drugimi rodovi je podana že pri opisu rodu. Vrsta *C. stranicensis* se loči od drugih vrst po ovalni obliki čaše, številu sept in dimenzijah koraluma.

Novi nahajališči: Kamnolom v Stranica (53, 56 do 59, 77), Radana vas (W —3, W —5), santonij-kampanij.

Conicosmilotrochus strictus n. gen. n. sp.

Tab. 13–14

Ime: *Strictus* lat. je ozek, vrsta ima ozek, stisnjen koralum

Holotip: Vzorec 64

Nahajališče: Nekdanji kamnolom v Stranica

Horizont: Santonij-kampanij

Material: Vzorci 52, (?) 54, 62, 63, 64, 65, 66, 67, 68, 69, 70, W —1, W —2, W —4

Diagnoza: *Conicosmilotrochus* s sploščenim koralumom in ozko čašo. Septa prvih ciklov ne izstopajo premočno.

Opis: Koralum je ceratoiden, koničasta baza je upognjena. Navzgor se razširi pod kotom 25 do 40°. Septalni aparat je podoben septalnemu aparatu pri vrsti *C. stranicensis*, le septa prvega in drugega cikla so srednje močna, aksialne odebelitve niso velike. Koste so ostre, mestoma tudi zaobljene. Lateralni trnki so pogostni, toda manj ostri kot pri vrsti *C. dentatus*. Stena je septotekalna. Mikrostruktura je slabo ohranjena.

Dimenzije:

višina koraluma (h)	14–22 mm
daljši premer čaše (D)	11–13 mm
krajši premer čaše (d)	3–5 mm
število sept (s)	54–58 (6 + 6 + 12 + 24 + S 5)

Primerjava: Razlika z ostalimi vrstami tega rodu je navedena že pri opisu. *C. strictus* ima bolj stisnjen koralum in ožjo čašo.

Nahajališče: Vzorci 52, (?) 54, 62 do 70 so iz nekdanjega kamnoloma v Stranica. Vzorci W —1, W —2 in W —4 pa so iz Radane vasi pri Zrečah. Santonij-kampanij.

Conicosmilotrochus dentatus n. gen. n. sp.

Tab. 15

Ime: Lateralna stran sept ima močne zobce

Holotip: Vzorec 73

Nahajališče: Nekdanji kamnolom v Stranica

Horizont: Santonij-kampanij

Material: 55, 60, 61, 72, 73, (?) 74

Diagnoza: *Conicosmilotrochus* z ovalno čašo, v zgornjem delu koraluma so septa tanka in močno nazobčana, višina koraluma je 20–22 mm.

Opis: Koralum je trohoidno-ceratoiden, zunaj rebrast. Čaša je ovalna, razmerje med krajšim in daljšim premerom znaša 2:3. Septa so razvita v petih cikli. Prva dva cikla sta debela na periferiji, proti aksialnemu delu čaše pa se vsa septa močno stanjšajo. Proti spodnjemu delu in dnu koraluma se aksialni deli sept odebelijo, podobno kot pri prejšnji vrsti. Betičasti konci sept se mestoma dotikajo. Lateralna stran je polna ostrih zobcev, ki so navadno izmenično postavljeni in dajo septom vijugasti videz. Stena je septotekalna, koste so zaobljene.

Dimenzije:

višina koraluma (h)	20–22 mm
daljši premer čaše (D)	10–13 mm
krajši premer čaše (d)	7–9 mm
število sept (s)	ca 60 (6 + 6 + 12 + 24 + S5)

Primerjava: *C. dentatus* se loči od *C. stranicensis* po tanjših aksialnih septih, po ostrih lateralnih zobcih in višjem koralumu. Bodičasta septa ima tudi rod *Dasmia*, ki ima močnejše koste in manj ciklov sept, ki so vsi enako debeli (MILNE-EDWARDS et HAIME 1850: 25–27, Taf. 4, Fig. 4).

Razširjenost: samo kamnolom v Stranica.

Subordo: FUNGIINA VERRILL 1865

Familia: ACROSMILIIDAE ALLOITEAU 1952

(= LEPTOPHYLLIIDAE VAUGHAN 1905 p. p.)

Genus: *Acrosmilia* d'ORBIGNY 1849

Acrosmilia conica (d'ORBIGNY 1850)

Tab. 16

1850 *Acrosmilia conica*. d'ORBIGNY: 203

1914 *Leptophyllia conica*. FELIX: 194

1930 *Leptophyllia conica*. OPPENHEIM: 148–150, Pl. 16, Fig. 6–9, Pl. 21, Fig. 3, non Fig. 4

(?)1936 *Leptophylliae* ex aff. *conica*. HACKEMESSER: 44–45

1974 *Acrosmilia conica*. L. et M. BEAUVAIS: 484

Opis: Koralum je flabeloiden. Baza je široka, navzgor se pahljačasto razširi, navadno na eno stran močnejše kot na drugo. Čaša je podolgovata z neravnim robom, ki je rebrast. Septa so delno perforirana, vijugasta, razvita v 4–5 cikli. Prva dva segata do centra in se z odebelitvami in podaljški spajata v masivno parietalno kolumelo. Naslednji cikli so krajši, peti je razvit le v obliki kost. Stena je sinaptikuloparatekalna. Endoteka je iz redkih disepimentov in sinaptikul. Mikrostruktura je iz enostavnih in lamelarnih trabekul. V kolumeli so veliki sklerodermiti.

Dimenzije:

	Stranice	OPPENHEIM
višina koraluma (h)	20–25 mm	20 mm
daljši premer čaše (D)	35 mm	30 mm
krajši premer čaše (d)	15–20 mm	
število sept (s)	ca 90	110–130

Primerjava: d'ORBIGNY-jevo vrsto *Acrosmilia conica* je FROMENTEL in nato OPPENHEIM (1930: 148) priključil k rodu *Leptophyllia* REUSS. Toda *Leptophyllia* nima kolumele. Združitve omenjenih rodov ne priznavata niti ALLOITEAU (1952: 666) niti WELLS (1956: 385). Vrsta *conica* ima parietalno kolumelo in sodi v rod *Acrosmilia*.

Razširjenost: Santonij južne Francije in Gosau ter (?) cenomanij Grčije.

Novo nahajališče: Rugelj v Stranica (32, 34), santonij-kampanij.

Genus: *Stephanosmilia* FROMENTEL 1862

(?) *Stephanosmilia polydectes* KOLOSVÁRY 1954

Tab. 17

1954 *Stephanosmilia polydectes*. KOLOSVÁRY: 103–104, 127, Tab. 10, Fig. 4–9

Opis: Solitarna turbinatna korala. Spodnji del je ravno odbit, navzgor se le malenkost razširi. Zunanja stena je rebrasta. Čaša je okrogla. Septa so perforirana, močno vijugasta in nepravilno odebeljena. Povezana so s sinaptikulami in prečkami, tako da je ves skelet videti precej nepravilen in črvast. Septa starejših ciklov so nekoliko debelejša, subkompaktna in imajo lateralne trnke in zobce, medtem ko so septa mlajših ciklov močnejše perforirana. Aksialni del koraluma je zapolnjen s podaljški sept (in s pali?), ki tvorijo gosto papilozno ali parietalno kolumelarno strukturo. Stena ni ohranjena. Endoteka je iz sinaptikul. Mikrostruktura je iz trabekul, ki divergirajo ob sinaptikulah in lateralnih trnkah.

Dimenzije:

	Stranice	KOLOSVÁRY
višina koraluma (h)	40 mm	33 mm
premer čaše (d)	12 mm	13 mm
premer koraluma v sredi (d ₁)	14 mm	15 mm
število sept (s)	ca 80	(?) 34 (80)

Primerjava: Naš primerek se povsem ujema s KOLOSVÁRY-jevo vrsto *S. polydectes*. KOLOSVÁRY (1954) pri opisu omenja le 34 sept, toda na sliki jih lahko naštejemo okoli 80. Ni pa povsem zanesljivo, če ta vrsta spada v rod *Stephanosmilia*, ki je uvrščen v družino Caryophylliidae (WELLS 1956: 424, ALLOITEAU 1958: 191). Prvega opisa rodu nimam na voljo. Naši in KOLOSVÁRY-jevi primerki pa kažejo perforirana septa in sinaptikule in jih zato zaenkrat postavljam v fungidno družino Acrosmiliidae.

Razširjenost: Santonij-kampanij na Madžarskem.

Novo nahajališče: Kamnolom v Stranicah (75), santonij-kampanij.

Familia: CUNNOLITIDAE ALLOITEAU 1952
(= CYCLOLITIDAE d'ORBIGNY 1851)

Genus: *Cunnolites* BARRÈRE 1746
(= *Cyclolites* LAMARCK 1801 p. p.)

Leta 1801 je LAMARCK postavil rod *Cyclolites*. Od takrat pa do srede našega stoletja, to je dobrih 150 let, je v paleontološki literaturi bilo uporabljano to rodovno ime (MILNE-EDWARDS et HAIME 1850, REUSS 1854, STOLICZKA 1873, POČTA 1887, SOLOMKO 1888, FELIX 1903; 1914, OPPENHEIM 1930 in drugi); v novejšem času tudi GÉCZI (1954) in WELLS (1956). V glavnem je ta rod veljal za značilen rod senonijske dobe.

ALLOITEAU je leta 1952 (666) in še natančneje leta 1957 (331—351) pregledal originalni material in prve opise rodu *Cyclolites* ter ugotovil (1957: 331), da je LAMARCK pri prvem opisu rodu *Cyclolites* navedel štiri vrste, in sicer:

- »1. *Cyclolites numismalis* (= *Madrepore porpita* LINNÉ)
2. *Cyclolites hemisphaerica* SCHENSHZ. HERB.
3. *Cyclolites elliptica* (= *Porpita elliptica* GUETTARD, La *Cunnolite*)
4. *Cyclolites cristata*.«

ALLOITEAU je mnenja, da je tipična vrsta rodu *Cyclolites* prav vrsta, ki je navedena prva, to je *C. numismalis*. Ta je iz paleozoika, njen mlajši sinonim je *Palaeocyclus* MILNE-EDWARDS et HAIME 1850. Holotip vrste *C. hemisphaerica* je izgubljen; v poznejši literaturi je to ime nosila vrsta, ki jo je opisal MICHELIN. Vrsto *C. elliptica*, ki je navedena kot tretja, sta MILNE-EDWARDS in HAIME (1850: XLVI) postavila za tipično vrsto rodu *Cyclolites*, kar je ALLOITEAU razveljavil. Poleg tega je dognal, da je ta vrsta identična s *Porpita elliptique* GUETTARD, ki je bila že prej opisana in opredeljena kot *Cunnolites* BARRÈRE. Četrta vrsta, to je *C. cristata* pa je bila preimenovana v rod *Aspidiscus*.

Po ALLOITEAU-jevi reviziji je torej rod *Cyclolites* paleozojske starosti, senonijske oblike nekdanjega rodu *Cyclolites* pa se imenujejo *Cunnolites*.

GÉCZI (1954) in WELLS (1956) ter ŠURARU (1961) so kljub ALLOITEAU-jevi reviziji uporabljali ime *Cyclolites* za kredne ciklolitoidne oblike. GÉCZI (1954: 131) meni, da je ime *Cyclolites* tako znano in dolgo uporabljano, da ga lahko imamo za nomen conservandum, podobno kot na primer *Nummulites* namesto *Camerina*.

Menim, da ima GÉCZI prav. Po nomenklatoričnih pravilih ni nujno, da se za tipično vrsto rodu razglasi tista vrsta, ki je v nekem starejšem delu imenovana na prvem mestu, kot je to pri LAMARCK-ovem rodu *Cyclolites* vrsta *C. numismalis*. Za tipično vrsto bi še naprej lahko veljala *C. elliptica*. Rod bi glede na 150 letno uporabo lahko ostal veljaven. Vendar ALLOITEAU-ju ne moremo očitati nepravilnosti, kvečjemu preveliko natančnost, s katero je ustvaril vrsto sprememb.

Večina sodobnih raziskovalcev je sledila ALLOITEAU-jevi reviziji (PAŠIĆ 1951; 1953, M. BEAUVAIS 1964, ČEŠMEDŽIEVA 1970; 1971; 1973). Da ne bo ponovne zmede in neenotnosti, tudi sama uporabljam ime *Cunnolites* za nekdanji kredni rod *Cyclolites*.

Rod *Cunnolites* je v zadnjih letih doživljal še nadaljnjo revizijo. Iz senonijskih vrst je ALLOITEAU poleg rodu *Cunnolites* ločil še rod *Plesiocunnolites* (tipična vrsta *Cyclolites ellipticus* var. *subcircularis* OPPENHEIM 1930). Od rodu *Cunnolites* ga loči po tem, da nima tako gostih por na septih prvega in drugega reda, da ima redkejša disepimente, septalne zobce brez zarez in pravilne sklerodermite, medtem ko ima *Cunnolites* nepravilne.

K tema rodovoma je M. BEAUVAIS (1964) dodal še dva nova rodova: *Plesiocunnolites* in *Paracunnolites*. *Plesiocunnolites* primerja z rodом *Plesiocunnolites*, od katerega ga loči bogata endoteka in višji koralumi. *Paracunnolites* pa primerja z rodом *Cunnolites*, pri čemer ugotavlja, da se loči po nižjem koralumu in parietalni kolumeli.

Če sedaj sledimo opisu posameznih vrst, vidimo, da ti avtorji niso več tako dosledni pri posameznih strukturnih elementih. Pri vrsti *Cunnolites sororius* omenja M. BEAUVAIS (1964: 538) subkompaktna septa prvega in drugega cikla, torej enakšna kot pri rodu *Plesiocunnolites*. Pri rodu *Plesiocunnolites* navaja ALLOITEAU 1957: 351) v razpredelnici, da ta rod nima endoteke, medtem ko pri opisu rodu (1957: 346—347) pravi, da je endoteka redka. Enako tudi BEAUVAIS (1964: 536) omenja pri vrsti *Pl. dispar* nebogato endoteko, čeprav je na strani 539 navedel, da ta rod nima endoteke.

Vse to kaže, da posameznih omenjenih rodov ne moremo dosledno ločiti, ker so razlike le kvantitativne. Ne spreminja se tip strukturnih elementov, ampak le njihova pogostnost.

Pri preučevanju našega materiala sem ugotovila, da so septa prvega in drugega cikla pri vseh rodovih kompaktna v spodnjem delu koraluma, v zgornjem delu čaše in proti aksialnemu delu koraluma pa postanejo perforirana. Pač pa lahko ločimo tanjša, lateralno bolj nazobčana septa, ki na zunaj delajo vtis večje poroznosti (rodova *Cunnolites* in *Paracunnolites*) ter debelejša, lateralno manj nazobčana ali bolj gladka septa, ki so na videz kompaktna (pri rodovih *Plesiocunnolites* in *Plesiocunnolites*). Endoteka se prav tako pojavlja pri vseh rodovih. Naredila sem mnogo presekov in videla, da resnično v nekaterih presekih enega in istega koraluma disepimente vidimo, v drugih pa ne. Vedno jo lahko najbolje opazujemo v vertikalnem preseku skozi sredino koraluma. Kolumele nisem našla v nobenem našem primerku. V nekaterih fosulah pa so drobci odlomljenih septalnih zobcev.

Zanimivo je, da se delitev na tanjša in debelejša septa ujema z GÉCZI-jevo (1954) delitvijo na skupine: vrste z močnimi septi in s tankimi septi. GÉCZI je ločil tudi primerke z visokim in nizkim koralumom, kar lahko ločimo tudi

pri naših primerkih in pri omenjenih štirih rodovih. Pri naših primerkih s tankimi septi se navadno pojavlja tudi celotna epiteka, medtem ko je pri primerkih z debelejšimi septi ohranjena le v obliki koncentričnih obročkov.

Vse omenjene lastnosti so premalo oprijemljive za ločitev rodov. Zato predlagam, da se dosedanji rodovi *Cunolites*, *Plesiocunolites*, *Plesiocunolites* in *Paracunolites* obravnavajo kot podrodovi rodu *Cunolites*.

Rod *Cunolites* delim torej na naslednje štiri podrodove:

Cunolites (Cunolites): Septa so tanjša. Prvi in drugi cikl sta kompaktna, toda nazobčana, mlajši cikli so perforirani. Endoteka je pogostna, koralum visok, epiteka slabo ohranjena.

Cunolites (Paracunolites): struktura skeleta enaka kot pri podrodu *Cunolites*, le da je koralum nizek. Epiteka je ohranjena v celoti.

Cunolites (Plesiocunolites): Septa so debelejša. Prvi in drugi cikl sta kompaktna in gladka (zelo redki zobci). Endoteka je pogostna. Koralum je nizek. Epiteka je iz koncentričnih obročev.

Cunolites (Plesiocunolites): Septa enaka kot zgoraj. Endoteka je zelo pogostna. Koralum je visok.

Subgenus: *Cunolites (Cunolites)* BARRÈRE 1746 (em. ALLOITEAU 1957)

Tipična vrsta je *Cunolites ellipticus* BARRÈRE. ALLOITEAU (1957) za ta rod (sedaj podrod) pravi, da ima izredno številna septa, ki so tanka, stisnjena in močno perforirana. Endoteka je iz številnih sinaptikul in disepimentov.

Pri natančnem pregledu zbruskov, ki kažejo preseke koraluma, ki so vzporedni z bazalno ploskvijo in tik ob njej, sem ugotovila, da prvi in drugi cikl sept nista perforirana. Le če presekamo koralum više oz. bliže zgornji površini, so septa bolj perforirana. Pač pa imajo vsa septa številne zobčke. Karakteristike rodu glej zgoraj. Podrod se dobro ujema z GÉCZI-jevo skupino, ki ima tanka septa in visok koralum.

Cunolites (Cunolites) profundus (OPPENHEIM 1930)

Tab. 18—19

1930 *Cyclolites profundus*. OPPENHEIM: 133, Taf. 6, Fig. 2—2 a

1903 b *Cyclolites* sp. FELIX: 49, Taf. 3, Fig. 6—6 a

(?) 1953 *Cunolites profundus*. PAŠIĆ: 107—108, Tab. 5, sl. 2—3

1954 *Cyclolites reussi profundus*. GÉCZI: 21, 94—95, Tab. 7, Fig. 18—19

Opis: Koralum je visok, polkroglast. Bazalna ploskev je okroglasta do rahlo ovalna, vdolbena. Pecelj je v sredi in ni vedno ohranjen. Septa so opisana pri podrodu. Endoteka je pogostna, iz sinaptikul in vezikularnih disepimentov, ki se najlepše vidijo v orientiranih vertikalnih prerezi. Kolumele ni, fosula je ovalna, dolga približno tretjino premera. V njej so včasih odlomljeni drobci septalnih zobcev.

Dimenzije:

	Medvednica	FELIX	OPPENHEIM	GÉCZI	PAŠIĆ
višina koraluma (h)	9—13 mm	15 mm	15 mm	7—12 mm	16—30 mm
daljši premer					
bazalne ploskve (D)	20—35 mm	25 mm	25 mm	16—29 mm	25—49 mm
krajši premer					
bazale ploskve (d)	18—34 mm	22 mm	21 mm	15—27 mm	20—43 mm
dolžina fosule (f)	10 mm	6 mm	—	5,6—10 mm	10—30 mm
gostota sept (s)	18—20/5 mm	22/5 mm	—	20—22/5 mm	—

Primerjava: Naši primerki se ujemajo z najnovejšimi opisi vrste, ki jo je podal GÉCZI (1954: 21, 94). Vrsto *profundus* ločim od *reussi*, ker ima poglobljeno bazo in krajšo fosulo. Primerki s Fruške gore (PAŠIĆ 1953: 107) so nekoliko večji. Ker PAŠIĆ-eva ni prikazala niti strukture sept niti endoteke, je težko primerjati material.

Razširjenost: Santonij-kampanij Gosaua, santonij Portugalske, (?)kampanij-maastrichtij Fruške gore in senonij Madžarske.

Nova nahajališča: Vrabečka gora (1 —1, 1 —2, 2 —2, 2 —6, odtisa 2 —1, 2 —16), Novaki (4 —1, 6 —3, 7 —2) in Rušovski brijeg (11 —6), vsa na Medvednici, senonij.

Cunolites (Cunolites) reussi (FROMENTEL 1862)

Tab. 20, sl. 1—6

1854 *Cyclolites hemisphaerica*. REUSS: 124, Taf. 22, Fig. 14—16

1914 *Cyclolites undulata* var. *Reussi*. FELIX: 193

1930 *Cyclolites Reussi*. OPPENHEIM: 116—118, Taf. 37, Fig. 6—6 a

non 1953 *Cunolites Reussi*. PAŠIĆ: 105, Tab. 3, Fig. 2—3

1954 *Cyclolites reussi*. GÉCZI: 20—21, Taf. 10, Fig. 1—4, Taf. 2, Fig. 11, Taf. 4, Fig. 24 (glej sinonimiko)

(?)1954 *Cyclolites undulata reussi*. KOLOSVÁRY: 89, Tab. 7, Fig. 21—24

1964 *Plesiocunolites reussi*. M. BEAUVAIS: Pl. 16, Fig. 5

1971 *Plesiocunolites reussi*. ČEŠMEDŽIEVA: 5—6, Tab. 2, Fig. 1—2

Opis: Bazalna ploskev je ravna, ovalna, pokrita z epiteko, v sredi je trikotni pecelj. Rob je nekoliko dvignjen. Septa so značilna za ta podrod, razvita so v štirih ciklih, od katerih je prvi malo debelejši. Vsa septa segajo do fosule, ki zavzema približno polovico premera.

Dimenzije:

	Stranice	REUSS	GÉCZI
višina koraluma (h)	10—13 mm	ca 20 mm	10—16 mm
daljši premer bazalne ploskve (D)	31—34 mm	ca 40 mm	27—39 mm
krajši premer bazalne ploskve (d)	25—31 mm	ca 30 mm	25—38 mm
dolžina fosule (f)	15 mm	ca 10 mm	10—17 mm
gostota sept (s)	20/5 mm	—	21/5 mm

Primerjava: Primerek PAŠIĆ-eve (1953) je ČEŠMEDŽIEVA (1970: 41—42, 45, Pl. 2, Fig. 3—4) opisala kot novo podvrsto *Plesiocunolites reussi krassavensis*, ker ima mnogo daljšo fosulo (25 mm).

M. BEAUVAIS (1964) in ČEŠMEDŽIEVA (1970; 1971) uvrščata vrsto *C. reussi* v rod *Plesiocunolites*. Toda vrsta ima drobna nazobčana septa, kar je značilno za podrod *Cunolites* (*Cunolites*). Tudi GÉCZI (1954: 82) jo daje v skupino s tankimi septi.

Razširjenost: Santonij-kampanij Gosaua in Sümege na Madžarskem, zgornji santonij južne Francije, spodnji maastrichtij Bolgarije.

Nova nahajališča: kamnolom v Stranicah (1031 a), Radana vas (W—6), santonij-kampanij.

Cunolites (*Cunolites*) *sellata* (QUENSTEDT 1880)

Tab. 20, sl. 7—9

1880 *Fungia sellata*. QUENSTEDT: 867, Pl. 177, Fig. 25

1930 *Cyclolites Weissermeli*. OPPENHEIM: 99, Pl. 5, Fig. 11—11 a

1964 *Plesiocunolites sellatus*. M. BEAUVAIS: 537—538, Pl. 15, Fig. 4 a—d

Opis: Vrsto je natančno opisal M. BEAUVAIS. Spodnja ploskev je ovalna, pokrita z debelo epiteko, ki je iz koncentričnih in radialnih rebrc. Pecelj je nekoliko izbočen. Rob je oster. Zgornji del koraluma je nepravilen, fosula je postavljena pravokotno na daljšo os in še ekscentrično. Septa so gosta, nazobčana, značilna za podrod *Cunolites*.

Dimenzije:

	Stranice	OPPENHEIM	M. BEAUVAIS
višina koraluma (h)	10 mm	9 mm	9 mm
daljši premer bazalne ploskve (D)	30 mm	27 mm	22,5 mm
krajši premer bazalne ploskve (d)	23 mm	22 mm	18 mm
dolžina fosule (f)	8 mm	7 mm	4,5—6 mm
gostota sept (s)	15—18/5 mm	19/5 mm	20—22/5 mm

Primerjava: M. BEAUVAIS (1964) je prištel to vrsto k rodu *Plesiocunolites*, vendar ima tanka, gosta, nazobčana septa ter epiteko, po čemer spada v podrod *Cunolites*.

Razširjenost: Santonij Gosaua.

Novo nahajališče: Rugelj v Stranicah (9), santonij-kampanij.

Subgenus: *Cunolites* (*Paracunolites*) M. BEAUVAIS 1964

Rod *Paracunolites* je M. BEAUVAIS (1964) ločil od *Cunolites* po »diskoidni«, to je nizki obliki in parietalni kolumeli. Način rasti sept, stopnja perforiranosti, oblika koraluma in endoteka so povsem enaki kot pri rodu *Cun-*

nolites. Naši primerki nimajo kolumele. Koralum je nizek. Na podlagi teh lastnosti ga postavljam kot podrod v rod *Cunolites*. Ustreza GÉCZI-jevi skupini s tankimi septi in nizkimi koralumi.

Cunolites (*Paracunolites*) *scutellum* (REUSS 1854)

Tab. 21

1854 *Cyclolites scutellum*. REUSS: 125—126, Taf. 22, Fig. 1—3

1903 *Cyclolites scutellum*. FELIX: 192

(?)1953 *Cunolites scutellum*. PAŠIĆ: 102

1958 *Cyclolites undulata* var. *robusta*. KRIŽMAN: 20—21, Fig. 7

1957 *Cyclolites scutellum*. ŠURARU: 292

1964 *Paracunolites scutellum*. M. BEAUVAIS: 542

Opis: Zelo nizek ciklolitoiden koralum. Razmerje dolžine proti višini je 6 : 1. Bazalna ploskev je okroglasta, prekrita z epiteko, nekoliko konkavna in s pecljem, ki je v sredi. Rob je oster. Septa so tanka, gosta, podobne strukture kot pri podrodu *Cunolites*, morda nekoliko manj nazobčana. Dolžina fosule doseže največ 1/4 čašinega premera. Kolumele v naših primerkih ni.

Dimenzije:

	Stranice	REUSS	FELIX	FELIX <i>C. choffati</i>
višina koraluma (h)	4—5 mm	do 8 mm	do 8 mm	7 mm
daljši premer				
bazalne ploskve (D)	23—31 mm	do 40 mm	do 40 mm	30 mm
krajši premer				
bazalne ploskve (d)	21—29 mm	ca 35 mm	isto	26 mm
dolžina fosule (f)	5—8 mm	do 8 mm	isto	7 mm
gostota sept (s)	16—18/5 mm	13—14/5 mm	13—18/5 mm	15—17/5 mm

Primerjava: Naš primerek se v celoti ujema z REUSS-ovimi in FELIX-ovimi opisi, le epiteka je bolje ohranjena. K tej vrsti prištevam tudi vzorca 1 in 2 (KRIŽMAN 1958: sl. 7), ki sta nekoliko višja, vendar v mejah variacijske širine. PAŠIĆ (1953) navaja to vrsto brez slike. Omenja mnogo večje dimenzije, fosula pa je pri njenih primerkih postavljena v smeri manjše osi. Zato verjetno ne gre za isto vrsto. Vrsti *C. (P.) scutellum* je podobna tudi vrsta »*Cyclolites*« *choffati* iz Portugalske (FELIX 1903 b, Taf. 3, Fig. 3), le da ima septa neenakomerno debela in gladka, kar bi kazalo na njeno pripadnost k podrodu *Plesiocunolites*.

Razširjenost: Santonij področja Abtenau v Avstriji in Romunije.

Novo nahajališče: Rugelj v Stranicah (1, 2, 4, 17), santonij-kampanij.

Subgenus: *Cunolites* (*Plesiocunolites*) ALLOITEAU 1952

Leta 1952 je ALLOITEAU imenoval rod *Plesiocunolites* na osnovi tipične vrste *Cyclolites ellipticus* var. *subcircularis* OPPENHEIM. Pravi, da je to *Cunolites* z ozko fosulo, debelimi subkompaktnimi septi in da je brez endoteke.

Ugotovili smo že (glej rod *Cunolites*), da sta prvi in drugi cikel sept kompaktna, podobno kot pri rodu *Cunolites*, toda lateralna stran sept je skoraj gladka, oziroma ima zelo redke zobce. Septa so debela, mlajši cikli pa so zlasti v aksialnem in dorzalnem delu koraluma perforirani. Endoteka je navzoča, bolj ali manj pogostna, sestavljena iz sinaptikul in vezikularnih disepimentov, ki jih najboljše vidimo v orientiranem vertikalnem preseku koraluma.

Razlika med rodovima *Cunolites* in *Plesiocunolites* je torej v tem, da ima slednji debelejša septa, ki so v spodnjem perifernem delu manj perforirana in manj nazobčana kot pri rodu *Cunolites*. Na podlagi teh lastnosti postavljam *Plesiocunolites* kot podrod v okviru rodu *Cunolites*. Ujema se z GÉCZI-jevo skupino ciklulitesov, ki imajo močna septa in nizke koralume.

Cunolites (*Plesiocunolites*) *orbignyi* (FROMENTEL 1864)

Tab. 22—24

1903 *Cyclolites d'Orbignyi*. FELIX: 189, Taf. 17, Fig. 2—2 a (sinonimika)1954 *Cyclolites orbignyi*. KOLOSVÁRY: 87, Tab. 7, Fig. 1—41954 *Cyclolites* cfr. *orbignyi*. GÉCZI: 13, 99, Taf. 5, Fig. 20—211961 *Cyclolites orbignyi*. ŠURARU: 125, Fig. 2—5

Opis: Koralum je nizek, spodnja ploskev je ovalna, ravna, le v sredi je pecelj nekoliko dvignjen. Zunanji spodnji rob je zaobljen. Zgornja površina ali čaša je enakomerno konveksna, fosula je dolga in ozka. Septa in endoteka so opisani pri podrodu.

Dimenzije:

	Stranice	FELIX
višina koraluma (h)	7—14 mm	do 15 mm
daljši premer bazalne ploskve (D)	40—45 mm	do 55 mm
krajši premer bazalne ploskve (d)	32—38 mm	do 40 mm
gostota sept (s)	11—12/5 mm	10—12/5 mm

Primerjava: FELIX (1903: 189) v opisu navaja višino koraluma 33 mm, kar je verjetno pomota, ker na sliki izmerimo 15 mm višine pri največjem primerku. Od *C. (P.) macrostoma* se naša vrsta loči po tem, da je nižja, od *C. choffati* (FELIX 1903 b) pa po tem, da ima mnogo daljšo fosulo.

Razširjenost: Santonij južne Francije in Gosaua, santonij in kampanij Madžarske in Romunije.

Nova nahajališča: Rugelj v Stranica (18 do 27), kamnolom v Stranica (1021 b), Zreče (Ve —1) santonij-kampanij ter Rušovski brijeg na Medvednici (11 —2, 11 —5), senonij.

Cunolites (*Plesiocunolites*) *undulata* (GOLDFUSS 1826)

Tab. 25, sl. 7—10

1826 *Fungia undulata*. GOLDFUSS: 49, Pl. 14, Fig. 71854 *Cyclolites undulata*. REUSS: 121—122, Taf. 22, Fig. 11—131914 *Cyclolites undulata*. FELIX: 192 (glej sinonimiko)1930 *Cyclolites undulatus*. OPPENHEIM: 106—107, (?)Taf. 7, Fig. 3—3 a, (?)Taf. 11, Fig. 3—3 a, Taf. 12, Fig. 2—2 a, Taf. 35, Fig. 6—6 a(?)1954 *Cyclolites undulata undulata*. KOLOSVÁRY: 88, Tab. 7, Fig. 13—16(?)1954 *Cyclolites undulata*. GÉCZI: 12—13, 85—86, Tab. 8, Fig. 12—141957 *Cyclolites undulata*. ŠURARU: 2921964 *Plesiocunolites undulatus*. M. BEAUVAIS: 537, Pl. 16, Fig. 4 a—d1971 *Plesiocunolites undulatus*. ČEŠMEDŽIEVA: 3—4, Tab. 1, Fig. 3—4

Opis: Bazalna ploskev koraluma je ovalna, v sredi rahlo vdolbena. Pokrita je z nagubano epiteko, ki je radialno koncentrično rebrasta. Pecelj je dvignjen, rob pa zelo oster. Zgornja stran koraluma je dvignjena šele v sredini čaše, ob robu pa je sploščena. Fosula je v sredini, dolga, ovalna, nekoliko ekscentrična. Septa so opisana pri podrodu.

Dimenzije:

	Stranice	REUSS	GÉCZI	ČEŠMEDŽIEVA	BEAUVAIS
višina koraluma (h)	12 mm	10—22 mm	13,9 mm	17 mm	14 mm
daljši premer					
bazalne ploskve (D)	30 mm	13—75 mm	42,5 mm	35—37 mm	30 mm
krajši premer (d)	26 mm	12—70 mm	41 mm	30—55 mm	27 mm
dolžina fosule (f)	11 mm	1/3 D	20 mm	17 mm	12 mm
gostota sept (s)	9/5 mm	9/5 mm	17/5 mm	15/10 mm	15/10 mm

Primerjava: REUSS (1854) ne omenja točnih dimenzij, razen za dolžino bazalne ploskve. Druge dimenzije so preračunane. M. BEAUVAIS (1964) je pri reviziji navedel bolj točne mere, s katerimi se naš primerek popolnoma ujema. GÉCZI (1954) navaja izredno veliko število sept in je vprašanje, če njegov material spada v to vrsto.

Razširjenost: Santonij Gosaua in južne Francije, santonij-kampanij Madžarske in Romunije, maastrichtij Belgarije.

Novo nahajališče: Rugelj v Stranica (5), santonij-kampanij.

Cunolites (*Plesiocunolites*) *faecata* (STOLICZKA 1873)

Tab. 25, sl. 1—6

1873 *Cyclolites faecata*. STOLICZKA: 48—49, Pl. 10, Fig. 6—91914 *Cyclolites faecata*. FELIX: 1881953 *Cunolites faecata*. PAŠIĆ: 104, Tab. 6, Fig. 4

Opis: Koralum je nizek. Bazalna ploskev je ovalna, pokrita z epiteko iz koncentričnih obročkov, ki so redki in tanki. Rob je zaobljen. Fosula je široka in podolgovata.

Dimenzije:

	Stranice	STOLICZKA	PAŠIĆ
višina koraluma (h)	7—9 mm	8 mm	6 mm
daljši premer bazalne ploskve (D)	29—33 mm	24 mm	19 mm
krajši premer bazalne ploskve (d)	21—29 mm	21,5 mm	17 mm
dolžina fosule (f)	12—15 mm	12 mm	9 mm
gostota sept (s)	12—15/5 mm	ca 15/5 mm	—

Primerjava: Opisana vrsta se loči od *Pl. platystoma* po daljši fosuli. »*Cyclolites*« *spinoza* STOLICZKA pa ima nazobčana tanjša septa in krajšo fosulo, kar jo uvršča v podrod *Paracunnolites*.

Razširjenost: Senonij Indije, kampanij-maastrichtij v kraju Čumina Česma v Vzhodni Srbiji.

Novo nahajališče: Rugelj v Stranicah (7, 10 do 16), Zreče (Ve —2), santonij-kampanij.

Cunnolites (Plesiocunnolites) gosavicus (OPPENHEIM 1930)

Tab. 26, sl. 1—4

1930 *Cyclolites gosavicus*. OPPENHEIM: 134, Pl. 4, Fig. 7—7 a

Opis: Spodnja ploskev koraluma je ravna. Pecelj je nekoliko izbočen. Rob je zaobljen. Čaša je srednje visoka. Fosula je pravokotna na daljšo os. Septa so tanka, toda gladka nenazobčana.

Dimenzije:

	Stranice	OPPENHEIM
višina koraluma (h)	11 mm	11 mm
daljši premer bazalne ploskve (D)	29 mm	24 mm
krajši premer bazalne ploskve (d)	24 mm	22 mm
dolžina fosule (f)	9 mm	8 mm
gostota sept (s)	20/5 mm	20/5 mm

Primerjava: Na zunaj je to vrsto težko uvrstiti ali v podrod *Plesiocunnolites* ali podrod *Cunnolites*. Ima namreč gosta tanka septa kot *Cunnolites*, toda gladka kot *Plesiocunnolites*. Je prehodna oblika med obema podrodovoma.

Razširjenost: Senonij Gosaua.

Novo nahajališče: Rugelj v Stranicah (8), santonij-kampanij.

Cunnolites (Plesiocunnolites) nummulus (REUSS 1854)

Tab. 26, sl. 5—7

1854 *Cyclolites nummulus*. REUSS: 125, Taf. 23, Fig. 5—8

1930 *Cyclolites nummulus*. OPPENHEIM: 90—91, Taf. 6, Fig. 4—4 b

(?) 1954 *Cyclolites* cfr. *nummulus*. KOLOSVÁRY: 89, Tab. 7, Fig. 5—8

non 1953 *Cunnolites nummulus*. PAŠIĆ: 101—102, Tab. 2, Fig. 4

1957 *Cyclolites nummulus*. ŞURARU: 292

Opis: Koralum je majhen. Spodnja ploskev je okroglasta, ravna, zunanji rob je zaobljen. Struktura skeleta je opisana pri podrodu.

Dimenzije:

	Medvednica	REUSS	KOLOSVÁRY	PAŠIĆ
višina koraluma (h)	5—7 mm	5 mm	7,3 mm	10 mm
daljši premer bazalne ploskve (D)	16—18 mm	15 mm	17,3 mm	28 mm
krajši premer bazalne ploskve (d)	15—17 mm	15 mm	16,2 mm	28 mm
dolžina fosule (f)	6 mm	(5) mm	7 mm	10 mm
gostota sept (s)	10/5 mm	10—12/5 mm	—	—

Primerjava: Po majhnih dimenzijah je vrsta *C. (P.) nummulus* podobna vrsti *C. (P.) dispar*, ki pa ima mnogo gostejša septa. Primerki, ki jih navaja PAŠIĆ (1953), so preveliki za vrsto *nummulus* in spadajo verjetno v vrsto *pseudonummulus* (glej OPPENHEIM 1930: 133, GÉCZI 1954: 19, 92—93).

Razširjenost: Senonij Gosaua, santonij-kampanij Romunije in (?) Madžarske.

Novo nahajališče: Vrabečka gora (2 —7), Rušovski brijeg (11 —3, [?] 11 —1), senonij.

Cunnolites (Plesiocunnolites) dispar (QUENSTEDT 1880)

Tab. 27, sl. 1—4

1880 *Fungia dispar*. QUENSTEDT: 862, Pl. 177, Fig. 4

1964 *Plesiocunnolites dispar*. M. BEAUVAIS: 535—536, Pl. 15, Fig. 1 a—c

Opis: podoben opis z vso primerjavo je podal M. BEAUVAIS (1964).

Dimenzije:

	Stranice	M. BEAUVAIS
višina koraluma (h)	5 mm	3,5 mm
daljši premer bazalne ploskve (D)	15 mm	10,5 mm
krajši premer bazalne ploskve (d)	14 mm	9,8 mm
dolžina fosule (f)	2 mm	1,7 mm
gostota sept (s)	21/5 mm	22/5 mm

Primerjava: Po velikosti koraluma je ta vrsta podobna vrsti *C. (P.) nummulus*, ki pa ima mnogo redkejša septa (10/5). Vrsta *C. (P.) dispar* je prehodna med podrodovoma *Paracunnolites* in *Plesiocunnolites*, ker ima tanka gosta septa, ki pa so brez okrasitev z zobčki.

Razširjenost: Santonij in kampanij Gosaua, zgornji santonij južne Francije.

Novo nahajališče: Radana vas (W —7), santonij-kampanij.

Cunolites (Plesiocunolites) cycloides (FELIX 1903)

Tab. 27, sl. 5—7

1903 *Cyclolites undulata* var. *cycloides*. FELIX: 197, Taf. 17, Fig. 3—3 a1930 *Cyclolites cycloides*. OPPENHEIM: 108—109, Taf. 12, Fig. 4—4 a non Taf. 35, Fig. 4—4 a1957 *Cyclolites undulata* var. *cycloides*. ŞURARU: 292

Opis: Obliko koraluma je natančno opisal FELIX (1903). Spodnja ploskev je okroglasta. Epiteka je iz koncentričnih obročkov. Rob je oster. Zgornja stran koraluma je srednje izbočena. Značilna je fosula, ki poteka vzporedno z daljšo osjo, toda izven sredine in tako deli koralum na dva neenaka dela, od katerih je manjši nekoliko višji. Struktura sept in endoteke je opisana pri podrodu.

Dimenzije:

	Stranice	FELIX	OPPENHEIM
višina koraluma (h)	15 mm	10 mm	17 mm
daljši premer bazalne ploskve (D)	32 mm	26 mm	do 40 mm
krajši premer bazalne ploskve (d)	28 mm	25 mm	35 mm
dolžina fosule (f)	10 mm	(8) mm	10 mm
gostota sept (s)	13—16/5 mm	12—17/5 mm	—

Primerjava: Dimenzije na razpredelnici sem dobila iz merjenj po slikah, ker FELIX (1903) in OPPENHEIM (1930) v opisu nista navedla natančnih velikosti. Mere se lepo ujemajo z našimi primerki. Tudi oblika koraluma in lega fosule sta značilni za to vrsto. Subkompaktna debela septa z zelo redkimi lateralnimi zobci in bolj nizek koralum uvrščajo to vrsto v podrod *Plesiocunolites*.

Razširjenost: Senonij Gosaua in santonij-kampanij Romunije.

Novo nahajališče: Radana vas (W —8), santonij-kampanij.

Cunolites (Plesiocunolites) cf. depressa (REUSS 1854)

Tab. 27, sl. 8—10

1854 *Cyclolites depressa*. REUSS: 112—113, Taf. 22, Fig. 4—61903 *Cyclolites depressa*. FELIX: 189—1901930 *Cyclolites depressus*. OPPENHEIM: 89

Opis: Bazalna ploskev je rahlo ovalna, pokrita s koncentričnimi obročki epiteke. Rob je ploščat, ker je epiteka zavihana navzgor t.j. čez rob bazalne ploskve. Zgornji del koraluma je v osrednjem delu čaše dvignjen, sploščen pa ob zunanem robu. Fosula je dolga in leži nekoliko izven centra. Septa so takšna, kot so pri podrodu *Plesiocunolites*, to je debela, lateralna stran pa je gladka ali ima redke zobce.

Dimenzije:

	Stranice	REUSS
višina koraluma (h)	17 mm	9 mm
daljši premer bazalne ploskve (D)	46 mm	37 mm
krajši premer bazalne ploskve (d)	43 mm	35 mm
dolžina fosule (f)	18 mm	18 mm
gostota sept (s)	13/5 mm (340)	360

Primerjava: Naš primerek se loči od originala po večjih dimenzijah, zato ga označujem s cf. Od drugih podobnih vrst se loči v naslednjem: od vrste *orbignyi* po ploščatem zavihanem robu epiteke in višji vzpetini ob fosuli, od vrste *cycloides* prav tako po robu in večjih dimenzijah, od *macrostoma* po nesimetrični fosuli in nižjem koralumu.

Razširjenost: Senonij Gosaua. REUSS (1854: 113) omenja pri prvem opisu vrste primerek tudi iz Dobrove na Štajerskem, to je v Stranicah.

Novo nahajališče: Radana vas (W —9), santonij-kampanij.

Subgenus: *Cunolites (Plesiocunolites)* M. BEAUVAIS 1964

M. BEAUVAIS je ustanovil rod *Plesiocunolites* na osnovi vrste *Fungia robusta* QUENSTEDT 1880. Od rodu *Plesiocunolites* ga je ločil po bogati endoteki in po okrasitvah sept, ki niso moniliformne, ampak zobčaste (crénelé).

Ugotovili smo že (glej rod *Cunolites*), da ima rod *Plesiocunolites* pogostno endoteko, medtem ko je pri rodu *Plesiocunolites* le nekoliko gostejša. Septa so pa pri obeh rodovih enaka, lateralno redko nazobčana. Pač pa ima *Plesiocunolites* višje koralume kot *Plesiocunolites*. Zato *Plesiocunolites* postavljam kot podrod v okvir rodu *Cunolites*. Ujema se z Géczi-jevo skupino, ki ima močna septa in visoke koralume.

Cunolites (Plesiocunolites) robusta (QUENSTEDT 1880)

Tab. 28—29

1880 *Fungia robusta*. QUENSTEDT: 869, Taf. 177, Fig. 231903 *Cyclolites undulata* var. *robusta*. FELIX: 196, Taf. 17, Fig. 4—4 a1930 *Cyclolites robustus*. OPPENHEIM: 111—112, Taf. 7, Fig. 4—5, (?) Taf. 41, Fig. 11—11 a, 121954 *Cyclolites robusta*. GÉCZI: 83, Tab. 5, Fig. 1—21957 *Cyclolites undulata* var. *robusta*. ŞURARU: 2921961 *Cyclolites robusta*. ŞURARU: 127, Fig. 11—121964 *Plesiocunolites robustus*. M. BEAUVAIS: 539—541, Pl. 15, Fig. 3 a—d, Textfig. 1 (glej sinonimiko)

Opis: Koralum je visok, bazalna ploskev je okroglasta do ovalna. Pokrita je z epiteko iz koncentričnih obročkov, ki segajo še čez rob čaše nekoliko navzgor. Zgornji del čaše je skoraj polkroglast, nekoliko nepravilen. Fosula je ozka, podolgovata, vzporedna z daljšo osjo koraluma. Septa in endoteka so opisani pri podrodu.

Dimenzije:

	Stranice	FELIX	GÉCZI	M. BEAUVAIS
višina koraluma (h)	21—25 mm	40 mm	17—22 mm	21—34 mm
daljši premer				
bazalne ploskve (D)	42—50 mm	55 mm	34—36 mm	43—53 mm
krajši premer				
bazalne ploskve (d)	37—42 mm	54 mm	27—36 mm	42—52 mm
dolžina fosule (f)	ca 20 mm	do 18 mm	14—20 mm	12—20 mm
gostota sept (s)	10—11/5 mm	8/5 mm	9—12/5 mm	20/10 mm

Primerjava: M. BEAUVAIS (1964) je k tej vrsti priključil tudi *Cyclolites rugosus* in *Cyclolites gappii* (OPPENHEIM 1930: 109, 113), ki se ločita le po malenkostnih razlikah v velikosti koraluma.

Razširjenost: Zgornji santonij Gosaua (po: BEAUVAIS 1964: 541), senonij Madžarske, santonij-kampanij Romunije.

Novo nahajališče: Rugelj v Stranicah (6), kamnolom v Stranicah (1035), Radana vas (W—10), santonij-kampanij.

Cunolites (Plesiocunolitopsis) longifossata ČEŠMEDŽIEVA 1973

Tab. 30

1954 *Cyclolites* nov. sp. 1. GÉCZI: 15—16, 89, Tab. 8, Fig. 10—11

1973 *Plesiocunolites mitissimus longifossata* subsp. n. ČEŠMEDŽIEVA: 31—32, Tab. 2, Fig. 2—4

Opis: Koralum je visok, spodnja ploskev je nekoliko vdolbena, ovalna, z ostrim robom. Pecelj ni ohranjen. Zgornji del je nesimetrično dvignjen. Polovica čaše na eni strani fosule je višja in krajša, na drugi nižja in daljša. Fosula poteka vzdolž daljše osi. Septa so drobna, enakomerna, srednje redko nazobčana. Endoteka je pogostna.

Dimenzije:

	Medvednica	GÉCZI	ČEŠMEDŽIEVA	
			<i>longifossata</i>	<i>mitissimus</i>
višina koraluma (h)	20—30 mm	25,3 mm	21 mm	16,6 mm
daljši premer				
bazalne ploskve (D)	38—48 mm	54,8 mm	38 mm	37 mm
krajši premer				
bazalne ploskve (d)	34—44 mm	44,4 mm	36 mm	28 mm
dolžina fosule (f)	ca 30 mm	31 mm	24 mm	17,6 mm
gostota sept (s)	12/5 mm	13/5 mm	26—30/10	25/10 mm

Primerjava: Koralum je visok, zato vrsto dajem v rod *Plesiocunolites*. ČEŠMEDŽIEVA (1973) je opisala novo podvrsto *longifossata*, vendar je razlika z matično vrsto *mitissimus* precejšnja, zato jo priznavam za samo-

stojno vrsto. *Longifossata* je pri isti dolžini ploskve mnogo višja, fosulo pa ima veliko daljšo. Povsem se ujema s to vrsto tudi primerek, ki ga je GÉCZI (1954: 15—16) opisal kot nov. sp. 1. vendar je ni imenoval. Podobna je vrsta *macrostoma* in *undulata*, loči pa se po nesimetrični obliki koraluma in bolj enakomerno debelih septih.

Razširjenost: Senonij Madžarske, maastrichtij Bolgarije.

Nova nahajališča: Novaki (5—1, 6—1, 6—2), in Vrabečka gora (2—3), obe na Medvednici. Senonij.

Cunolites (Plesiocunolitopsis) sp.

Tab. 31

Vzorec 29 ima vse strukturne značilnosti podrodo *Plesiocunolitopsis*, ne ujema pa se z znanimi vrstami po dimenzijah. Je manjši od prej opisanih vrst. Za opis nove vrste imam premalo materiala — samo en vzorec, zato sem določila le rod.

Dimenzije: višina koraluma (h) = 15 mm, daljši premer bazalne ploskve (D) = 27 mm, krajši premer (d) = 20 mm, dolžina fosule (f) se ne da ugotoviti, gostota sept (s) = 10/5 mm.

STRATIGRAFSKA PRIMERJAVA OPISANIH KORAL

Koralne vrste, ki so bile najdene v Stranicah in na Medvednici, so bile doslej znane iz raznih krajev Evrope in celo iz Indije. V južni Franciji (11 istih vrst) so iz santonijskih skladov (ALLOITEAU 1939; 1952; 1952 b; 1957, L. et M. BEAUVAIS 1974 in drugi). Tudi na Portugalskem (1 ista vrsta) jih omenjajo v santoniju (FELIX 1903 b).

Na področju Gosaua v Avstriji (19 istih vrst) so po starejši literaturi v nerazčlenjenem senoniju (REUSS 1854, FELIX 1903, OPPENHEIM 1930), novejše raziskave pa kažejo, da je veliko nahajališč santonijske in deloma kampanijske starosti (L. et M. BEAUVAIS 1974).

Bogata nahajališča solitarnih koral (10 istih vrst) so tudi na Madžarskem, ki so prav tako deloma santonijsko-kampanijske starosti, deloma pa senonijske, ker natančna razčlenitev še ni izdelana (KOLOSVÁRY 1954, GÉCZI 1954; 1959).

Sedem istih vrst je najdenih v Romuniji, kjer so santonijsko-kampanijske starosti (ŞURARU 1957; 1961). V Bolgariji so tri vrste omenjene v maastrichtiju (ČEŠMEDŽIEVA 1970; 1971; 1973). Ena ista vrsta je celo iz Indije (STOLICZKA 1873) iz neopredeljene zgornje krede. V Jugoslaviji so štiri vrste že opisane in omenjane iz slavonskih osamelcev in Fruške gore ter nekaterih krajev vzhodne Srbije, kjer so postavljene v maastrichtij in deloma v kampanij.

Tako vidimo, da po primerjavi z drugimi nahajališči lahko naše sklade s koralami uvrstimo v santonij in kampanij. Le primerjava z vzhodnojugo-slovanskimi in bolgarskimi nahajališči kaže tudi na maastrichtijsko starost.

Iz slovenskih nahajališč v okolici Stranic je opisanih 21 vrst koral. Od tega jih kar 19 kaže na santonijsko-kampanijsko starost. Tako moremo naše sklade zanesljivo prišteti santonijsko-kampanijskemu obdobju.

Santonijsko-kampanijsko starost plasti s solitarnimi koralami v okolici Stranic potrjuje tudi njihov položaj na terenu. Profil v nekdanjem kamnolomu v Stranica kaže, da laporji s koralami leže pod hipuritnimi apnenci. Hipurite iz tega zgornjega horizonta je obdelal PLENIČAR (1971) in ugotovil njihovo zgornjekampanijsko-maastrichtijsko starost. Korale, ki leže pod njimi, so torej starejše od hipuritov. Uvrstimo jih lahko zanesljivo v santonijsko in deloma še v kampanijsko obdobje, kar se povsem ujema s starostjo drugih doslej znanih nahajališč v Evropi.

Z Medvednice je opisanih 11 vrst koral. Od tega jih je 10 iz santonija in kampanija, dve tudi iz maastrichtija, medtem ko je ena vrsta znana samo iz maastrichtija. Torej bi tudi vrste z Medvednice mogli uvrstiti v glavnem v santonij in kampanij. Nekatere pa kažejo tudi na zvezo z maastrichtijskimi nahajališči vzhodne Jugoslavije in Bolgarije (PAŠIČ 1951; 1951b; 1953, ČEŠ-MEDŽIEVA 1970; 1971; 1973, BOGDANOVIČ 1968).

Položaj lapornih plasti s solitarnimi koralami je na Medvednici nejasen. Iz Orešja na vzhodnem delu Medvednice je sicer obdelan senonijski greben, ki vsebuje rudiste, kolonijske korale, foramifere in drugo favno, in je zanesljivo zgornje santonijske in spodnje kampanijske starosti (POLŠAK et al. 1978, TURNŠEK et POLŠAK 1978). Solitarne korale pa uvrščam v nerazčlenjeni senonij. Tudi s slovenskimi nahajališči jih ne moremo zanesljivo primerjati. Od 11 vrst na Medvednici in 21 vrst v Sloveniji sta samo dve vrsti isti v obeh področjih. Tako nastane vprašanje, ali sta področji v okolici Stranic in na Medvednici iste starosti z drugačnimi pogoji ali pa sta iz različnih horizontov.

Če je zanesljiva santonijsko-kampanijska starost obdelanih solitarnih koral v zahodni in srednji Evropi in maastrichtijska v vzhodni Srbiji in Bolgariji, potem lahko domnevamo, da gre za selitev omenjene favne z zahoda proti vzhodu.

V paleoekološkem pomenu predstavlja obdelana favna tip solitarnih koral, ki niso tvorke grebenov. Živele so v večjih morskih globinah.

Nekateri raziskovalci ugotavljajo, da so to mobilne oblike, ki so se premikale po blatnem morskem dnu. Trohoidne oblike pa kažejo tudi na netrden substrat.

Na ta način si tudi lahko razložimo, zakaj sediment, v katerem se pojavljajo korale, ni apnenec, ampak lapor. (GILL et COATES 1977, COATES 1977).

Sl. 2. Stratigrafska razširjenost opisanih koralnih vrst

Fig. 2. Stratigraphical distribution of coral species described

Vrste – Species		NAHAJALIŠČE LOCALITY		STRATIGRAFSKA RAZŠIRJENOST STRATIGRAPHICAL DISTRIBUTION				
		STRANICE Sant. – Camp.	MEDVEDNICA Sant. – Camp.	koniacij Coniacian	santonij Santonian	kampanij Campanian	maastrichtij Maastrichtian	senonij Senonian
MEANDRIINA MEANDRIINA	<i>Aulosmilium cuneiformis</i>	●			■			
	<i>Aulosmilium aspera</i>	●			■			
	<i>Phragmosmilium</i> sp. ✓		●		■			
	<i>Dasmiopsis lamellicostatus</i>	●						★
	<i>Phyllosmilium</i> sp. ✓		●					★
	<i>Diploctenium ferrumequinum</i> ✓		●		■	■		
	<i>Diploctenium</i> cf. pavoninum ✓		●		■			★
	<i>Rennensismilium complanata</i> ✓		●		■			
	<i>Rennensismilium subinduta</i> ✓	●	●		■	■		★
	<i>Rennensismilium chondrophora</i> ✓		●		■	■	■	★
CARYOPHYLLIINA	<i>Conicosmilotrochus stranicensis</i>	●						
	<i>Conicosmilotrochus strictus</i>	●						
	<i>Conicosmilotrochus dentatus</i>	●						
FUNGIANA	<i>Stephanosmilium polydectes</i>	●			■	■		
	<i>Acrosmilium conica</i> ✓	●	●		■			
	<i>Cunolites (Cunolites) profundus</i> ✓		●		■	■	■	★
	<i>C.(Cunolites) reussi</i> ✓	●			■	■	■	
	<i>C.(Cunolites) sellata</i>	●			■			
	<i>C.(Paracunolites) scutellum</i>	●			■	■		
	<i>C.(Plesiocunolites) orbignyi</i>	●			■	■		
	<i>C.(Plesiocunolites) undulata</i>	●			■	■	■	
	<i>C.(Plesiocunolites) faecata</i>	●				■	■	★
	<i>C.(Plesiocunolites) gosavicus</i>	●			■			
	<i>C.(Plesiocunolites) nummulus</i> ✓		●		■			★
	<i>C.(Plesiocunolites) dispar</i>	●			■			
	<i>C.(Plesiocunolites) cycloides</i>	●			■			★
	<i>C.(Plesiocunolites) cf. depressa</i>	●				■		★
	<i>C.(Plesiocunolites) robusta</i>	●			■	■		★
	<i>C.(Plesiocunolites) longifossata</i> ✓		●				■	★
<i>C.(Plesiocunolites) sp.</i>	●						★	

SUMMARY

SOLITARY SENONIAN CORALS FROM STRANICE AND MT MEDVEDNICA
(NW YUGOSLAVIA)

INTRODUCTION

The Upper Cretaceous corals from the sites in the vicinity of Stranice and Zreče were first mentioned during the last century (REUSS 1854, TELLER 1889). In 1957 an accurate survey of this area was carried out by geologists from the Geological Survey of Ljubljana led by M. HAMRLA. The vicinity of Stranice and Zreče was geologically investigated by L. ŽLEBNIK (1957) and, a year later, by K. KRIŽMAN (1958). Localities rich with corals of the genus "*Cyclolites*" at various places in and around Stranice are mentioned by both of them.

The genus "*Cyclolites*" belongs among the typical non-building representatives of the Gosau type corals, so I have decided to make a detailed palaeontological study of these corals.

Unfortunately, when we revisited the site, we could not find any more fossils. The quarry at Stranice had been cleared away during exploitation of the nearby dolomites, and, when coal-mining ceased, the coal slag-heaps became so overgrown that in spite of hand excavation we could not find any layers containing the above-mentioned corals. For this reason I decided to study all the fossil coral material belonging to the various collections of fossils made so far from the above-mentioned localities by various researchers.

The greatest number of corals from the vicinity of Stranice were collected by dr. KSENIJA KRIŽMAN-GROSSHEIDE. Her collection includes 78 specimens. They bear the serial numbers 1—78 and are kept in the Institute for Palaeontology of the Slovene Academy of Arts and Sciences. Three specimens are kept in the Department for Geology and Palaeontology at the Faculty for Natural Sciences and Technology, University of Ljubljana. They bear the numbers 1031 a, b, and 1035; their finder is not mentioned. Two specimens, whose finder is not known, are kept at the Museum at Velenje. We have marked them Ve —1 and Ve —2. Another specimen was found by Ing. FRANC DROBNE during drilling works at Radana vas in 1976. This is specimen No. 79; it is kept in the Institut for Palaeontology of the Slovene Academy. Eleven specimens of corals from Radana vas (marked W —1 to W —11) are kept in the Museum for Natural Sciences in Vienna. They were collected by GLASSNER in 1904.

In addition to the above-mentioned corals from the vicinity of Stranice and Zreče, the present study deals with similar solitary corals from the Mt Medvednica near Zagreb. They were collected by Professor DONATA DEVIDÉ-NEDELA. These specimens are marked with double numbers and are kept at the Institute for Geology and Palaeontology of the Faculty for Natural Sciences and Mathematics, University in Zagreb.

Altogether 135 specimens of corals from Slovene and Croatian localities have been investigated in the present study. In comparison with the well-known localities in Gosau, Sümeg (Hungary) and in Southern France, where several thousands of specimens of solitary corals have been found, the above-

mentioned number of specimens is very small. However, our material is varied, which is demonstrated by the fact that it was able to determine 30 species (3 of them being new species), belonging to 10 genera. Among them are some typical species which have made it possible for the localities at Stranice and Zreče to be attributed to the Santonian-Campanian period of the Upper Cretaceous age.

The author would like to extend her sincere thanks to the heads of the Natural Science Museum in Vienna, of the Museum in Velenje and of the Palaeontological Department of the University of Ljubljana, as well as to Ing. FRANC DROBNE and especially to Prof. D. DEVIDÉ-NEDELA and Dr. KSENIJA KRIŽMAN-GROSSHEIDE who gave the fossil material for the investigations. I would further like to thank CARMEN NAROBÈ for making all the photographs, MILOJKA HUŽAN for the technical lay-out of this treatise and MILENA MILOJEVIĆ-SHEPPARD, M. A. for her translation into English. My sincere thanks go to Academic Prof. Dr. IVAN RAKOVEC, who read the text through and gave me valuable advice.

DESCRIPTION OF THE LOCALITIES

Geological data about the area containing Stranice and Zreče were given in the reports made by ŽLEBNIK (1957) and KRIŽMAN (1958). From these reports it is possible to summarise that the Upper Cretaceous strata consist of rudist limestones, into whose lower parts are laterally thrust layers of marl and marly limestone, which contain solitary corals and other fauna. The Upper Cretaceous strata lie unconformably on the Triassic dolomite; they are overlain by layers of plated limestone and conglomerates, which probably belong to the Oligocene period (ŽLEBNIK 1957: 3—7).

Coral fauna was found in the vicinity of Stranice and Zreče at the following localities:

at the quarry near the church in Stranice and, in the same horizon, near Edward Pit (specimens No. 52 to 73, 75, 77 to 78, 1031 a, b, 1035);

in the coal slag-heap near Rugelj in Stranice (specimens 1, 2, 4 to 27, 32, 34, 36 to 51, 76);

in the coal slag-heap near Dobrava in Stranice (specimens 28, 31, 33);

in the coal slag-heap in Radana vas (specimens W —1 to W —11, 79);

in the coal slag-heap in Zreče (specimens Ve —1, Ve —2).

The only locality of corals which was found in section in primary place was the Quarry near the church in Stranice. Unfortunately, in 1974 this quarry was cleared away when a bigger one was opened in the nearby dolomite. PLENIČAR (1971), who studied the rudist fauna of this quarry, writes "that he had an opportunity to see its last remains, which soon crumbled into a pile of rubble". ŽLEBNIK (1957) and KRIŽMAN (1958) describe the following sequence of strata: the bottom layer consists of radiolite limestone of a light colour, above it there is a layer of somewhat breccia-like limestone, this is overlain by a layer up to 1 metre thick of grey marl and dark-coloured coal shale. On top of the marl there is a stratified miliolid limestone and the very top layer consists of a hyppurite limestone. Apart from the above-

mentioned marl layer there are several lower horizons of marl, which are intercalated into the somewhat breccia-like radiolite limestone. In addition to this, KRŽMAN mentions various corals of the genus "*Cyclolites*" which she found in the marl horizon in the limestone base, and ŽLEBNIK reports the presence of "*Cyclolites*" corals north-west of EDWARD's Pit, in a marl layer which is a direct continuation of the horizon in the quarry.

At all the other localities, that is near Rugelj and Dobrova in Stranice, as well as in Radana vas and Zreče, corals were found in coal slag-heaps, that is in a secondary place. GLASSNER labelled the specimens from Radana vas as "Hangend der Kohle". Since all the species involved are the same as those found in Stranice, it can be concluded that the corals of the whole area concerned occur in the same stratigraphical horizon, i.e. in the marly limestones and marls which lie in a base of hyppurite limestones. They are of Santonian-Campanian age, which will be discussed in more detail in the chapter on stratigraphic comparison of corals.

The localities among the Mt Medvednica were discovered by Professor DEVIDÉ-NEDÉLA. She mentions corals from the following localities:

Vrabečka gora (specimens 1 —1, 1 —2, 1 —3, 2 —1 to 2 —9, 2 —11, 2 —14, 2 —16, 3 —2, 3 —3);

Novaki (specimens 4 —1, 5 —1, 6 —1, 6 —3, 7 —1);

Ruševski brijeg (specimens 11 —1, 11 —2, 11 —3, 11 —6, 11 —8, 11 —9);

Veliki potok (specimen 8 —1).

The corals occur in marl which is defined as Senonian, its more exact stratigraphic field position is not given. The species dealt with in this study point to the Middle Senonian and some to the Maastrichtian age.

A SYSTEMATIC DESCRIPTION OF THE FAUNA

The specimens dealt with in the present study have been placed in the system set up by ALLOITEAU (1952; 1957) on the basis of a revision of several older collections. This system when based only on the microstructure is somewhere unsure as it is known that microstructure subsequently changed (see M. et L. BEAUVAIS 1973).

For the time being I have taken into account ALLOITEAU's suborder Meandriina. I have ascribed the species which were described in the older literature as belonging to the genera *Placosmilia* and *Trochosmilia* to ALLOITEAU's new genera *Aulosmilia*, *Phragmosmilia* and *Rennensisismilia*. I have transferred the genus *Dasmiopsis* from the suborder Caryophylliina to the suborder Meandriina. I have ascribed the new genus *Conicosmilitrochus* to the Caryophylliina. The species which were at one time ascribed to the genus *Cyclolites* and later on to the genus *Cunnolites* have been recently divided up by certain researchers into four genera: *Cunnolites*, *Plesiocunnolites*, *Plesiocunnolitopsis* and *Paracunnolites*. However, on the basis of a thorough comparison of the structural elements of all these genera I have determined that they differ only in the quantity of some structural elements, and it is difficult to divide them. For this reason I consider these genera to be only subgenera within the genus *Cunnolites*.

In the English translation of the description of the species the synonymy and comparison of dimensions have been left out. These details are given in the Slovene text.

The following abbreviations have been used to denote dimensions:

- h — the height of the corallum;
- D — the longer diameter of the calice or base plate;
- d — the shorter diameter of the calice or base plate;
- s — the number or density of the septa;
- f — the length of the fossula.

Subordo: MEANDRIINA ALLOITEAU 1952

Most of the genera from the family Meandrinidae which were ascribed by WELLS (1956: 413) to the suborder Faviina were separated from this suborder by ALLOITEAU, who established a new suborder, Meandriina, adding to it a few genera from the suborder Caryophylliina. He distinguishes the new suborder from the Faviina and Caryophylliina on the basis of its microstructure and endotheca. The microstructure consists of tiny sclerodermites which are always joined together into simple trabeculae. In the wall these trabeculae exist at several levels and form a lamellar microstructure. Faviina, on the other hand, have sclerodermites in divergent and composite trabeculae. This difference, however, cannot be consistently observed, so at present it is still a question whether the Meandriina suborder will be able to continue its existence.

Familia: MEANDRIIDAE ALLOITEAU 1952

Subfamilia: MEANDRIINAE VAUGHAN et WELLS 1943

Genus: *Aulosmilia* ALLOITEAU 1952

For the type species of the genus *Aulosmilia*, ALLOITEAU chose the species *Placosmilia archiaci* FROMENTEL 1862. He also found that a large number of Cretaceous species which were described as belonging to the genus *Placosmilia* should be revised and transferred elsewhere. The reason is that the type species of the genus *Placosmilia*, *Turbinolia cymbula* MICHELIN 1846, is a colonial coral, which has an "astreoid" or faviid microstructure (ALLOITEAU 1957: 85).

The genus *Aulosmilia*, on the other hand, is a solitary turbinate compressed coral with a fibro-lamellar microstructure, a lamellar columella and a parathecal wall. It resembles the genus *Phyllosmilia* FROMENTEL 1862, but the latter has a peripheral dissepimentarium (ALLOITEAU 1957: 84). The genus *Aulosmilia* has been recognized by WELLS (1956: 414), too.

Aulosmilium cuneiformis (MILNE-EDWARDS et HAIME 1849)

Pl. 1—2

Description: The corallum is flabellate, compressed. Its pointed base upwards widens at an angle of 90°. The calice is oval in cross-section, having a depth of 5 mm. The outer face of the corallum is covered with the remains of an epitheca. The septa are compact, prolonged into the costae. Five to six cycles are developed. The first three, i.e. 24 septa, are equally long and thick. Their axial ends are thickened in the shape of the letter T or they are joined to neighbouring septa. The fourth cycle is almost as long, but thinner. The fifth cycle is shorter, whereas the sixth cycle appears only in the wall. The lateral side of the septa has rare teeth. The columella is lamellar, in some places it joins together with the axial thickenings of the septa. The endotheca consists of peripheral dissepiments. The wall is septothecal (eutheca and pseudotheca, after MORI et al. 1977). Microstructure as described at the genus.

Dimensions: $h = 25\text{--}40\text{ mm}$, $D = 22\text{--}55\text{ mm}$, $d = 15\text{--}35\text{ mm}$, $s = \text{ca } 165$. Septa are always in hexameral system ($6 + 6 + 12 + 24 + 48 + S6$).

Comparison: During his revision, ALLOITEAU (1957: 100, Fig. 53—56) gave the species *Placosmilium cuneiformis* its old generic name, although he did point out that it has a different microstructure. WELLS (1956: 414) ascribed it to the genus *Aulosmilium*. The question arises as to why ALLOITEAU himself did not ascribe this species to his new genus *Aulosmilium*. Probably the shape of the corallum seemed to him to be different; it is in fact wider. However, the structure of the septa and the wall, the columella and the microstructure are completely identical and the shape of the calice, too, is of the same type, except that it is somewhat wider. For this reason WELLS' classification can be accepted. *Aulosmilium cuneiformis* is distinguished from the type species only by its narrower and longer calice. Our specimens completely correspond to the Austrian material.

Distribution: Santonian of Southern France and of Gosau.

New localities: Dobrava in Stranice (28, 31, 33), and Radana vas (79), Santonian-Campanian.

Aulosmilium aspera (SOWERBY 1831)

Pl. 3

Description: The corallum is flabellate; its base is pointed and bent in the direction of longer axis. Upwards it widens at an angle of 70°. The calice is oval, the longer and shorter diameter are in the ratio 2:1. The outer side of the corallum is ribbed owing to the costae. The septa and microstructure are developed as in the previous species. The columella is lamellar. The endotheca is rare, and consists of peripheral dissepiments.

Dimensions: $h = 20\text{ mm}$, $D = 20\text{ mm}$, $d = 10\text{ mm}$, $s = \text{ca } 90$.

Comparison: In REUSS' species *Trochosmilium inflexa*, FELIX (1903) found a columella and therefore he included this species together with the species *Placosmilium consobrina* to the species *Placosmilium arcuata*. OPPENHEIM (1930) found all the above-mentioned species to be identical with SOWERBY's two species *Turbinolia rudis* and *T. aspera*. He preferred the name "*rudis*" although "*aspera*" had been described first. It was probably for the reason that L. et M. BEAUVAIS (1974) gave preference to the name "*aspera*". Since the name "*rudis*" has already been used in the case of Triassic corals, I, too, have named our species "*aspera*". It is distinguished from the species *A. cuneiformis* by its smaller dimensions and somewhat bilateral growth of the corallum.

Distribution: Santonian of Southern France and of Gosau.

New locality: Rugelj in Stranice (76), Santonian-Campanian.

Genus: *Phragmosmilium* ALLOITEAU 1952

On the basis of the species *Trochosmilium inconstans* FROMENTEL 1862, ALLOITEAU (1952: 636; 1957: 86) established a new genus, *Phragmosmilium*, similar to *Aulosmilium*. He distinguished the former from the latter by means of some slight differences in the wall, epitheca, endotheca and microstructure. WELLS (1956: 414) did not recognize the genus *Phragmosmilium* and included it as a synonymus in the genus *Aulosmilium*. The differences in the wall, the epitheca and the endotheca really do not permit a distinction of two genera. However, the microstructure is of different type. For this reason I recognize the genus *Phragmosmilium*. In this genus the fibres in the trabeculae are always exactly at right-angles to the middle dark line, whereas in the genus *Aulosmilium* they can be slanting, too. In his investigations of the hydrozoans HUDSON (1960) called these two types of microstructure radial or orthogonal (fibres at right-angles) and heterogonal (with fibres at right-angles and slanting fibres).

Phragmosmilium sp.

Pl. 4

The single specimen (8 —1) is of trochoid shape, being somewhat thicker on one side. The base is flat. The calice is round. The septa are compact, even, and are in four unequally developed cycles. In the axial part the younger septa are joint to the older ones by being bent transversely. On their lateral sides the septa are grained. The columella is lamellar, the wall is septoparathecal, preserved in one part of the skeleton only. The microstructure is described under the genus. It is exactly the same as that shown by ALLOITEAU (1957: Pl. 19, Fig. 9) for the species *Phragmosmilium crassa*.

Dimensions: $H = 10\text{ mm}$, $D = 16\text{ mm}$, $d = 15\text{ mm}$, $s = 48$.

Comparison: Two species of this genus are mentioned from the Sougraigne of Southern France, the type species *P. inconstans*, and *P. crassa*. Our specimen does not wholly correspond to them. We have only one specimen, which is only partly preserved, so determination of the new species is not possible.

Genus: *Dasmiopsis* OPPENHEIM 1930

OPPENHEIM (1930: 542) established the genus *Dasmiopsis* on the basis of the species *Trochocyathus lamellicostatus* REUSS 1854. He distinguished it from the genus *Trochocyathus* by the strongly developed septa of its first and second cycles, so that the upper part of the calice is very ribbed. In the first description of the species given by REUSS (1854: 79) it is mentioned that the columella is hardly visible. However, when OPPENHEIM re-examined the original material he found that somewhat deeper into the corallum the specimen had a strong lamellar columella. In spite of this ALLOITEAU (1952: 652) and WELLS (1956: 428) ascribed it to the suborder Caryophylliina and to the family Desmophyllidae, for which genera without columelas are characteristic.

Our specimen corresponds exactly to OPPENHEIM's material. It has a strong lamellar columella and its entire axial structure is similar to that of the genus *Aulosmilia*. It differs in strongly ribbed dorsal side of corallum and round calice and in thorny ornamentations of septa. I place it in the family Meandriidae.

Dasmiopsis lamellicostatus (REUSS 1854)

Pl. 5

Description: The corallum is trochoid, with the pointed base, and widens considerably towards the top. The calice is oval. The septa are compact, the first two cycles extending to the columella; all the further cycles are shorter and thinner. The septa of the first two cycles are longer and stronger on their dorsal sides, so they form ribby edges of the calice. This property was described by previous authors as "the costae being tufted". The lateral side of septa is ornamented with the rather long teeth. The wall is septothecal, the columella is strong, lamellar, and lays deep in the corallum. The endotheca consists of rare, thin peripheral dissepiments. The microstructure is lamellar fibrous.

Dimensions: $h = 20 \text{ mm}$, $D = 30 \text{ mm}$, $d = 25 \text{ mm}$, $s = 48 + S 5$.

Comparison: A comparison was given in the description of the genus. Our specimen fits in with the original material.

Distribution: Senonian of Gosau.

New locality: Quarry in Stranice (78), Santonian-Campanian.

Genus: *Phyllosmilia* FROMENTEL 1862

The genus *Phyllosmilia* was ascribed by ALLOITEAU (1952: 635) to his new family Dendrogyriidae. He distinguished the latter from the family Meandriidae on the basis of the fact that the specimens are colonial and that they have a lamellar columella and are without peritheca. However, he did include in the new family the genera *Phyllosmilia* and *Diploctenium*, which are solitary. Since the representatives of the Meandriidae have a lamellar columella, too, and are without a peritheca, either the setting-up of the new family, Dendrogyriidae, is unnecessary or, at the least, the two above-mentioned solitary genera must remain within the family Meandriidae, to which they were ascribed by VAUGHAN and WELLS (1943: 337) and WELLS (1956: 414).

Phyllosmilia sp.

Pl. 6, Fig. 1—2

The specimens 2—10, 2—11, 1—3 and 2—14 from Vrabečka gora are only fragments of corallums. The septal structure and the compressed calice show the characteristics of the genus *Styllosmilia*. The species cannot be determined.

Some investigators (GÉCZI 1959, ALLOITEAU 1952 b, BENDUKIDZE 1965) consider similar specimens to be juvenile forms to the genus *Diploctenium*. However, I consider that these specimens, which do not show the slightest tendency to form lateral wings, do not belong to the genus *Diploctenium*. They can be ascribed to the genus *Phyllosmilia*. For we have found some very small specimens of *Diploctenium* which have already taken on the shape of wings. (Compare the chapter on the next genus: *Diploctenium*.)

Genus: *Diploctenium* GOLDFUSS 1826

The type species of the genus *Diploctenium* is *D. cordatum* GOLDFUSS 1826, which is considered by some palaeontologists to be identical with the species *D. lunatum* MICHELIN 1846.

The corallum is shaped like a horse-shoe. Because of its special manner of growth somewhat different terminology is used to describe the individual parts and structural elements of this genus. Growth starts at the tip, which is called a stem (peduncle). The septa grow in fan-like way upwards and outwards, and bend downwards at the sides into wings.

At present about 30 species of this genus are known to exist. They belong to periods ranging from the Upper Turonian to the Maastrichtian. Out of this number ALLOITEAU (1952 b) named 14 new species.

The systematical position of the genus *Diploctenium* is discussed at the genus *Phyllosmilia*.

Diploctenium ferrumequinum REUSS 1854

Pl. 6, Fig. 5—6

Description: The corallum is hoof-shaped. The stem is sharply pointed, wings being bent strongly downwards. The septa are developed in six cycles; at the periphery they are all equally thin. Their axial prolongations form a parietal columella. The wall is septothecal, and the endotheca consists of rare dissepiments. The microstructure is not preserved.

Dimensions: h (from stem to the top) = 20 mm. H (from wings to the top) = 32 mm, D = 25 mm, d = 5 mm, s = 24—25/10 mm.

Comparison: Our specimen has a typical hoof-shaped corallum like the original, only the wings are little shorter. The species *D. conjungens* REUSS (1954) and *D. noszkyi* GÉCZI (1959), which have a more bulging and wider corallum, and *D. uxacalcensis* ALLOITEAU (1952 b), which has more septa, are also similar.

Distribution: Santonian and Campanian of Gosau, Upper Santonian of Southern France.

New locality: Vrabečka gora on Mt Medvednica (2 —4), Senonian.

Diploctenium cf. *pavoninum* REUSS 1854

Pl. 6, Fig. 3—4

Description: The small corallum is hoof-shaped. The stem and the ends of the wings are rounded and not pointed. The wings are only a little longer than the stem. The septa are very dense, arranged in 6 cycles, and all of the same thickness. The columella is parietal, the microstructure is not preserved.

Dimensions: h = 11 mm, H = 11,5 mm, D = 13 mm, d = 4 mm, s = 36/10 mm.

Comparison: Our specimen is quite the same as ALLOITEAU's (1952 b). They both differ from the Austrian original in having somewhat longer wings and more septa. But the number of septa was not given exactly by the Austrian researchers. FELIX said that the species *D. pavoninum* belongs to the group with the highest number of septa. Therefore I place our specimen in this species with mark cf. It is similar to *D. falloti* (BATALER 1936: 11), which has longer stem and less septa.

Distribution: Senonian of St. Gilgen in Austria, Upper Santonian of Southern France.

New locality: Vrabečka gora (3 —3), Senonian.

Subfamilia: EUPHYLLIINA ALLOITEAU 1952

Genus: *Rennensismilia* ALLOITEAU 1952

The genus *Rennensismilia* was established by ALLOITEAU on the basis of the species *Trochosmilia dydima* (GOLDFUSS 1826). During his revision of the genus *Trochosmilia*, ALLOITEAU found that the type species, i.e. *Turbinolia corniculum* MICHELIN 1846, has discontinuous septa of younger cycles, a fascicular columella and microstructure of small sclerodermites. Thus many Cretaceous species, ascribed to this genus, have to be replaced. ALLOITEAU ascribed the genus *Trochosmilia* to the suborder Archaeocaeiniina (1949; 1952: 605; 1957: 22—24), whereas WELLS (1956: 417) included it in the suborder Faviina. GILL and RUSSO (1973) re-examined the holotype of the type species and by means of electron-microscope photography found that the microstructure is similar to that of the genus *Montlivaltia*, which shows that WELL's placing was more correct. Some doubts are still raised by the porous septa of younger cycles, which place *Trochosmilia* to the suborder Fungiina.

Anyway, the genus *Rennensismilia* differs from *Trochosmilia*. In structure, *Rennensismilia* is the same as *Aulosmilia*, except that it has no columella. Within the wall the microstructure is of the fibro-lamellar sort, whereas in the septa it is made up of single trabeculae. I have followed ALLOITEAU in ascribing the genus *Rennensismilia* (like *Aulosmilia*) to the suborder Meandriina.

Rennensismilia complanata (GOLDFUSS 1826)

Pl. 7—8

Description: The corallum is flabellate and compressed. The angle between the lateral sides is 80°. The calice is narrow, long and deep. The septa are compact, and arranged in 5—6 cycles. In the axial part they thicken cuneiformly and end freely in an empty fossula. There is no columella. The endotheca is composed of thin vesicular dissepiments. The wall is septothecal and costate. The microstructure is fibrolamellar in the wall and is composed of simple trabeculae in the septum. In the axial thickenings of the septa there are large sclerodermites, rimmed by rounded fibrous.

Dimensions: h = 30 mm, D = 40 mm, d = 12 mm, s = 160

Comparison: By a revision of REUSS' material FELIX (1903) excluded the specimens shown by REUSS (1954: Pl. 2, Fig. 3—4), from the species *Trochosmilia complanata*. He ascribed them to the species *Phyllosmilia transiens*. L. and M. BEAUVAIS (1974) ascribed the species *complanata* to the genus *Phyllosmilia*. But this species has no columella and thus cannot be included in the genus *Phyllosmilia*. It has all the characteristics of the genus *Rennensismilia*.

Distribution: Santonian of Gosau and of Southern France.

New locality: Vrabečka gora (2 —8), Senonian.

Rennensismilia subinduta (REUSS 1854)

Pl. 9

Description: The corallum widens rapidly towards the top at an angle of 100°. It is inclined towards one side, and therefore a little asymmetrical. The calice is oval and compressed. The septa are developed as in the previous species, but they are twisted. There is no columella. The wall is septothecal and costate. The endotheca consists of peripheral vesicular dissepiments. The microstructure is poorly preserved.

Dimensions: h = 20–30 mm, D = 30–45 mm, d = 20 mm, s = ca 180.

Comparison: The calice of our specimens is a little thicker than in the original material. The latter, however, are more or less secondary compressed. All the structures are the same, so I ascribe our specimens to this species.

Distribution: Senonian of Gosau (Austria) and Santonian-Campanian of Sümeg (Hungary).

New localities: Radana vas (W —11) Santonian-Campanian; Vra-bečka gora (2 —9, 3 —2, and [?] 3 —1) and Rušovski brijeg (11 —9), both on Mt Medvednica, Senonian.

Rennensismilia chondrophora (FELIX 1903)

Pl. 10

Description: The flabellate corallum widens toward the top at an angle of 60°. The septa are compact and developed in 4–5 cycles, the last one being incomplete. In axial part they are somewhat thickened, bent or even broken. The wall, the endotheca and the microstructure are the same as in previous species.

Dimensions: h = 20 mm, D = 21 mm, d = 12 mm, s = ca 96.

Comparison: FELIX' (1903) species *Trochosmilia chondrophora* has all the structural characteristics of *Rennensismilia*. In having a more oval calice it comes closer to the genus *Smilotrochus*, which is trochoid. It differs from the species *R. complanata* and *R. subinduta* in its smaller number of septa and its more oval and wider calice. KOLOSVÁRY's (1954) species *Coelosmilia niobe* is very close to ours, perhaps it is the same species.

Distribution: Senonian of Gosau and of Romania, Maastrichtian of Fruška gora. *C. niobe* is from Santonian-Campanian of the Sümeg in Hungary.

New locality: Rušovski brijeg on Mt Medvednica (11 —8), Senonian.

Subordo: CARYOPHYLLIINA VAUGHAN et WELLS 1943

Familia: PARASMILIIDAE ALLOITEAU 1952

Subfamilia: DESMOPHYLLINAE VAUGHAN et WELLS 1943

Genus: *Conicosmilotrochus* nov. gen.

Origin of name: the genus is similar to the genus *Smilotrochus*.

Type species: *Conicosmilotrochus stranicensis* n. sp.

Diagnosis and description: A small, ceratoid solitary coral with a pointed base bent on one side. The calice is of round to oval and compressed shape. There are 4–5 cycles of septa. The first 12 septa more or less stand out according to their thickness. In the upper part of the corallum their axial ends are either narrowed or else are thickened in a club-shaped way, whereas towards the bottom of the corallum the septa are always thickened. There is no columella and only in places do the septa touch one another and thus fill out the fossula. There is no endotheca. The wall is septothecal and costate. The lateral side of the septa is always dentate. The microstructure is made up of tiny sclerodermites, which are arranged in several trabeculae.

Comparison and classification: In its septal structure the new genus can be compared with the genus *Smilotrochus* MILNE-EDWARDS et HAIME 1851, but the latter has trochoid-cuneiform corallum, a present endotheca and axial extensions of septa, which form a parietal columella (see ALLOITEAU 1952: 633; 1957: 82–83). Because of the presence of an endotheca ALLOITEAU even ascribes the genus *Smilotrochus* to the suborder Meandriina.

The above-described microstructure, the ceratoid corallums, the septal structure and the lack of an endotheca place our genus in the suborder Caryophylliina, and the lack of a columella and of pali place it in the subfamily Desmophyllinae.

Conicosmilotrochus stranicensis n. gen. n. sp.

Pl. 11–12

Origin of name: After the village Stranice

Holotypus: Specimen 77

Type locality: The former quarry in Stranice

Material: Specimens 53, 56, (?) 57, 58, 59, 77, W —3, W —5

Horizon: Santonian-Campanian.

Diagnosis: *Conicosmilotrochus* with an oval calice, septa in 5 cycles, the first 12 being more pronounced; towards the middle and the bottom of the corallum they become thicker.

Description: The corallum is ceratoid, with a very pointed and bent base. It widens towards the top at an angle of 40°. The outer side of the corallum is ribbed owing to the costae. The calice is oval, the ratio of longer and shorter diameter is 3:2. The septa are compact. They are developed in a hexameral system, in 5 cycles. The first 12 septa of the first and second

cycles reach to the middle of the corallum. They are much thicker and longer than the other septa. Toward the bottom of the corallum they become even thicker. Their axial thickenings almost touch. Between two thick septa there are three thinner ones. Only in the lateral longer side of the calice do the septa of a fifth cycle creep in and give the septal structure a bilateral appearance. The lateral side of the septa is fairly dentate. The wall is septothecal. There is no columella and no pali. The microstructure is of simple trabeculae with a dark central line. It is described at the genus.

Dimensions: $h = 14-16$ mm, $D = 8-10$ mm, $d = 7-8$ mm, $s = 54-70$ ($6 + 6 + 12 + 24 + S5$).

Comparison: *C. stranicensis* differs from the other species in its oval calice, the number of septa and the dimensions of its corallum.

New localities: The former quarry in Stranice (53, 56 to 59, 77) and Radana vas (W —3, W —5), Santonian-Campanian.

Conicosmilotrochus strictus n. gen. n. sp.

Pl. 13—14

Origin of name: Strictus, lat. narrow, pressed (corallum)

Holotypus: Specimen 64

Type locality: The former quarry in Stranice

Horizon: Santonian-Campanian

Material: Specimens 52, (?)54, 62, 63, 64, 65, 66, 67, 68, 69, 70, W —1, W —2, W —4

Diagnosis: *Conicosmilotrochus* with a compressed corallum and a very narrow calice. The septa of the first two cycles are only a little thicker than the others. Dimensions see below.

Description: The corallum is ceratoid, the pointed base is bent. It grows upwards at an angle of $25-40^\circ$. The septa are similar to those of *C. stranicensis*, the first two cycles being not very thick. In the upper part of the corallum the axial septa are not thickened. Some costae are sharply pointed, but some are rounded. Lateral teeth are numerous, but are less pointed than in *C. dentatus*. The wall is septothecal, the microstructure as in the genus.

Dimensions: $h = 14-22$ mm, $D = 11-13$ mm, $d = 3-5$ mm, $s = 54-58$.

Comparison: Given in the description of the species. This species has a more compressed corallum and therefore a narrower calice than the other two species.

New localities: The former quarry in Stranice (52, [?]54, 62 to 70), and Radana vas (W —1, W —2, W —3), Santonian-Campanian.

Conicosmilotrochus dentatus n. gen. n. sp.

Pl. 15

Origin of name: The lateral side of the septa is strongly dentate

Holotypus: Specimen 73

Type locality: The former quarry in Stranice

Horizon: Santonian-Campanian

Material: Specimens 55, 60, 61, 72, 73, (?)74

Diagnosis: *Conicosmilotrochus* with an oval calice, in the upper part of the corallum the septa are thin and laterally strongly dentate, the corallum is higher than in *C. stranicensis*.

Description: The corallum is ceratoid, and the angle of growth is 30° . The outer side is ribbed, here and there epithecal rings are preserved. The calice is oval, the ratio of the longer and the shorter diameter is 3 : 2. The septa are developed in 5 cycles. The first two are thick in the periphery and thinner in the axial part. But towards the bottom of the corallum all the axial parts of the septa become thicker. These thickenings almost touch. The lateral side of the septa is full of sharp teeth, which alternate on either side and make the septa appear to be twisting. The wall is septothecal and thick, the costae are rounded.

Dimensions: $h = 20-22$ mm, $D = 10-13$ mm, $d = 7-9$ mm, $s = ca 60$.

Comparison: *C. dentatus* differs from *C. stranicensis* in having thinner axial septa in uppermost part of the corallum, in its numerous sharp lateral teeth, and in its higher corallum. Strongly dentate septa can be observed in the genus *Dasmia*, which, however, is much bigger, has no costae, and the wall is thin.

New locality: The type locality only.

Subordo: FUNGIINA VERRILL 1865

Familia: ACROSMILIIDAE ALLOITEAU 1952

(= LEPTOPHYLLIIDAE VAUGHAN 1905 p.p.)

Genus: *Acrosmilia* d'ORBIGNY 1849

Acrosmilia conica (d'ORBIGNY 1850)

Pl. 16

Description: The corallum is flabellate, with a wide flat base. In the upwards direction it widens quickly, a little more to one side than to the other. The calice is elongated with an uneven, ribbed edge. The septa are rarely perforated, twisted, and developed in 4—5 cycles. The first two reach to the middle. Their trabecular prolongations form a parietal columella. The next cycles are shorter, the fifth appearing only as costae. The wall is synapticuloparathecal. The endotheca consists of rare dissepiments and synapticuloparathecal. The microstructure of the septa is of simple trabeculae. In the columella there are large sclerodermites.

Dimensions: $h = 20-25$ mm, $D = 35$ mm, $d = 15-20$ mm, $s = ca 90$.

Comparison: OPPENHEIM (1930: 148) ascribed the species *Acrosmilia conica* d'ORBIGNY to the genus *Leptophyllia* REUSS. But *Leptophyllia* has no columella, and OPPENHEIM's revision was not acknowledged either by ALLOITEAU (1952: 666) or by WELLS (1965: 385).

Distribution: Santonian of Southern France and of Gosau, and (?) Cenomanian of Greece.

New locality: Rugelj in Stranice (32, 34), Santonian-Campanian.

Genus: *Stephanosmilia* FROMENTEL 1862
(?) *Stephanosmilia polydectes* KOLOSVÁRY 1954

Pl. 17

Description: The corallum is turbinate with the flat base. It widens only a little in the upwards direction. The outside wall is ribbed. The calice is round. The septa are perforated, they are curved and irregularly thickened. They are joined by synapticulae and traverses. The whole skeleton looks very irregular and vermiculate. The septa of the first two cycles are thicker and less perforated, whereas the septa of younger cycles are more perforated. They all are laterally dentate. The axial part of the corallum is filled by the prolongations of the septa (or irregular pali?), which form a dense papillous or parietal columellar structure. The wall is not preserved. The endotheca is of synapticulae. The microstructure is of single and double trabeculae, which are thicker where they intersect the traverses.

Dimensions: h = 40 mm, d = 12, s = ca 80.

Comparison: Our specimen fits in with the KOLOSVÁRY's species *S. polydectes*. KOLOSVÁRY (1954) in his description mention 34 septa only, but his figures show about 80 of them. It is not certain whether this species belongs to the genus *Stephanosmilia*, which is ascribed to the family Caryophylliidae (WELLS 1956: 424, ALLOITEAU 1958: 191). The first description of the genus is not in my disposal. But the our specimen and KOLOSVÁRY's specimens have perforated septa and synapticulae, therefore I place them to the fungiid family Acrosmiliidae.

Distribution: Santonian-Campanian of Hungary.

New locality: The quarry in Stranice (75), Santonian-Campanian.

Familia: CUNNOLITIDAE ALLOITEAU 1952
(= CYCLOLITIDAE d'ORBIGNY 1851)

Genus: *Cunolites* BARRÈRE 1746
(= *Cyclolites* LAMARCK 1801 p. p.)

In 1952 (666) and, in even more detail, in 1957 (331—351) ALLOITEAU made a revision of the original material and first descriptions of the genus *Cyclolites* LAMARCK. He found that the type species of this genus is *C. numismalis*, which is of Palaeozoic age. The Cretaceous species, *C. elliptica*, which was

established by MILNE-EDWARDS et HAIME (1850: XLVI) as a type species of the genus *Cyclolites*, had been previously described and had appeared under the name *Cunolites*. GÉCZI (1954: 131) holds that the name *Cyclolites* has been known and used for such a long time that it can be considered as a nomen conservandum, as in the case of *Nummulites* and *Camerina*. The name *Cyclolites* was kept also by WELLS (1956) and ŞURARU (1961).

I think GÉCZI is right. According to the rules of nomenclature the first-named species in some treatise, such as the species *C. numismalis* in the case of LAMARCK's genus *Cyclolites*, does not necessarily have to be declared the type species of the genus. *C. elliptica* could still have been considered as the typical species. Taking into account its use over a period of 150 years the genus *Cyclolites* could have remained valid. However, ALLOITEAU cannot be reproached for incorrectness, but only, perhaps, for his over-exactness, which has created non-uniformity.

Most present-day researchers have followed ALLOITEAU's revision (PAŠIĆ 1951; 1953, M. BEAUVAIS 1964, ČEŠMEDŽIEVA 1970; 1971; 1973). In order to avoid any further confusion and non-uniformity I myself will be using the name *Cunolites*.

The genus *Cunolites* has undergone further revision. From the Senonian species ALLOITEAU (1952) distinguished, apart from the genus *Cunolites*, the genus *Plesiocunolites* (type species *Cyclolites ellipticus* var. *subcircularis* OPPENHEIM 1930). He distinguished it from the latter on the basis of the following differences: the genus *Plesiocunolites* has few pores in the septa of the first and second cycles (whereas they are frequent in the genus *Cunolites*), it has very few dissepiments (numerous in *Cunolites*), it has septal teeth without indentations and regular sclerodermites, whereas the genus *Cunolites* has irregular sclerodermites.

M. BEAUVAIS (1964) added two new genera to the two above mentioned genera: the genus *Plesiocunolites*, which is distinguished from *Plesiocunolites* by its abundant endotheca, and the genus *Paracunolites*, which is distinguished from *Cunolites* by its low corallum and parietal columella.

However, if we follow the descriptions of the individual species, we can see that the above mentioned differences in structural elements are not so consistent.

While studying our material I found that in all the genera the septa of the first and second cycle are compact in lower part of the corallum, while they become perforated in the upper and axial part of the corallum. However, a distinction can be made between the thinner, laterally more dentate septa which, on the outside, appear to be more porous (*Cunolites*, *Paracunolites*), and the thicker, laterally less dentate or smoother septa, which appear more compact (*Plesiocunolites*, *Plesiocunolites*). An endotheca, too, occurs in all the genera. I have made numerous sections in several directions, and have established that even in the same corallum it is variously frequent. It can always be best observed in a vertical section along the centre of the corallum. I did not find a columella in any of our specimens; in the fossula there are sometimes the fragments of septal teeth in places only.

It is interesting to note that the division into thinner (more dentate) and thicker (smoother) septa fits in with the division into groups given by GÉCZI (1954): group of species with strong septa and of species with thin septa. GÉCZI further distinguished between specimens with a high corallum and those with a low one, which applies to our specimens and the four above-mentioned genera, too. Our specimens with thin septa usually have a complete epitheca, whereas in the specimens with thicker septa the epitheca is preserved only in the form of concentric rings.

We can see that all the above-mentioned features are not sufficient for the distinguishing of the genera. So I propose that the genera *Cunolites*, *Plesiocunolites*, *Paracunolites* and *Plesiocunolitesopsis* be treated as subgenera within the genus *Cunolites*.

The genus *Cunolites* thus can be divided into the following subgenera:

Cunolites (Cunolites): Septa are thinner. The first and the second cycles are compact, but dentate, the younger are perforated. Endotheca is abundant, corallum is high, epitheca badly preserved.

Cunolites (Paracunolites): The structure of skeleton the same as in subgenus *Cunolites*, corallum is low, epitheca preserved.

Cunolites (Plesiocunolites): Septa are thicker. First two cycles are compact and smooth (rare teeth). Endotheca is abundant, Corallum is low, epitheca consists of concentric rings.

Cunolites (Plesiocunolitesopsis): Septa as in *Plesiocunolites*, endotheca abundant, epitheca in rings or not preserved, corallum is high.

Subgenus: *Cunolites (Cunolites)* BARRÈRE 1746 (em. ALLOITEAU 1957)

The type species is *Cunolites ellipticus*. According to ALLOITEAU this genus (now subgenus) has numerous septa, which are thin, and highly perforated. The endotheca is made up of numerous synapticulae and dissepiments. When making a careful examination of the thin sections, which show the cross-section parallel to the basal plate and right next to it, I found that the first and second cycle of septa are not perforated, but are compact. They have only numerous small round teeth, which give an appearance of uncompact septa. The main characteristics of the subgenus see above.

Cunolites (Cunolites) profundus (OPPENHEIM 1930)

Pl. 18—19

Description: The corallum is high, and semicircular. The base plate is round to oval, and concave. The stem is in the middle, but it is not always preserved. The septa are described under the description of the subgenus. An endotheca is common, consisting of synapticulae and vesicular dissepiments, which are seen only in some vertical section. There is no columella. The fossula is oval, and has a length of up to one-third of the long diameter. In this axial opening broken fragments of septal teeth can sometimes be observed. These are neither pali nor a columella.

Dimensions: $h = 9-13$ mm, $D = 20-35$ mm, $d = 18-34$ mm, $f = 10$ mm, $s = 18-20/5$ mm.

Comparison: The most up-to-date description of this species, given by GÉCZI (1954), fits in with our specimens. He placed *C. profundus* as a subspecies of *C. reussi*. I separate them again. *C. reussi* is more oval, with a flat (not concave) plate and a longer fossula. The specimens from Fruška gora mentioned by PAŠIĆ (1953) are larger. However, as she did not mention the structure of the septa and endotheca, it is difficult to compare the material.

Distribution: Santonian-Campanian of Gosau and of Hungary, Santonian of Portugal, (?) Campanian-Maastrichtian of Fruška gora.

New localities: Vrabečka gora (1 —1, 1 —2, 2 —2, 2 —6, and a copies of 2 —1, 2 —16), Novaki (4 —1, 6 —3, 7 —2), and Rušovski brijeg (11 —6), all on Mt Medvednica, Senonian.

Cunolites (Cunolites) reussi (FROMENTEL 1862)

Pl. 20, Fig. 1—6

Description: The base plate is flat and oval in shape, and is covered with an epitheca. In the middle there is a triangular stem. The septa are typical, thin, dentate, being developed in four cycles. All reach up to the fossula which takes up about half the diameter of the calice.

Dimensions: $h = 10-13$ mm, $D = 31-34$ mm, $d = 25-31$ mm, $f = 15$ mm, $s = 20/5$ mm.

Comparison: The specimens named by PAŠIĆ (1953) as *C. reussi*, were described by ČEŠMEDŽIEVA (1970: 41—42, 45, Pl. 2, Fig. 3—4) as a new subspecies *Plesiocunolites reussi krassavensis*, because of their much longer fossula (25 mm).

M. BEAUVAIS (1964) and ČEŠMEDŽIEVA (1970; 1971) place the species *reussi* in the genus *Plesiocunolites*. But it has thin, dentate septa and a high corallum which are characteristics of the subgenus *Cunolites*. GÉCZI (1954: 82), too, placed it in the group of species with tiny septa and a high corallum.

Distribution: Santonian-Campanian of Gosau and of Sümeg in Hungary, Upper Santonian of Southern France, Lower Maastrichtian of Bulgaria.

New localities: The quarry in Stranice (1031a) and Radana vas (W—6), Santonian-Campanian.

Cunolites (Cunolites) sellata (QUENSTEDT 1880)

Pl. 20, Fig. 7—8

Description: The species has been exactly described by M. BEAUVAIS (1964: 537). The base plate is oval and covered with a thick epitheca of concentric and radial ribs. The stem is somewhat convex. The edge of the plate

is sharp. The upper part of the corallum is irregular, the fossula is situated at right angle to the longer axis, and, as well as this, eccentrically. The septa and endotheca are typical for this subgenus.

Dimensions: $h = 10$ mm, $D = 30$ mm, $d = 23$ mm, $f = 8$ mm, $s = 15-18/5$ mm.

Comparison: M. BEAUVAIS (1964) ascribed this species to the genus *Plesiocunolites*. However, it has thin, dense dentate and regularly perforated younger septa and a complete epitheca. These properties place it in the subgenus *Cunolites*.

Distribution: Santonian of Gosau.

New locality: Rugelj in Stranice (9), Santonian-Campanian.

Subgenus: *Cunolites* (*Paracunolites*) M. BEAUVAIS 1964

M. BEAUVAIS (1964) distinguished the genus *Paracunolites* from *Cunolites* in that it has "discoid", i.e. low corallum and parietal columella, all the other structures being the same as in *Cunolites*.

But our specimens have no columella. There are only some fragments of septal teeth in fossula. So they differ from *Cunolites* only in lower corallum. I place *Paracunolites* as subgenus in the genus *Cunolites*. It fits in with the group with tiny septa and a low corallum of GÉCZI (1954).

Cunolites (*Paracunolites*) *scutellum* (REUSS 1854)

Pl. 21

Description: The corallum is low. The ratio $h:D$ is 1:6. The base plate is round and is covered with an epitheca. It is slightly concave, with a stem in the middle. The edge is sharp. The septa are thin, dense, and of the same structure as described under the subgenus *Cunolites*. Perhaps the septa of younger cycles are somewhat less perforated. The fossula has a length of up to $1/4$ of its diameter. Columella absent.

Dimensions: $h = 4-5$ mm, $D = 23-31$ mm, $d = 21-29$ mm, $f = 5-8$ mm, $s = 16-18/5$ mm.

Comparison: Our specimens fit in with REUSS' (1854) and FELIX' (1903) material, except that the epitheca is better preserved. Specimens 1 and 2 are somewhat higher but still in the variation range of this species. The specimens mentioned by PAŠIĆ (1953) are much larger in all probability they do not belong here. Very similar in outward appearance is *Cyclolites choffati* from Portugal (FELIX 1903 b: Taf. 3, Fig. 3), but its septa are of uneven thickness and laterally smooth, i.e. without teeth or ornamentations. These properties bring in close to the subgenus *Plesiocunolites*.

Distribution: Santonian of Abtenau in Austria and of Romania.

New locality: Rugelj in Stranice (1, 2, 4, 17), Santonian-Campanian.

Subgenus: *Cunolites* (*Plesiocunolites*) ALLOITEAU 1952

In 1952 ALLOITEAU named the genus *Plesiocunolites* on the basis of the type species *Cyclolites ellipticus* var. *subcircularis* OPPENHEIM 1930. He states that this is *Cunolites* with a narrow fossula and thick, subcompact septa and completely without an endotheca.

We have already found (compare the chapter on the genus *Cunolites*) that the first and second cycle of septa are compact, as in the case of the subgenus *Cunolites*. They are perforated only in the axial part of the corallum, whereas all the younger septa are more perforated. But all of them have only rare lateral teeth. The endotheca is present, more or less frequently, and is composed of synapticalae and vesicular dissepiments, which can be best seen in the vertical central cross-section of the corallum.

The difference between the genus *Cunolites* and *Plesiocunolites* thus lies only in the greater degree of dentation and perforation of the septa in the lower part of the corallum. On the basis of such features we can place the *Plesiocunolites* only as a subgenus to the genus *Cunolites*. The subgenus *Plesiocunolites* fits in with GÉCZI's (1954) group of *Cyclolites* which have strong septa and low corallums.

Cunolites (*Plesiocunolites*) *orbignyi* (FROMENTEL 1864)

Pl. 22-24

Description: The corallum is low, the base plate is flat and oval, the stem is raised a little. The edge of the base plate is rounded. The upper surface of the calice is unequally convex. The fossula is long and narrow. The septa and endotheca are described under the subgenus.

Dimensions: $h = 7-14$ mm, $D = 40-45$ mm, $d = 32-38$ mm, $s = 11-12/5$ mm.

Comparison: In his text FELIX (1903) mentioned that the corallum had a height of 33 mm. This must be a mistake, since on the picture of the biggest specimen we can measure a height of 15 mm. The species *orbignyi* differs from *C. (P.) macrostoma* in its lower corallum, from *choffati* (FELIX 1903 b) in its much longer fossula.

Distribution: Santonian of Southern France and of Gosau, Santonian and Campanian of Hungary and of Romania.

New localities: Rugelj in Stranice (18 to 27), the quarry in Stranice (1031 b), Zreče (Ve —1), Santonian -Campanian and Rušovski brijeg on Mt Medvednica (11 —2, 11 —5), Senonian.

Cunolites (*Plesiocunolites*) *undulata* (GOLDFUSS 1826)

Pl. 25, Fig. 7-9

Description: The base plate is oval, and slightly concave in the middle. It is covered with a folded epitheca. The stem is raised, the edge is very sharp. The upper side of the corallum is raised only in the middle of

the calice, along the edge it is flattened. The fossula is situated in the middle; it is long, and oval. The septa and endotheca are described under the subgenus.

Dimensions: $h = 12$ mm, $D = 30$ mm, $d = 26$ mm, $f = 11$ mm, $s = 9/5$ mm.

Comparison: REUSS (1854) did not give the exact dimensions, except those of the length of the base plate. M. BEAUVAIS (1964: 537) made an accurate comparison, and our specimen corresponds wholly with his description. In this species GÉCZI (1954: 85) mentioned a large number of septa (17/5) and his specimens perhaps do not belong here.

Distribution: Santonian of Southern France and of Gosau, Santonian-Campanian of Hungary and of Romania, Maastrichtian of Bulgaria.

New locality: Rugelj in Stranice (5), Santonian-Campanian.

Cunolites (Plesiocunolites) faecata (STOLICZKA 1873)

Pl. 25, Fig. 1—6

Description: The corallum is low, the base plate is oval and covered with the concentric rings of an epitheca. The edge is rounded, the fossula is wide and elongated.

Dimensions: $h = 7$ — 9 mm, $D = 29$ — 33 mm, $d = 21$ — 29 mm, $f = 12$ — 15 mm, $s = 12$ — $15/5$ mm.

Comparison: This species differs from *C. (P.) platystoma* in its longer fossula. It is similar to "*Cyclolites*" *spinoza* STOLICZKA which has laterally dentate thinner septa and shorter fossula, which places it in the subgenus *Paracunolites*.

Distribution: Senonian of India, Campanian and Maastrichtian in Eastern Serbia.

New localities: Rugelj in Stranice (7, 10 to 16), Zreče (Ve —2) Santonian-Campanian.

Cunolites (Plesiocunolites) gosavicus (OPPENHEIM 1930)

Pl. 26, Fig. 1—4

Description: The base plate is flat, the stem is raised a little. The edge is rounded. The calice is of medium height. The fossula lies at right angles to the longer axis. The septa are thin and laterally very rarely dentate.

Dimensions: $h = 11$ mm, $D = 29$ mm, $d = 24$ mm, $f = 9$ mm, $s = 20/5$ mm.

Comparison: It is difficult to place this species either in the subgenus *Plesiocunolites* or in the *Cunolites*. For it has thin septa like *Cunolites*, but they are laterally very rarely dentate as in *Plesiocunolites*. Here I give the priority to the ornamentations and I ascribe the species to *Plesiocunolites*. This species is intermediate between the two mentioned subgenera.

Distribution: Senonian of Gosau.

New locality: Rugelj in Stranice (8), Santonian-Campanian.

Cunolites (Plesiocunolites) nummulus (REUSS 1854)

Pl. 26, Fig. 5—7

Description: The corallum is very small. Its base plate is circular in shape and flat; the edge is rounded. The fossula is normal.

Dimensions: $h = 5$ — 7 mm, $D = 16$ — 18 mm, $d = 15$ — 17 mm, $f = 6$ mm, $s = 10/5$ mm.

Comparison: The smallness of the corallum brings this species close to *C. (P.) dispar*, which has much more densely spaced septa (21/5 mm). The specimens mentioned by PAŠIĆ (1953) as *Cunolites nummulus* are too big for this species. In all probability they belong to the species *pseudonummulus* (see OPPENHEIM 1930: 133, GÉCZI 1954: 19, 92—93).

Distribution: Senonian of Gosau, Santonian-Campanian of Romania and of Hungary.

New localities: Vrabečka gora (2 —7), Rušovski brijeg (11 —3, [?] 11 —1), both on Mt Medvednica, Senonian.

Cunolites (Plesiocunolites) dispar (QUENSTEDT 1880)

Pl. 27, Fig. 1—4

Description: An exact description has been given by M. BEAUVAIS (1964).

Dimensions: $h = 5$ mm, $D = 15$ mm, $d = 14$ mm, $f = 2$ mm, $s = 21/5$ mm.

Comparison: The small corallum brings this species close to *C. (P.) nummulus*, which has much more sparse septa (10/5 mm). The species *dispar* is intermediate between the subgenera *Paracunolites* and *Plesiocunolites*. It has thin, densely spaced septa like *Paracunolites*, but they are smooth, with rare lateral ornamentations like in *Plesiocunolites*.

Distribution: Santonian and Campanian of Gosau, Upper Santonian of Southern France.

New locality: Radana vas near Stranice (W —7), Santonian-Campanian.

Cunolites (Plesiocunolites) cycloides (FELIX 1903)

Pl. 27, Fig. 5—7

Description: The base plate is round and is covered with concentric epithecal rings. The edge is sharp. Characteristic is the fossula, which is parallel to the long axis, but not in the centre of the calice. Thus it divides the calice into two parts, the smaller of which is the higher.

Dimensions: $h = 15$ mm, $D = 32$ mm, $d = 28$ mm, $f = 10$ mm, $s = 13\text{--}16/5$ mm.

Comparison: The shape of the corallum and of fossula are typical for this species. Thick septa with very rare dentate lateral sides place this species in the subgenus *Plesiocunolites*.

Distribution: Senonian of Gosau, Santonian-Campanian of Romania.

New locality: Radana vas near Stranice (W—8), Santonian-Campanian.

Cunolites (Plesiocunolites) cf. depressa (REUSS 1854)

Pl. 27, Fig. 8—10

Description: The base plate is slightly oval. It is covered with concentric epithecal rings. The edge is flat and wide because the epitheca extends upwards over the edge of plate. The corallum is raised in the middle of the calice, and flattened at the periphery. The fossula is long, lying somewhat out of the centre. The septa are like those of the subgenus.

Dimensions: $h = 17$ mm, $D = 46$ mm, $d = 43$ mm, $f = 18$ mm, $s = 13/5$ mm (340).

Comparison: Our specimen is bigger than the original, so I have marked it with cf. It differs from other similar species in following: *C. (P.) orbigny* is more oval and lower, *cycloides* is smaller with a very eccentric fossula, *macrostoma* is higher.

Distribution: Senonian of Gosau. REUSS (1854) mentioned this species also from Dobrova, that is near Stranice.

New locality: Radana vas (W—9), Santonian-Campanian.

Subgenus: *Cunolites (Plesiocunolites)* M. BEAUVAIS 1964

The genus *Plesiocunolites* was established by M. BEAUVAIS (1964) on the basis of *Fungia robusta* QUENSTEDT 1880. He distinguished it from the genus *Plesiocunolites* by its abundant endotheca, and by the ornamentation of septa, which are not moniliform but are dentate. Corallum is high.

It has already been noted that *Plesiocunolites*, too, has frequently endotheca. Thus *Plesiocunolites* is distinguished from it only by the greater density of its dissepiments. The septa are the same in both "genera". So I place *Plesiocunolites* as a subgenus within the genus *Cunolites*. It fits in with GÉCZI's (1954) group of *Cyclolites* which have strong septa and high corallum.

Cunolites (Plesiocunolites) robusta (QUENSTEDT 1880)

Pl. 28—29

Description: The corallum is high, the base plate being round to oval. It is covered with concentric epithecal rings, which extend over the edge. The upper surface of the calice is almost hemispherical, and is somewhat irregular. The fossula is narrow, elongate, and parallel to long diameter. The septa and endotheca are described under the subgenus.

Dimensions: $h = 21\text{--}25$ mm, $D = 42\text{--}50$ mm, $d = 37\text{--}42$ mm, $f = \text{ca } 20$ mm, $s = 10\text{--}11/5$ mm.

Comparison: M. BEAUVAIS (1964: 539) was justified in ascribing *Cyclolites rugosus* and *C. gappii* (OPPENHEIM 1930: 113) to this species.

Distribution: Upper Santonian of Gosau, Senonian of Sümeg in Hungary, Santonian-Campanian of Romania.

New localities: Rugelj in Stranice (6), the quarry in Stranice (1035), Radana vas (W—10), Santonian-Campanian.

Cunolites (Plesiocunolites) longifossata (ČEŠMEDŽIEVA 1973)

Pl. 30

Description: The corallum is high, its base plate is oval and slightly concave, the edge is sharp. The stem is not preserved. The upper surface of calice is asymmetrically raised. The fossula runs parallel to the long axis and divides the calice into two parts, of one which is higher and shorter, the other being lower and longer. Septa as is the subgenus.

Dimensions: $h = 20\text{--}30$ mm, $D = 38\text{--}48$ mm, $d = 34\text{--}44$ mm, $f = \text{ca } 30$ mm, $s = 12/5$ mm.

Comparison: The corallum is high and the endotheca is very rich, so this species belongs to the subgenus *Plesiocunolites*. ČEŠMEDŽIEVA (1973) described her specimens as a new subspecies of *P. mitissimus*. But the much greater height of the corallum and the longer fossula justify us in considering it to be an independent species. It is of the same structure as *Cyclolites* nov. sp. 1. (GÉCZI 1954: 15—16, 89, Tab. 8, Fig. 10—11).

Distribution: Senonian of Hungary, Maastrichtian of Bulgaria.

New localities: Novaki (5—1, 6—1, 6—2), Vrabečka gora (2—3), both on Mt Medvednica, Senonian.

Cunolites (Plesiocunolitopsis) sp.

Pl. 31

The specimen 29 has all the structural elements of the subgenus *Plesio-**cunolitopsis*. It does not fit in with the known species in dimensions. It is smaller. For the description of new species I have only one specimen.

Dimensions: h = 15 mm, D = 27 mm, d = 20 mm, f = cannot be seen, s = 10/5 mm.

STRATIGRAPHICAL COMPARISON OF THE SPECIES DESCRIBED

The coral species found at Stranice and on Mt Medvednica are also known from Gosau in Austria (REUSS 1854, FELIX 1903, OPPENHEIM 1930), from various places in southern France (ALLOITEAU 1939; 1952; 1952 b; 1957), from Portugal (FELIX 1903 b), from Sümeg and other places in Hungary (KOLOS-VÁRY 1954, GÉCZI 1954; 1959), from Romania (ŞURARU 1957; 1961), from Bulgaria (ČEŠMEDŽIEVA 1970; 1971; 1973), and even from India (STOLICZKA 1873).

In Yugoslavia the described species have been known so far from Fruška gora and some locations in eastern Serbia (PAŠIĆ 1951; 1953, MILOVANOVIĆ 1939, BOGDANOVIĆ 1968).

All the mentioned localities are of Santonian-Campanian age, except of Bulgaria and Serbia where they are mentioned in the Campanian and Maastrichtian horizons. Some of Gosau and Hungarian localities are placed into undivided Senonian (compare the table of stratigraphical distribution of the species in Slovene text; Fig. 2).

I have described 21 species of corals from localities in Slovenia. Of these 16 species would appear to be of Santonian-Campanian age, three species are new and only 3 would appear to be also of Maastrichtian age. After making comparisons with other mentioned localities we can place our strata in Stranice and Zreče with certainty in the Santonian-Campanian period. This age is confirmed by the position of the coral-bearing strata. They lie under the hyppurite limestones, which are of Campanian-Maastrichtian age (PLENIČAR 1971). The corals which are underlying are therefore older. We can place them in the Santonian and partly in the Campanian period.

Eleven species of corals have been described from the Mt Medvednica. Eight of them are known from the Santonian-Campanian beds and three come from the Maastrichtian. After making comparison with other localities it would be possible to consider the species from Mt Medvednica to be of Santonian-Campanian age. Three out of the eleven species, however, appear to be linked with the Maastrichtian localities in eastern Yugoslavia and Bulgaria (PAŠIĆ 1951; 1951 b; 1953), BOGDANOVIĆ (1968) and ČEŠMEDŽIEVA (1970; 1971; 1973).

So I deal with the corals of Mt Medvednica as being of Senonian age.

The coral localities on Mt Medvednica cannot be compared to the localities in Slovenia with much certainty, either. Of the 11 species from Mt Medvednica and 21 from Slovenia only two species occur in both areas. On

this basis it can be concluded that the two areas are either of the same age but with different conditions, or else that they are of different age.

If it is a reliable fact that the age of solitary corals in western Europe is Santonian-Campanian and that in some localities in eastern Europe it is Maastrichtian, then the possibility of migration of the previously mentioned fauna towards the East may be considered.

From the paleoecological point of view the fauna dealt with here are non-building corals which did not build reefs. They lived at greater depths in the sea. Some researchers found out that patellate and discoid forms are perhaps mobile, which moved on the muddy sea bottom, and trochoid ones suggest an unstable substrate (GILL et COATES 1977, COATES 1977). So it could be explained why they appear in marl and not in limestone.

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TABLE — PLATES

Vse fotografije zbruskov so negativi, zbrusek je povečan direktno na papir

All the photographs of thin sections are negatives, thin section being enlarged directly onto the paper.

TABLA 1

Aulosmilia cuneiformis (MILNE-EDWARDS et HAIME 1849)

Nahajališče: Stranice (28), Radana vas (79), santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 28, x 1
 Sl. 2. Isti vzorec, površina čaše od zgoraj. x 1
 Sl. 3. Prečni presek istega koraluma. Zbrusek 28 a, x 4
 Sl. 4. Podolžni presek spodnjega dela koraluma. Zbrusek 79 a, x 4

PLATE 1

Aulosmilia cuneiformis (MILNE-EDWARDS et HAIME 1849)

Locality: Stranice (28), Radana vas (79), Santonian-Campanian

- Fig. 1. The surface of the corallum, side view. Specimen 28, x 1
 Fig. 2. Surface of the calice of the same specimen. x 1
 Fig. 3. Thin cross-section of the same corallum. 28 a, x 4
 Fig. 4. Longitudinal section of the lower part of the corallum. Thin section 79 a, x 4

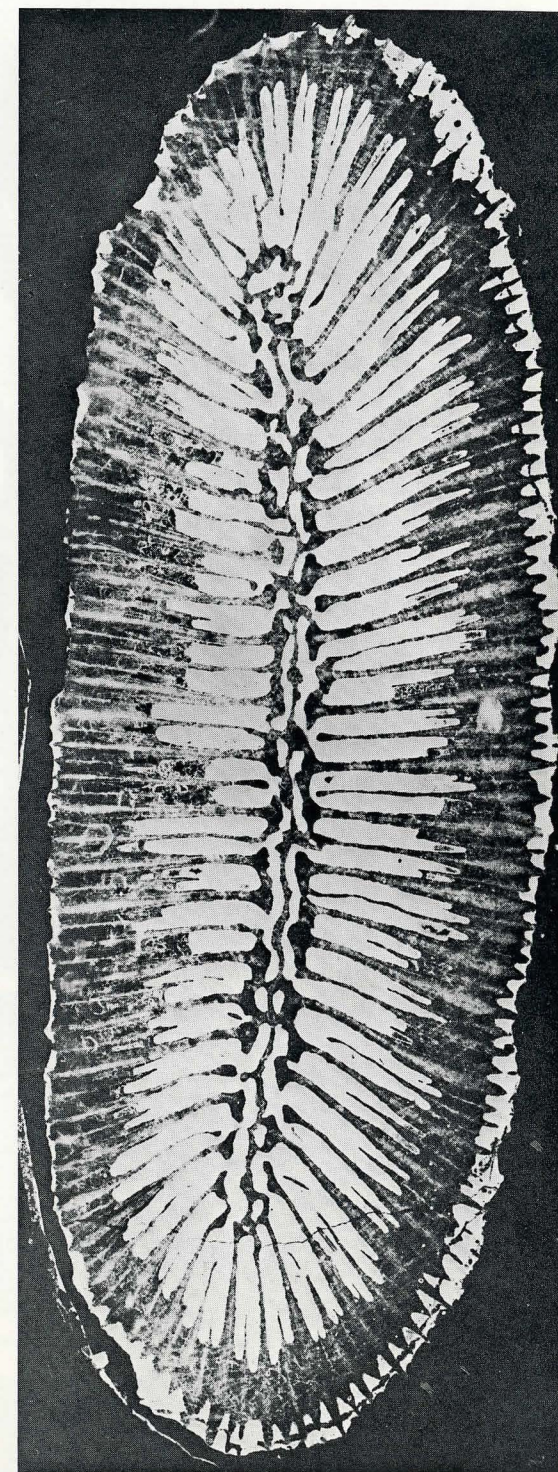
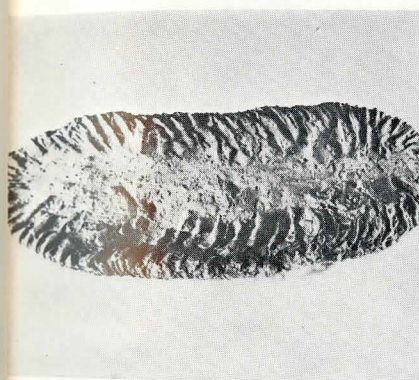
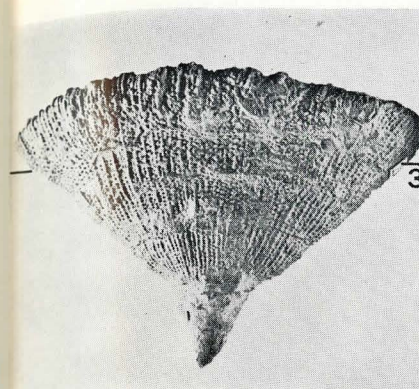


TABLA 2

Aulosmilia cuneiformis (MILNE EDWARDS et HAIME 1849)

Nahajališče: Stranice, santonij-kampanij

Sl. 1. Del prečnega preseka koraluma. Zbrusek 28 a, x 8

Sl. 2. Mikrostruktura, vidna je osrednja linija trabekul. Zbrusek 28 a, x 40

PLATE 2

Aulosmilia cuneiformis (MILNE EDWARDS et HAIME 1849)

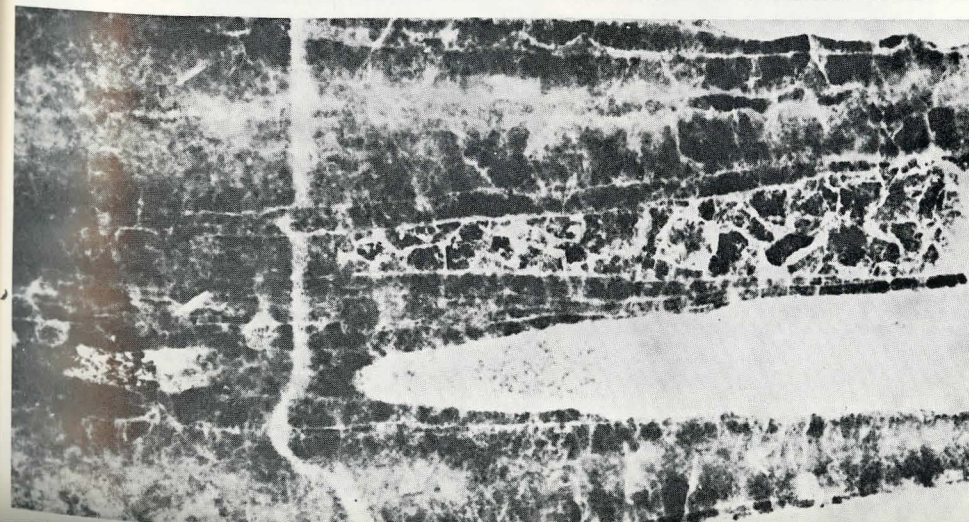
Locality: Stranice, Santonian-Campanian

Fig. 1. The part of the cross-section of the corallum. Thin section 28 a, x 8

Fig. 2. Microstructure, showing central line of the simple trabeculae. Thin section 28 a, x 40



1



2

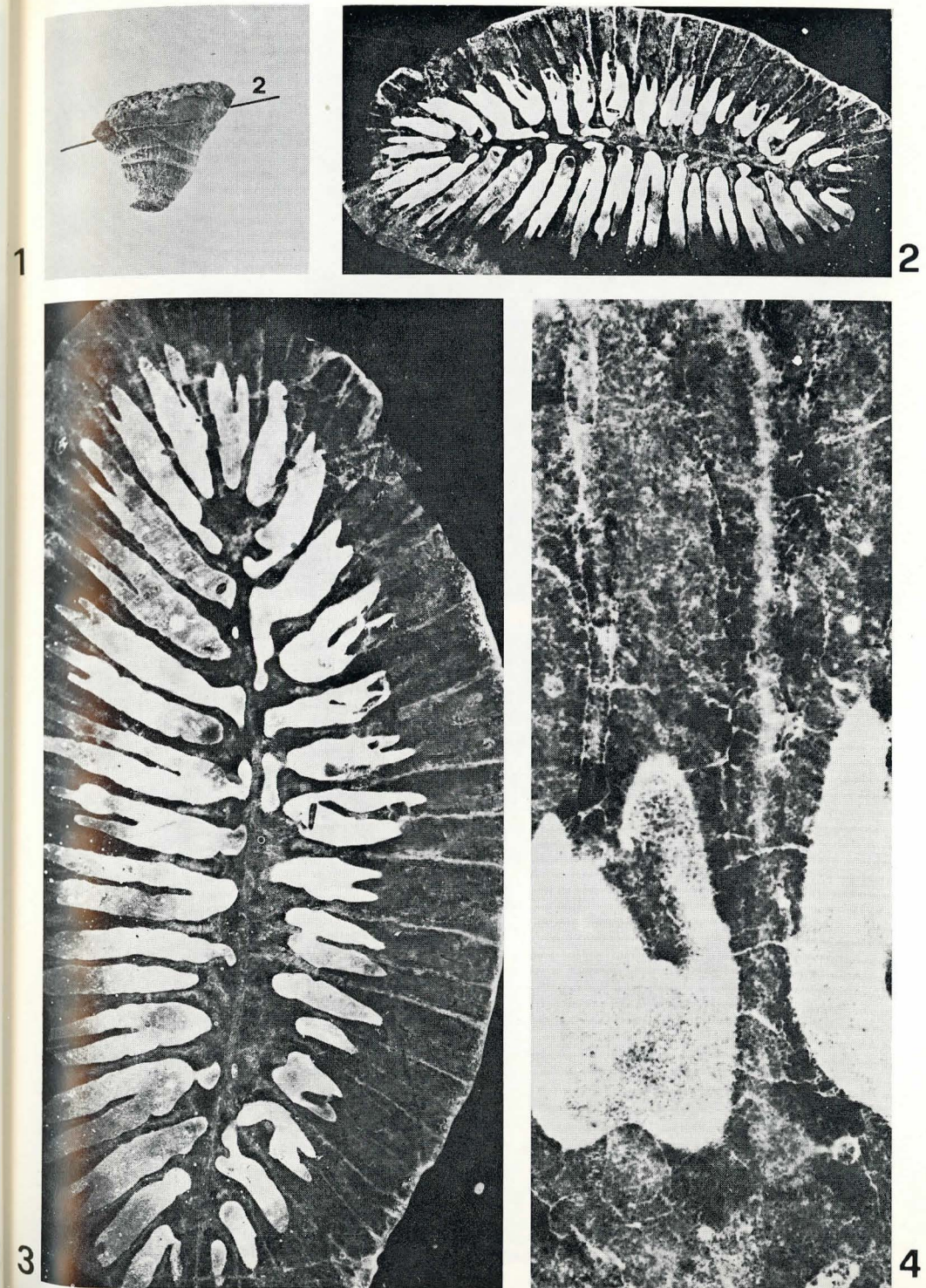


TABLA 3

Aulosmilia aspera (SOWERBY 1831)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 76, x 1
 Sl. 2. Prečni presek istega koraluma. Zbrusek 76 a, x 4
 Sl. 3. Isti presek kot na sl. 2. x 8
 Sl. 4. Mikrostruktura v septu in steni. Zbrusek 76 a, x 40

PLATE 3

Aulosmilia aspera (SOWERBY 1831)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from side. Specimen 76, x 1
 Fig. 2. Cross-section of the same corallum. Thin section 76 a, x 4
 Fig. 3. The same section as on Fig. 2. x 8
 Fig. 4. Microstructure, showing trabeculae in septum and in the wall. Thin section 76 a, x 40

TABLA 4

Phragmosmilia sp.

Nahajališče: Veliki potok na Medvednici, senonij

- Sl. 1. Skica koraluma, (vzorec 8 —1), x 1
 Sl. 2. Prečni presek koraluma, lepo so vidne aksialne spojivke sept. Zbrusek 8 —1 a, x 8
 Sl. 3. Mikrostruktura. Vlakna v trabekulah so pravokotna na osrednjo os. Zbrusek 8 —1 a, x 40

PLATE 4

Phragmosmilia sp.

Locality: Veliki potok on Mt Medvednica, Senonian

- Fig. 1. Sketch of the corallum (specimen 8 —1), x 1
 Fig. 2. Cross-section of the corallum, Note the axial junction of the septa. Thin section 8 —1 a, x 8
 Fig. 3. Microstructure, showing trabeculae with orthogonal fibres to the middle line. Thin section 8 —1 a, x 40

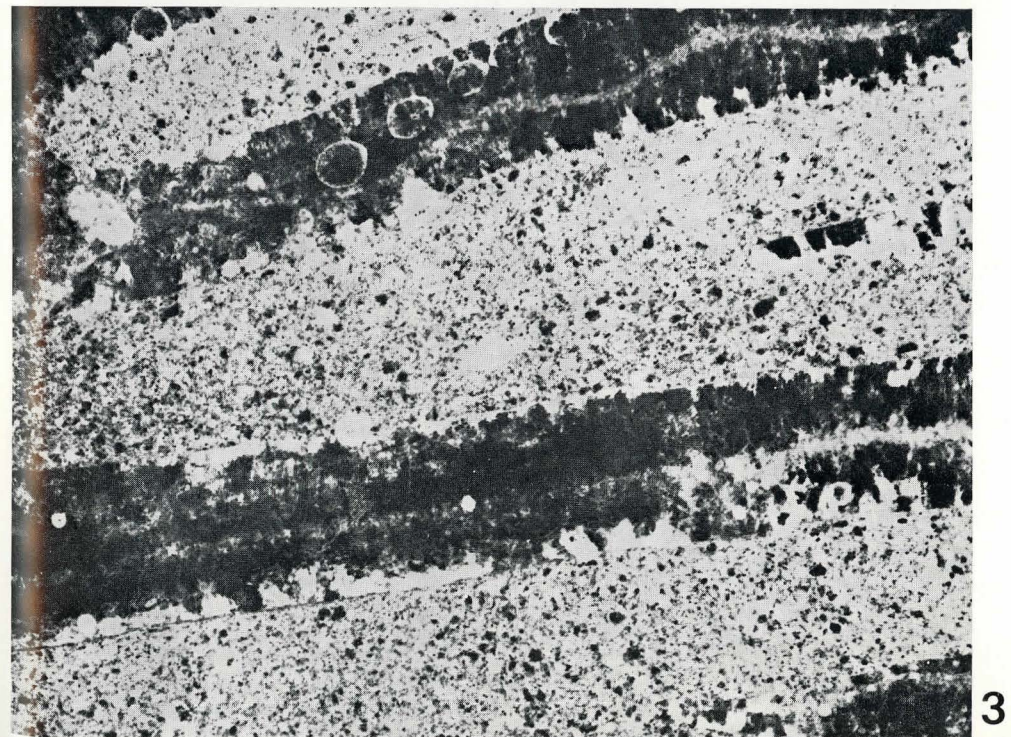
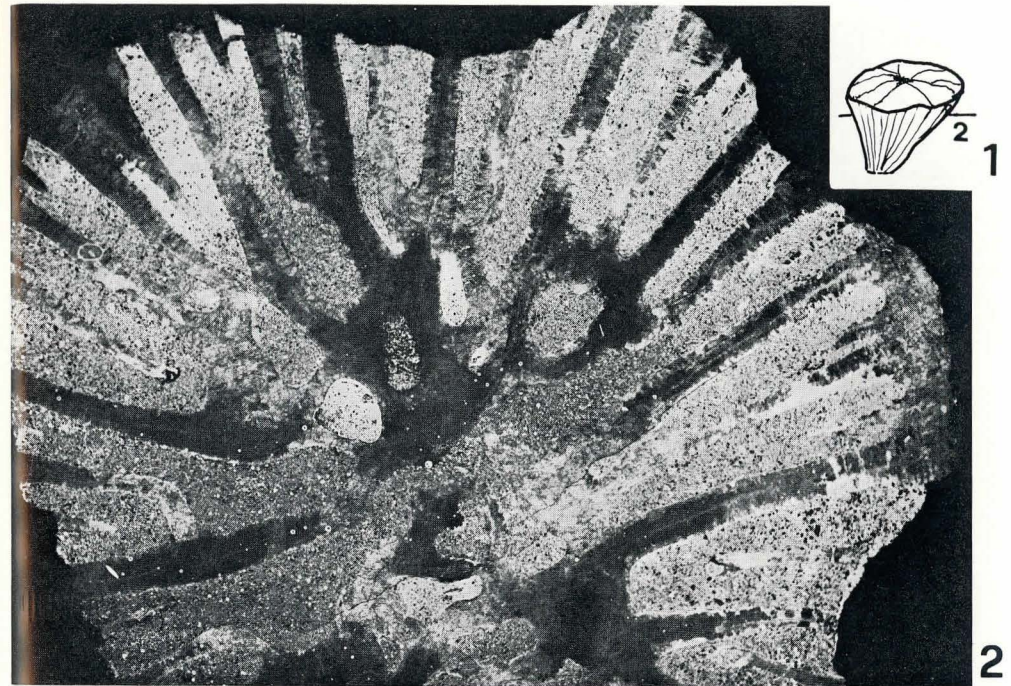


TABLA 5

Dasmiopsis lamellicostatus (REUSS 1854)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 78, x 1
 Sl. 2. Površina istega koraluma od zgoraj. x 1
 Sl. 3. Prečni presek istega koraluma v spodnjem delu, kjer se že pokaže jasna lamelarna kolumela. Zbrusek 78 a, x 4
 Sl. 4. Isti presek kot na sl. 3. V območju stene so kratka septa zadnjega cikla. x 8
 Sl. 5. Mikrostruktura, fibrolamelarna z odebelitvami ob zobcih. Zbrusek 78 a, x 40

PLATE 5

Dasmiopsis lamellicostatus (REUSS 1854)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from side. Specimen 78, x 1
 Fig. 2. The surface of the same corallum, from above. x 1
 Fig. 3. Cross-section of the same corallum in its lower part, where the lamellar columella can be seen. Thin section 78 a, x 4
 Fig. 4. The same section as on Fig. 3. In the wall there are short septa of the last cycle. x 8
 Fig. 5. Microstructure, lamellary fibrous, with the thickenings at the lateral teeth. Thin section 78 a, x 40

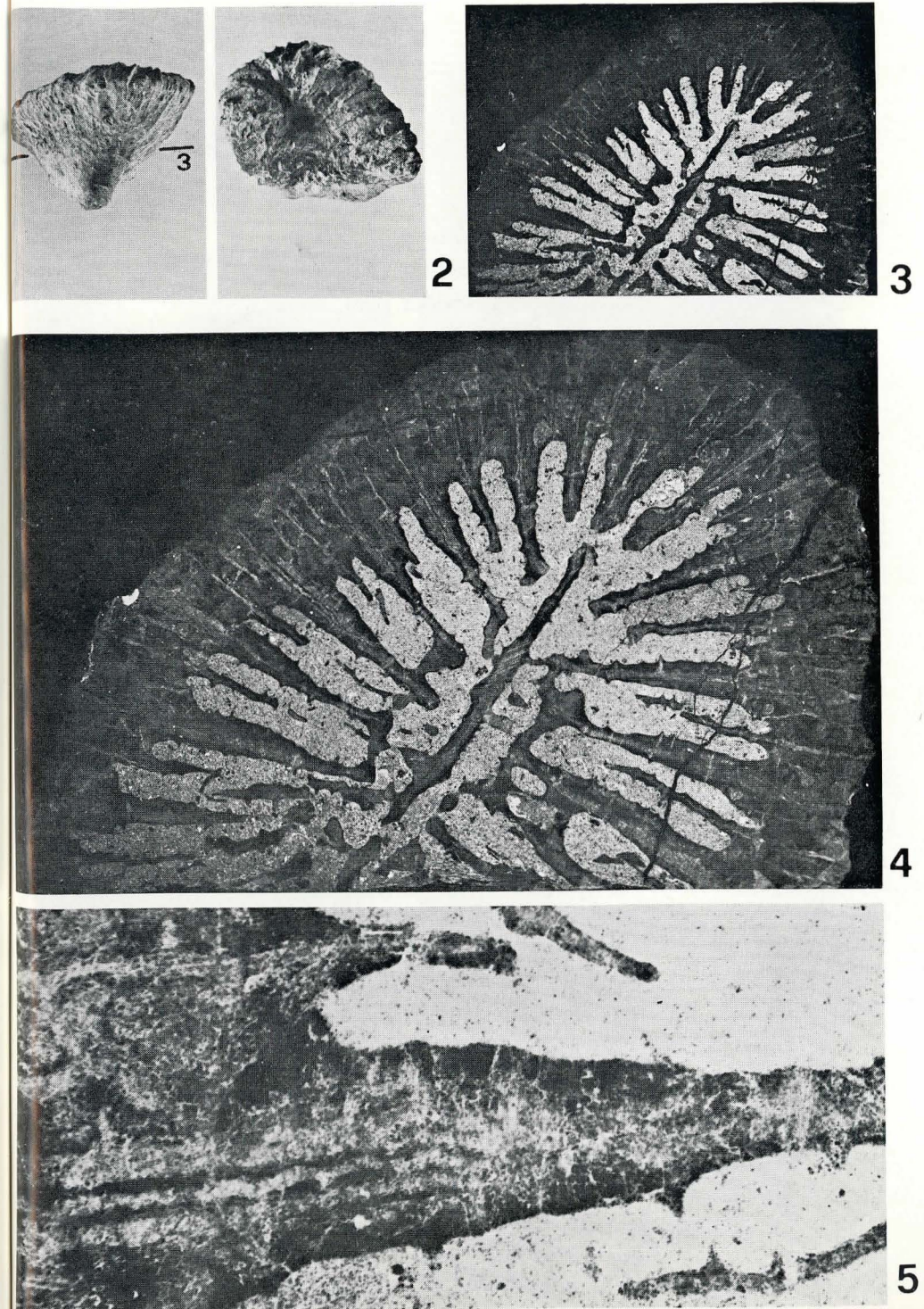


TABLA 6

Phyllosmilia sp.

Nahajališče: Vrabečka gora, senonij

Sl. 1. Površina koraluma od strani. Vzorec 2 —10, x 1

Sl. 2. Površina istega koraluma od zgoraj. x 1

Diploctenium cf. *pavoninum* REUSS 1854

Nahajališče: Vrabečka gora, senonij

Sl. 3. Površina koraluma od strani. Vzorec 3 —3, x 1

Sl. 4. Isti primerek kot na sl. 3. x 3

Diploctenium ferrumequinum REUSS 1854

Nahajališče: Vrabečka gora, senonij

Sl. 5. Površina koraluma od strani. Vidni sta dolgi peruti. Vzorec 2 —4, x 1,5

Sl. 6. Isti vzorec kot na sl. 5. x 3

PLATE 6

Phyllosmilia sp.

Locality: Vrabečka gora, Senonian

Fig. 1. The surface of the corallum from side. Specimen 2 —10, x 1

Fig. 2. The surface of the same corallum from above. x 1

Diploctenium cf. *pavoninum* REUSS 1854

Locality: Vrabečka gora, Senonian

Fig. 3. The surface of the corallum from side. Specimen 3 —3, x 1

Fig. 4. The same specimen as Fig. 3. x 3

Diploctenium ferrumequinum REUSS 1854

Locality: Vrabečka gora, Senonian

Fig. 5. The surface of the corallum from side. Note long wings. Specimen 2 —4, x 1,5

Fig. 6. The same specimen as Fig. 5. x 3

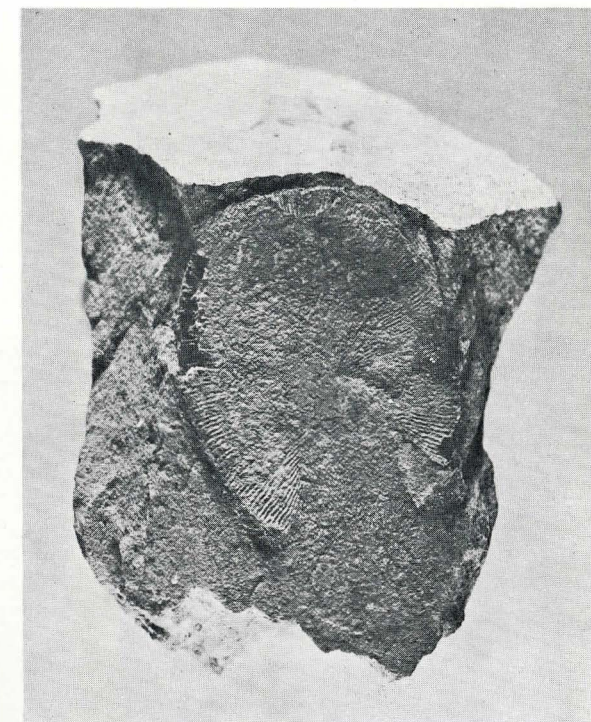
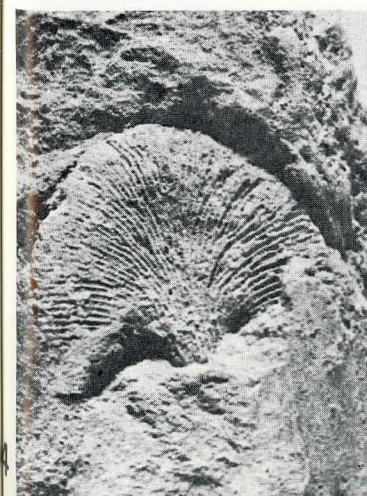
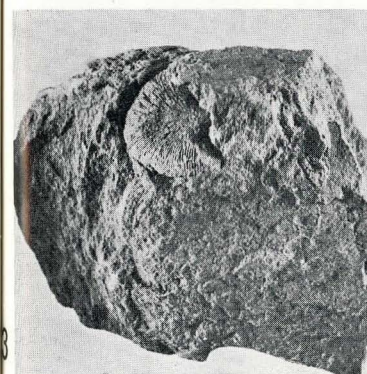
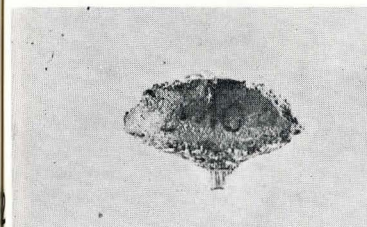
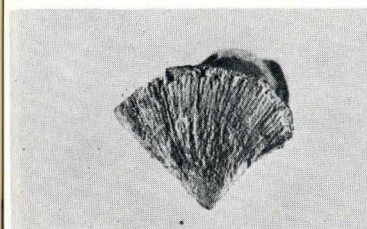


TABLA 7
Rennensismilia complanata (GOLDFUSS 1826)
 Nahajališče: Vrabečka gora, senonij

- Sl. 1. Površina koraluma od strani. Vzorec 2 —8, x 1
 Sl. 2. Površina istega koraluma od zgoraj. x 1
 Sl. 3. Prečni presek istega koraluma pod zgornjim robom. Zbrusek 2 —8 a, x 4
 Sl. 4. Prečni presek koraluma v nekoliko nižjem delu. Presek označen na sl. 1. Zbrusek 2 —8 b, x 4

PLATE 7
Rennensismilia complanata (GOLDFUSS 1826)
 Locality: Vrabečka gora, Senonian

- Fig. 1. The surface of the corallum from side. Specimen 2 —8, x 1
 Fig. 2. The surface of the same specimen from above. x 1
 Fig. 3. Cross-section of the corallum in its upper part. Thin section 2 —8 a, x 4
 Fig. 4. Cross-section of the corallum in his lowerer part. Thin section 2 —8 b, x 4

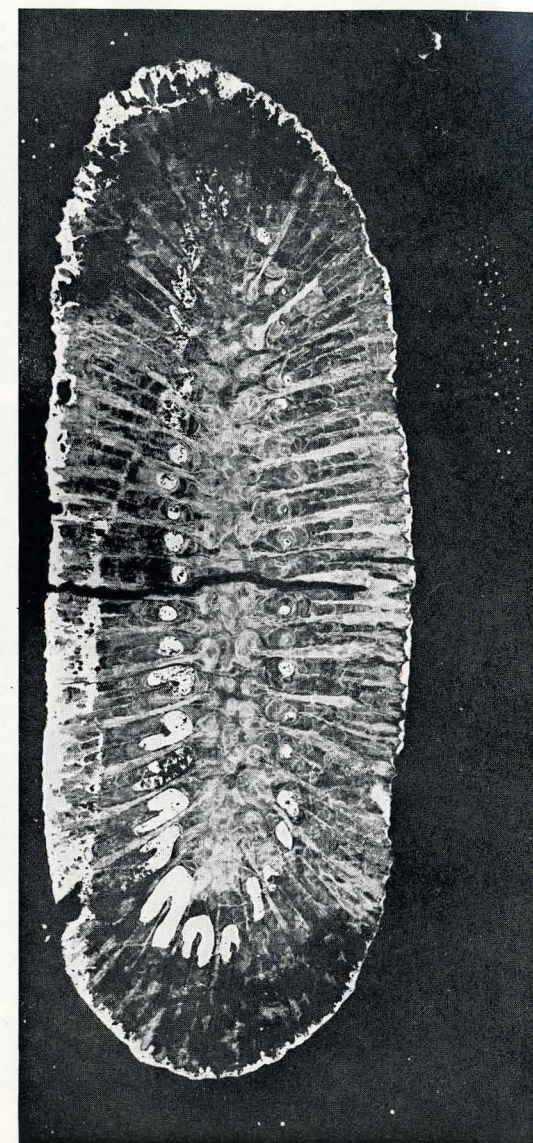
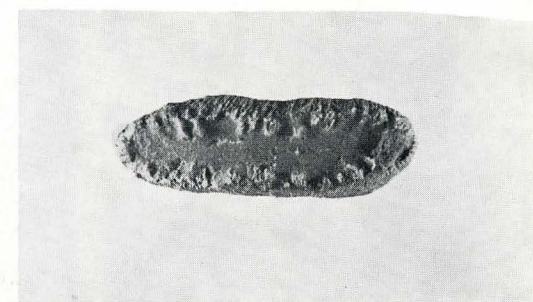
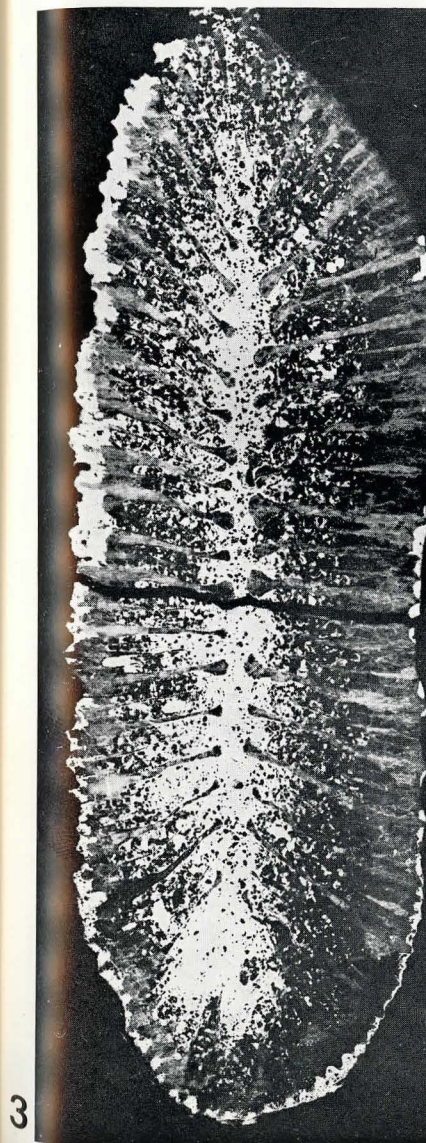
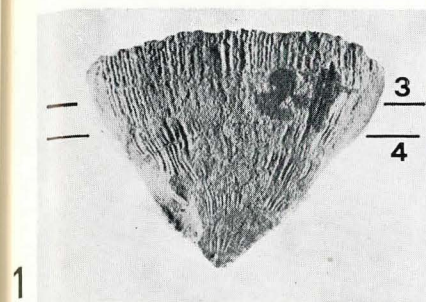


TABLA 8

Rennensismilia complanata (GOLDFUSS 1826)

Nahajališče: Vrabečka gora, senonij

- Sl. 1. Del prečnega preseka koraluma. Zbrusek 2 —8 a, x 8
 Sl. 2. Del prečnega preseka koraluma v njegovem nižjem delu. Lepo so vidne aksialne odebelitve sept in tanki disepimenti. Zbrusek 2 —8 b, x 8
 Sl. 3. Mikrostruktura v septumu in steni je fibrolamelarna. Zbrusek 2 —8 a, x 40

PLATE 8

Rennensismilia complanata (GOLDFUSS 1826)

Locality: Vrabečka gora, Senonian

- Fig. 1. Part of the cross-section of the corallum. Thin section 2 —8 a, x 8
 Fig. 2. Part of the cross-section of the corallum in its lower part. Thin section 2 —8 b, x 8
 Fig. 3. Microstructure in one septum and in the wall is fibrolamellar. Thin section 2 —8 a, x 40

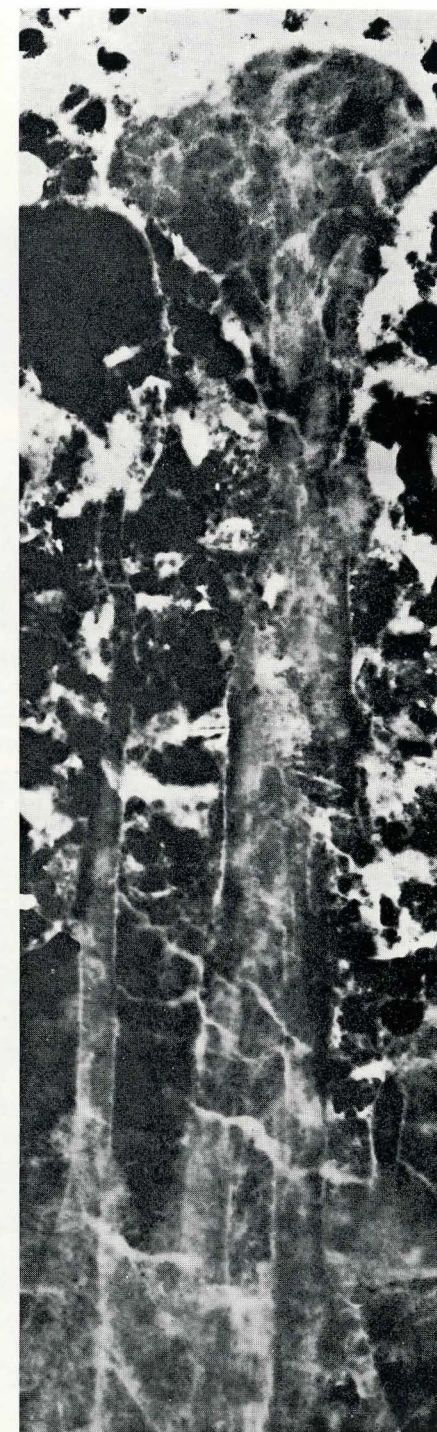
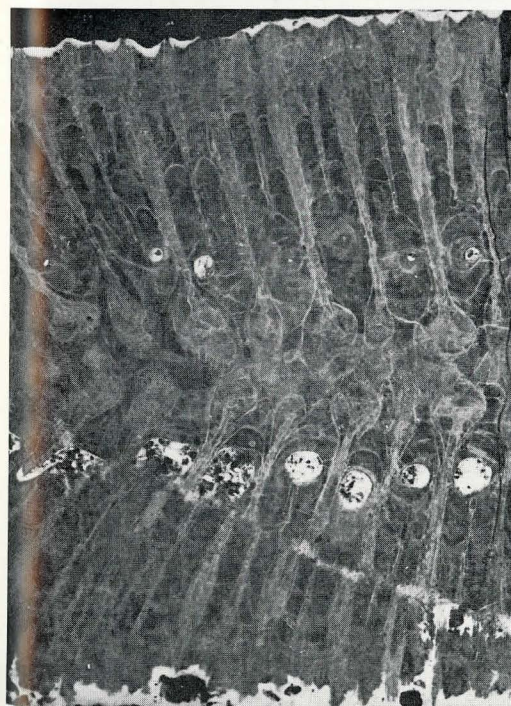
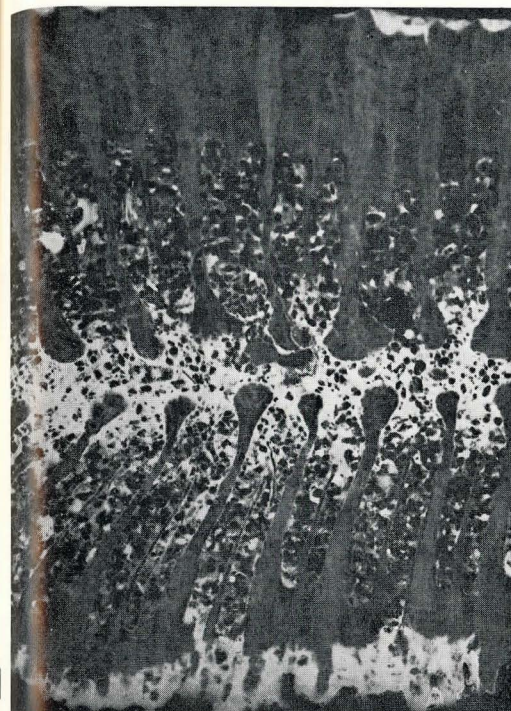


TABLA 9

Rennensismilia subinduta (REUSS 1854)

Nahajališče: Radana vas (W 11), santonij-kampanij Vrabečka gora (2 —9, 3 —1), Rušovski brijeg (11 —9), senonij

- Sl. 1. Skica koraluma, pogled od strani. Črta nakazuje višino preseka. (Vzorec 11 —9), x 1
 Sl. 2. Prečni presek istega koraluma. Zbrusek 11 —9 a, x 4
 Sl. 3. Isti presek kot na sl. 2. V sredini vidimo odebelitve sept, ki so močno nagubana. x 8
 Sl. 4. Površina koraluma v kamnu. Pogled od spodaj. Vzorec 2 —9, x 1
 Sl. 5—6. Površina koraluma od zgoraj in od strani. Vzorec 3 —1, x 1
 Sl. 7—8. Površina koraluma od strani in od zgoraj. Vzorec W —11, x 1

PLATE 9

Rennensismilia subinduta (REUSS 1854)

Localities: Radana van (W 11), Santonian-Campanian Vrabečka gora (2 —9, 3 —1), Rušovski brijeg (11 —9), Senonian

- Fig. 1. Sketch of corallum from side. (Specimen 11 —9), x 1
 Fig. 2. Cross-section of the same corallum. Thin section 11 —9 a, x 4
 Fig. 3. The same cross section as on Fig. 2. Note axial thickenings of septa, which are twisted. x 8
 Fig. 4. The surface of the corallum from below (in the deposit). Specimen 2 —9, x 1
 Fig. 5—6. The surface of the corallum from above and from side. Specimen 3 —1, x 1
 Fig. 7—8. The surface of the corallum from side and from above. Specimen W —11, x 1

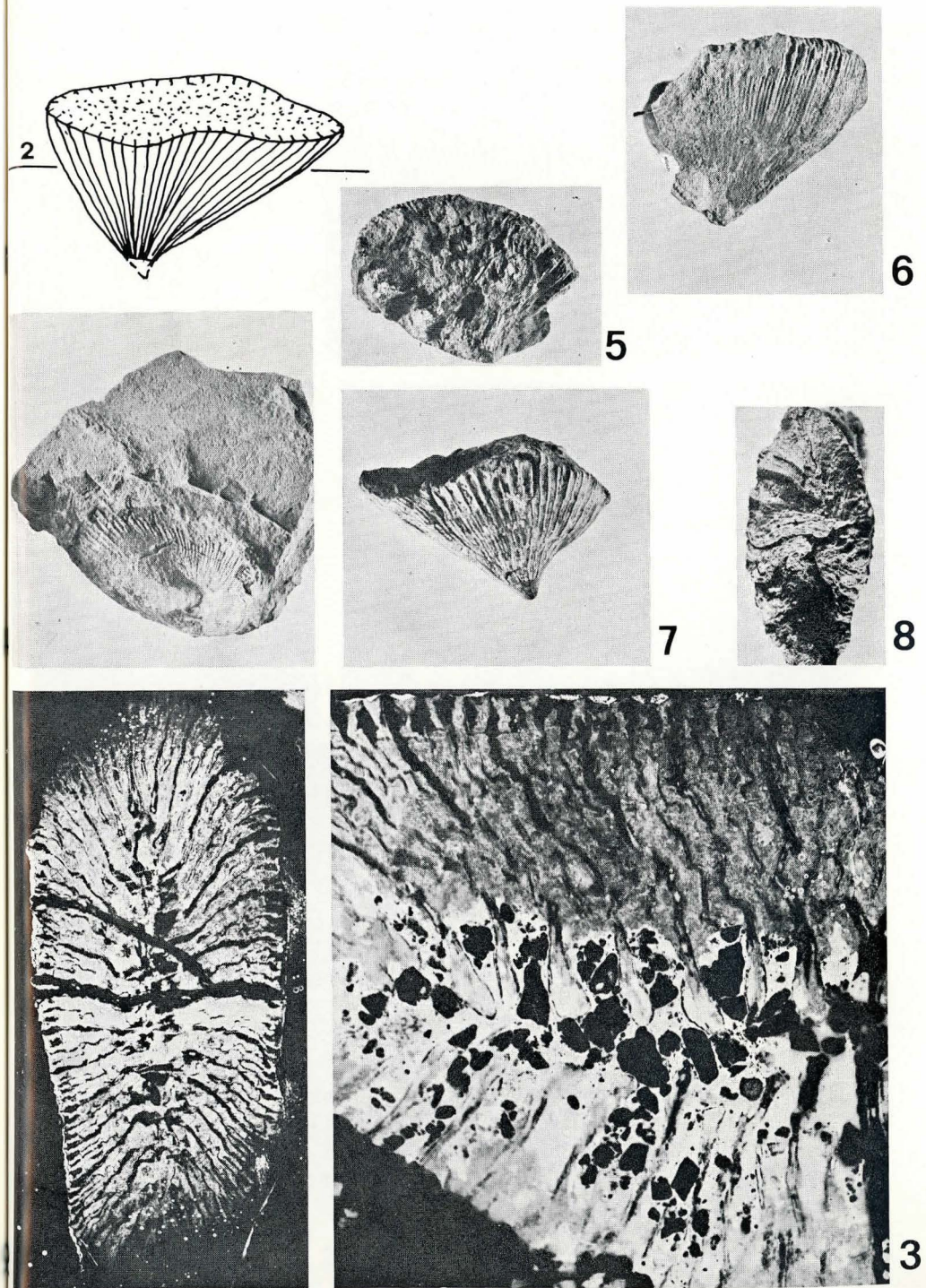


TABLA 10
Rennensismilia chondrophora (FELIX 1903)
 Nahajališče: Rušovski brijeg (11 —8), senonij

- Sl. 1. Skica koraluma. (Vzorec 11 —8), x 1
 Sl. 2. Prečni presek istega koraluma pod vrhom. Zbrusek 11 —8 a, x 4
 Sl. 3. Prečni presek istega koraluma nekoliko niže. Zbrusek 11 —8 b, x 4
 Sl. 4. Prečni presek istega koraluma še niže. Zbrusek 11 —8 c, x 4
 Sl. 5. Prečni presek koraluma s sl. 3. x 8

PLATE 10
Rennensismilia chondrophora (FELIX 1903)
 Locality: Rušovski brijeg, Senonian

- Fig. 1. Sketch of corallum. (Specimen 11 —8), x 1
 Fig. 2. Cross-section of the same corallum. Thin section 11 —8 a, x 4
 Fig. 3. Cross-section of the same corallum a little lower. Thin section 11 —8 b, x 4
 Fig. 4. Cross-section of the same corallum, still lower. Thin section 11 —8 c, x 4
 Fig. 5. Cross-section from the Fig. 3. x 8

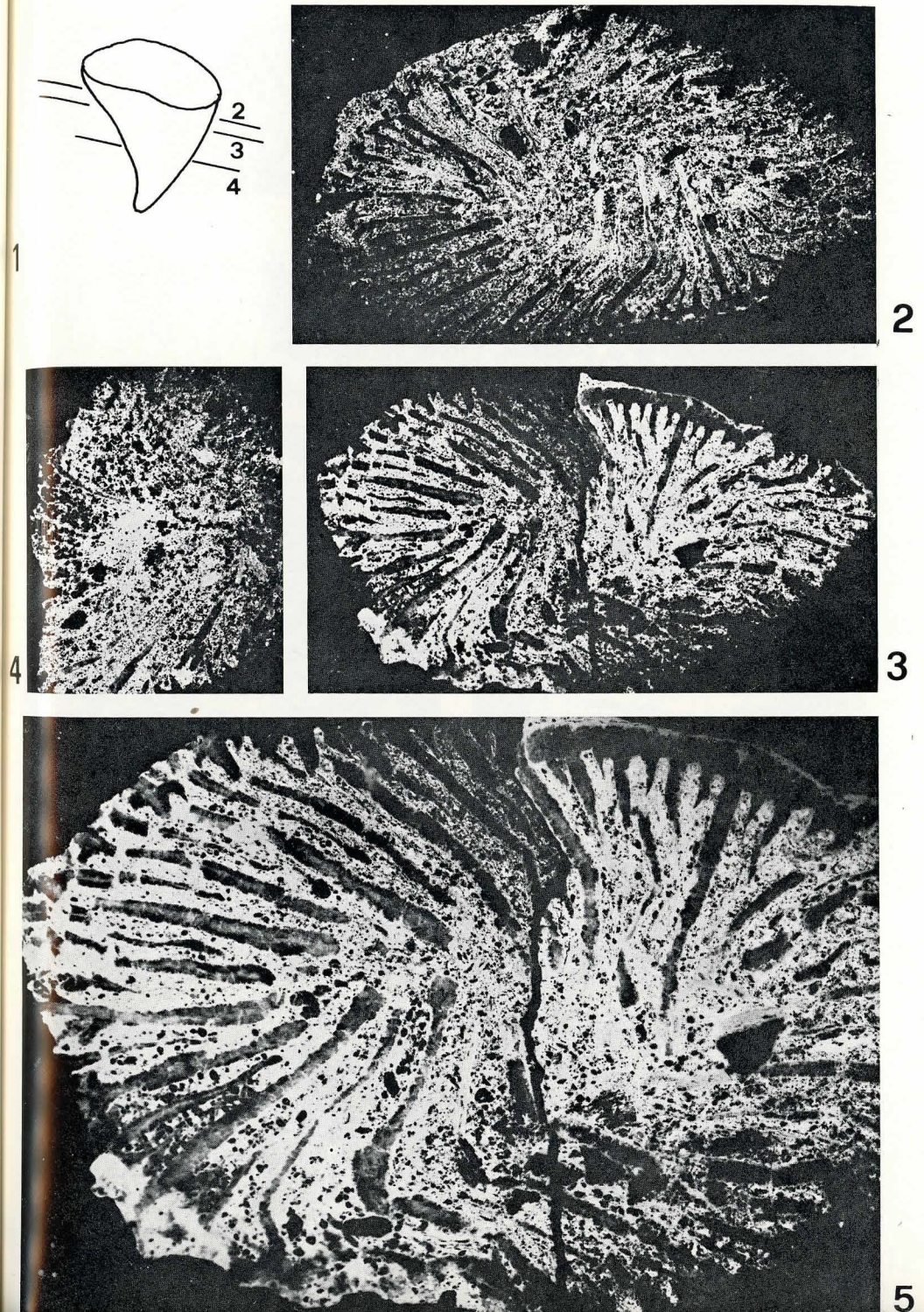


TABLA 11

Conicosmilotrochus stranicensis n. gen. n. sp.

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 77, holotip, x 1
 Sl. 2. Prečni presek holotipa. Zbrusek 77 a, x 4
 Sl. 3. Prečni presek holotipa nekoliko niže. Zbrusek 77 c, x 4
 Sl. 4. Površina koraluma od strani. Vzorec 59, x 1
 Sl. 5. Prečni presek istega koraluma. Zbrusek 59 a, x 4
 Sl. 6. Prečni presek istega koraluma niže. Zbrusek 59 b, x 4
 Sl. 7. Površina koraluma od strani. Vzorec W 5, x 1
 Sl. 8. Površina koraluma od strani. Vzorec 53, x 1
 Sl. 9. Površina koraluma od strani. Vzorec 57, x 1
 Sl. 10. Površina koraluma od strani. Vzorec 58, x 1
 Sl. 11. Prečni presek istega koraluma, zgoraj. Zbrusek 58 a, x 4
 Sl. 12. Prečni presek istega koraluma, niže. Zbrusek 58 b, x 4
 Sl. 13. Prečni presek istega koraluma, še niže. Zbrusek 58 c, x 4

PLATE 11

Conicosmilotrochus stranicensis n. gen. n. sp.

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from side. Specimen 77, holotype, x 1
 Fig. 2. Cross-section of the holotype. 77 a, x 4
 Fig. 3. Cross-section of the holotype a little lower. Thin section 77 c, x 4
 Fig. 4. The surface of the corallum from side. Specimen 59, x 1
 Fig. 5. Cross-section of the same corallum. Thin section 59 a, x 4
 Fig. 6. Cross-section of the same corallum, a little lower. Thin section 59 b, x 4
 Fig. 7. The surface of the corallum. Specimen W 5, x 1
 Fig. 8. The surface of the corallum. Specimen 53, x 1
 Fig. 9. The surface of the corallum. Specimen 57, x 1
 Fig. 10. The surface of the corallum from side. Specimen 58, x 1
 Fig. 11. Cross-section of the same corallum in its upper level. Thin section 58 a, x 4
 Fig. 12. Cross-section of the same corallum a little lower. Thin section 58 b, x 4
 Fig. 13. Cross-section of the same corallum still lower. Thin section 58 c, x 4

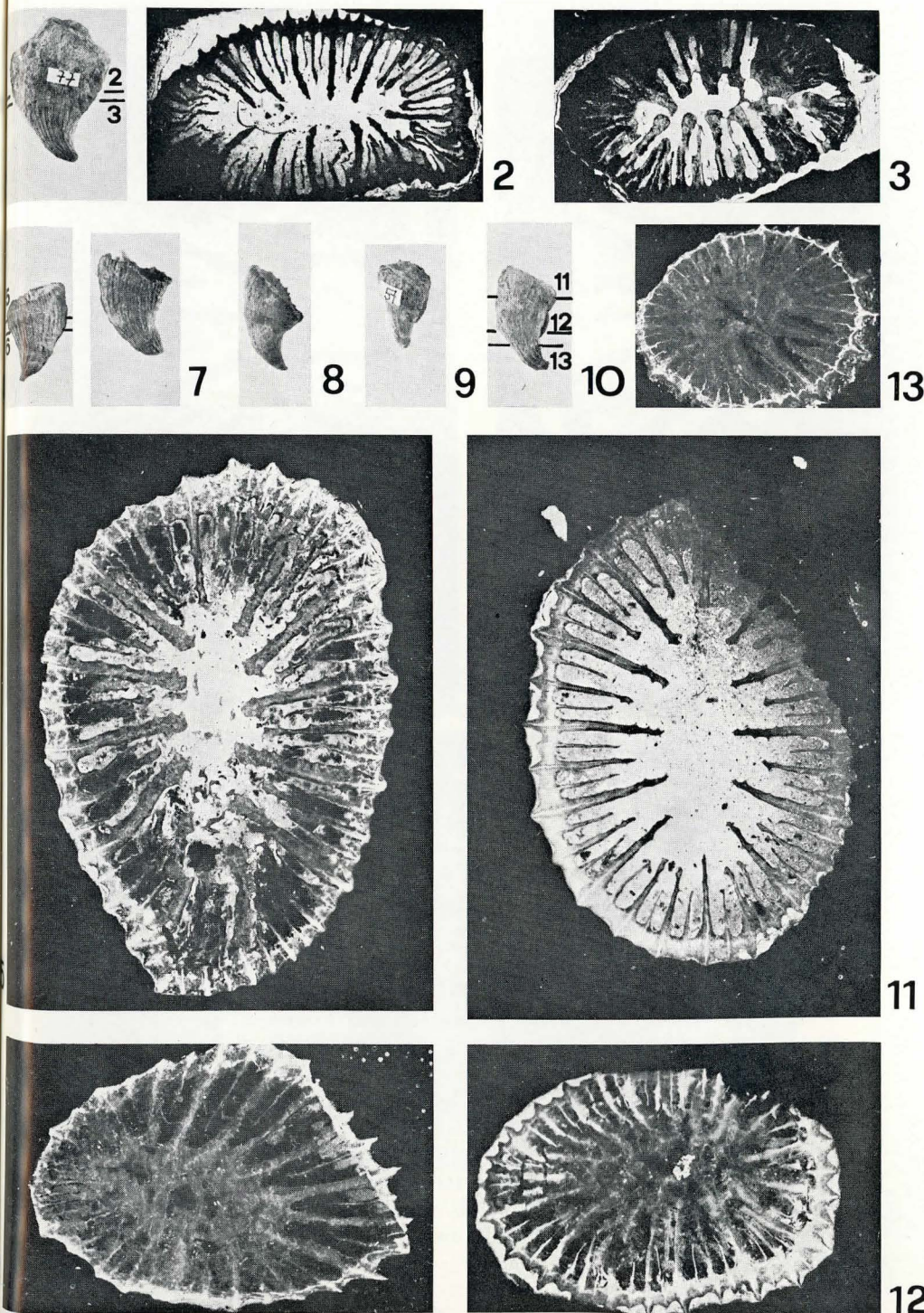


TABLA 12

Conicosmilotrochus stranicensis n. gen. n. sp.

Nahajališče: Stranice, santonij-kampanij

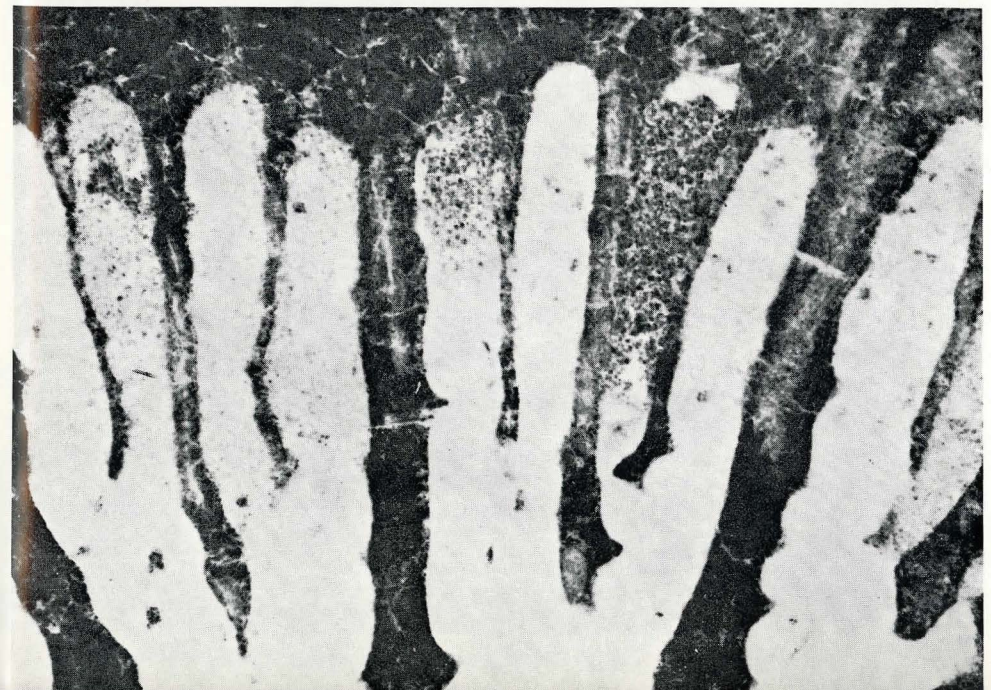
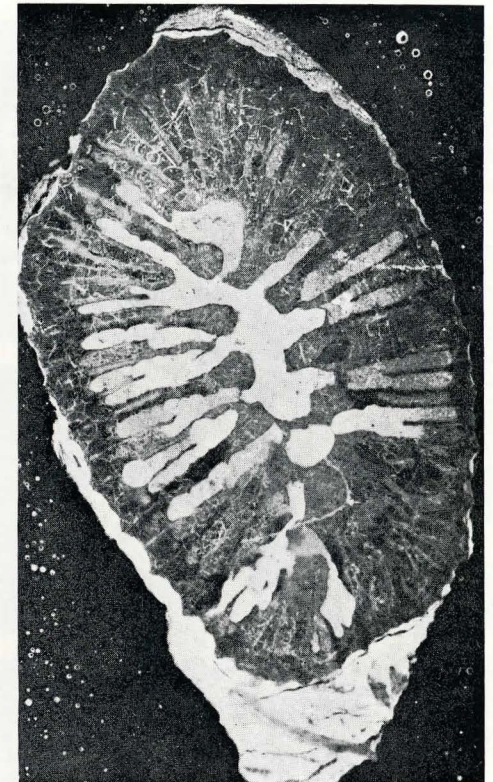
- Sl. 1. Prečni presek koraluma. Starejša septa močno izstopajo. Proti sredini le rahlo odebelijo. Zbrusek 77 a, holotip, x 8
- Sl. 2. Prečni presek istega koraluma nekoliko nižje. Močne aksialne odebelitve sept. Zbrusek 77 b, holotip, x 8
- Sl. 3. Mikrostruktura. Drobni sklerodermi so nanizani v trabekule. Zbrusek 77 a, holotip, x 40

PLATE 12

Conicosmilotrochus stranicensis n. gen. n. sp.

Locality: Stranice, Santonian-Campanian

- Fig. 1. Cross-section of the corallum. Septa of older cycles are stronger. Thin section 77 a, holotypus, x 8
- Fig. 2. Cross-section of the same corallum a little lower. Note strong thickenings of axial septa. Thin section 77 b, holotypus, x 8
- Fig. 3. Microstructure, showing small sclerodermites forming simple trabeculae with median lines. Thin section 77 a, holotypus, x 40



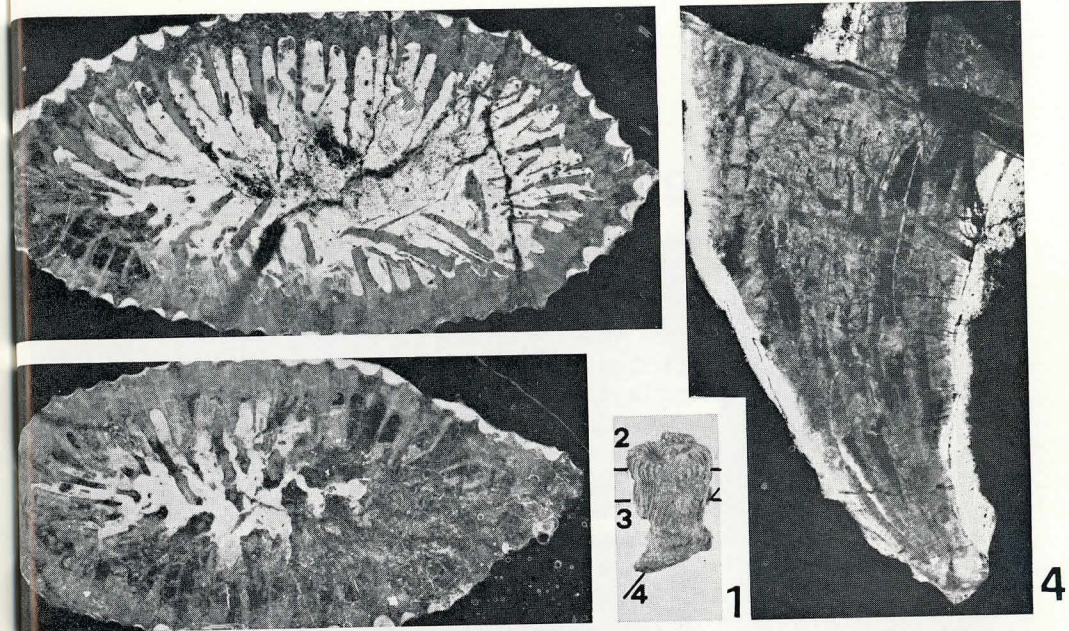


TABLA 13

Conicosmilotrochus strictus n. gen. n. sp.

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 64, holotip, x 1
 Sl. 2. Prečni presek koraluma zgoraj. Prva septa ne izstopajo premočno. Zbrusek 64 a, holotip, x 8
 Sl. 3. Prečni presek istega koraluma še niže. Zbrusek 64 b, holotip, x 8
 Sl. 4. Podolžni presek spodnjega dela koraluma. Zbrusek 64 c, holotip, x 8
 Sl. 5. Mikrostruktura je slabo ohranjena. Zbrusek 64 a, holotip, x 40

PLATE 13

Conicosmilotrochus strictus n. gen. n. sp.

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from side. Specimen 64, holotypus, x 1
 Fig. 2. Cross-section of the upper part of the same corallum. Thin section 64 a, holotypus, x 8
 Fig. 3. Cross-section of the middle part of the same corallum. Thin section 64 b, holotypus, x 8
 Fig. 4. Longitudinal section of the lower part of the same corallum. Thin section 64 c, holotypus, x 8
 Fig. 5. Microstructure, badly preserved. Thin section 64 a, holotypus, x 40



TABLA 14

Conicosmilotrochus strictus, n. gen. n. sp.

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 62, x 1
 Sl. 2. Prečni presek istega koraluma zgoraj. Zbrusek 62 a, x 8
 Sl. 3. Prečni presek istega koraluma niže. Zbrusek 62 b, x 8
 Sl. 4. Površina koraluma od strani. Vzorec 63, x 1
 Sl. 5. Površina koraluma, od strani. Vzorec 69, x 1
 Sl. 6. Prečni presek istega koraluma, zgoraj. Zbrusek 69 a, x 8
 Sl. 7. Prečni presek istega koraluma, niže. Zbrusek 69 b, x 8
 Sl. 8. Podolžni presek spodnjega dela istega koraluma. Zbrusek 69 c, x 8
 Sl. 9. Površina koraluma. Vzorec 66, x 1
 Sl. 10. Površina koraluma. Vzorec W 2, x 1
 Sl. 11. Prečni presek istega koraluma. Zbrusek W 2 a, x 8
 Sl. 12. Površina koraluma. Vzorec 65, x 1

PLATE 14

Conicosmilotrochus strictus, n. gen. n. sp.

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from side. Specimen 62, x 1
 Fig. 2. Cross-section of the upper part of the same corallum. Thin section 62 a, x 8
 Fig. 3. Cross-section of the middle part of the same corallum. Thin section 62 b, x 8
 Fig. 4. The surface of the corallum. Specimen 63, x 1
 Fig. 5. The surface of the corallum from side. Specimen 69, x 1
 Fig. 6. Cross-section of the upper part of the same corallum. Thin section 69 a, x 8
 Fig. 7. Cross-section of the middle part of the same corallum. Thin section 69 b, x 8
 Fig. 8. Longitudinal section of the lower part of the same corallum. Thin section 69 c, x 8
 Fig. 9. The surface of the corallum. Specimen 66, x 1
 Fig. 10. The surface of the corallum. Specimen W 2, x 1
 Fig. 11. Cross section of the upper part of the same corallum. Thin section W 2 a, x 8
 Fig. 12. The surface of the corallum. Specimen 65, x 1

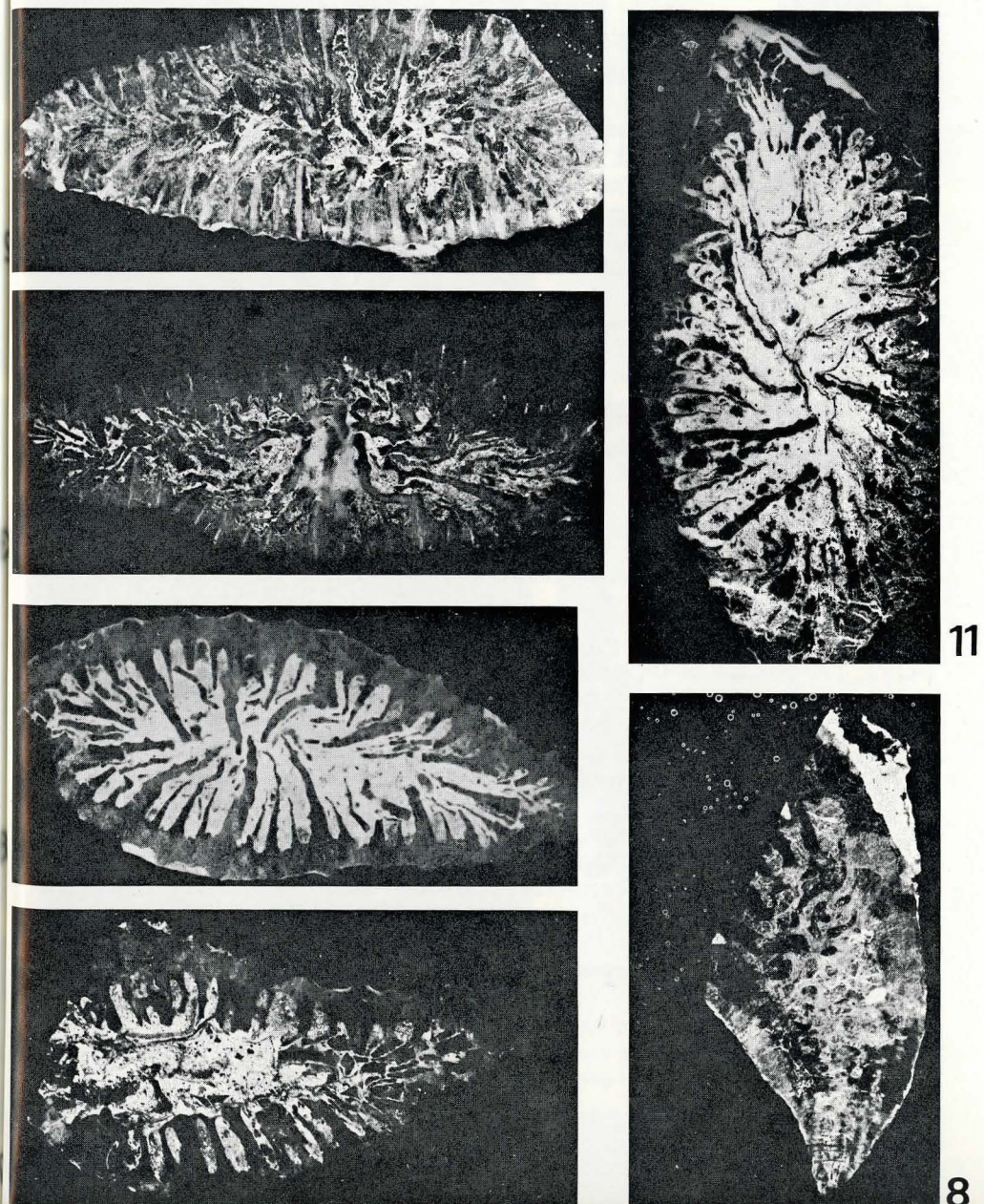
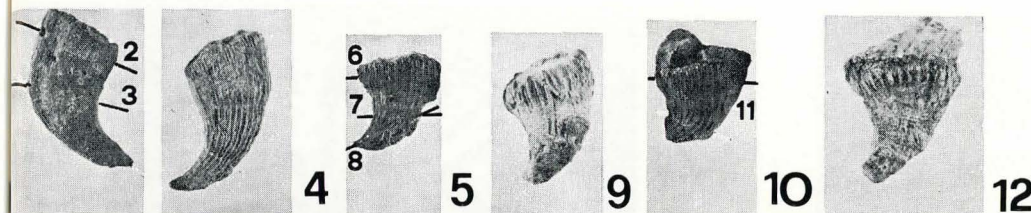


TABLA 15

Conicosmilotrochus dentatus n. gen. n. sp.

Nahajališče: Stranice, santonij-kampanij

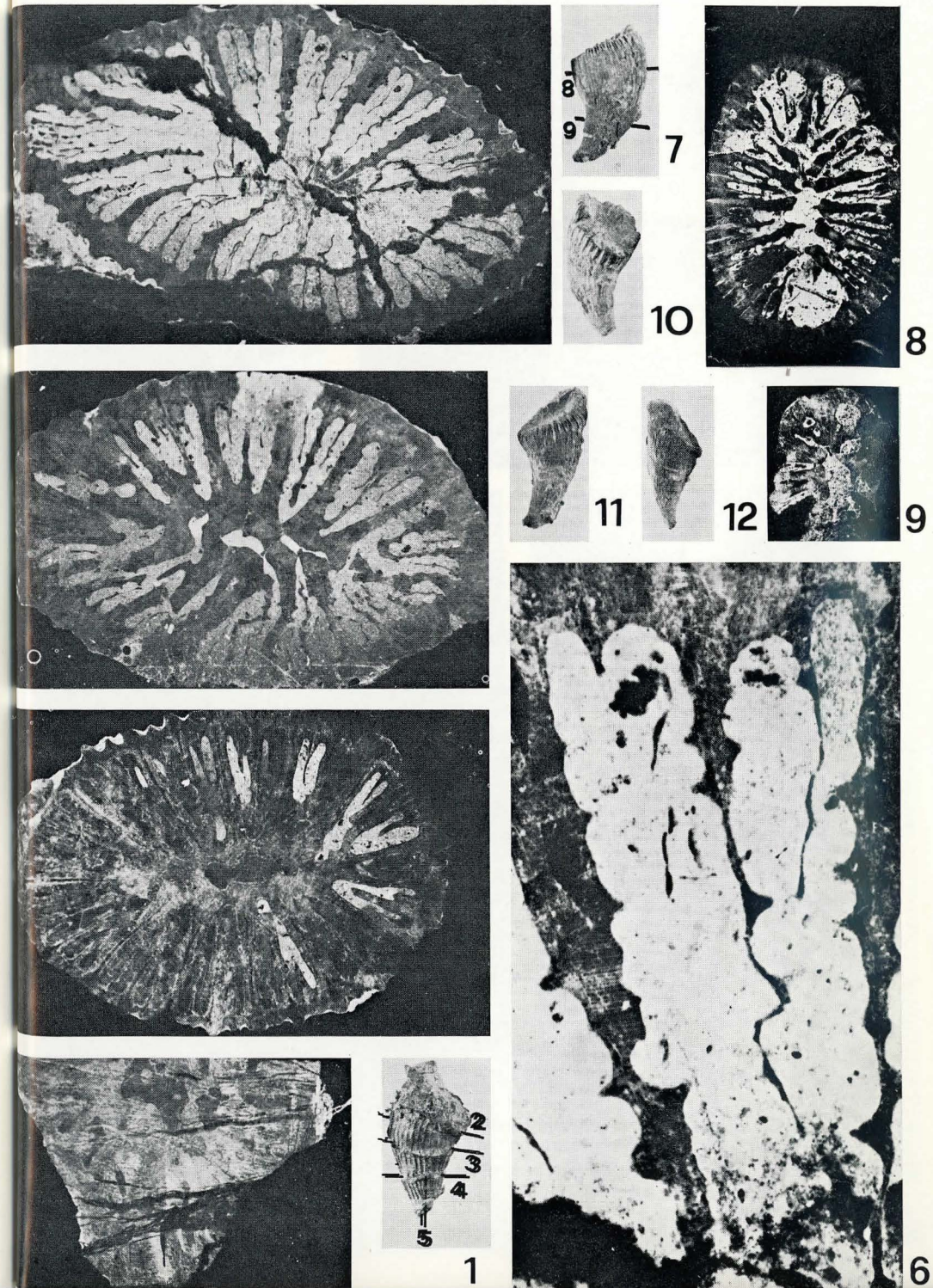
- Sl. 1. Površina koraluma od strani. Vzorec 73, holotip, x 1
 Sl. 2. Prečni zgornji presek holotipa. Zbrusek 73 a, x 8
 Sl. 3. Prečni presek holotipa nekoliko niže. Zbrusek 73 b, x 8
 Sl. 4. Prečni presek holotipa, še niže. Zbrusek 73 c, x 8
 Sl. 5. Podolžni presek spodnjega dela holotipa. Zbrusek 73 d, x 8
 Sl. 6. Mikrostruktura. Trabekule so odebeljene ob trnkah. Zbrusek 73 a, holotip, x 40
 Sl. 7. Površina koraluma od strani. Vzorec 61, x 1
 Sl. 8. Prečni zgornji presek istega koraluma. Zbrusek 61 a, x 4
 Sl. 9. Prečni spodnji presek istega koraluma. Zbrusek 61 b, x 4
 Sl. 10. Površina koraluma. Vzorec 55, x 1
 Sl. 11. Površina koraluma. Vzorec 60, x 1
 Sl. 12. Površina koraluma. Vzorec 72, x 1

PLATE 15

Conicosmilotrochus dentatus n. gen. n. sp.

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum. Specimen 73, holotypus, x 1
 Fig. 2. Cross-section of the upper part of the holotypus. Thin section 73 a, x 8
 Fig. 3. Cross-section of the lower part of the holotypus. Thin section 73 b, x 8
 Fig. 4. Cross-section of still lower part of the holotypus. Thin section 73 c, x 8
 Fig. 5. Longitudinal section of the basal part of the holotypus. Thin section 73 d, x 8
 Fig. 6. Microstructure of the holotypus. Trabeculae are thickened at lateral teeth. Thin section 73 a, x 40
 Fig. 7. The surface of the corallum from side. Specimen 61, x 1
 Fig. 8. Cross-section of the upper part of the same corallum. Thin section 61 a, x 4
 Fig. 9. Cross-section of somewhat lower part of the same corallum. Thin section 61 b, x 4
 Fig. 10. The surface of the corallum. Specimen 55, x 1
 Fig. 11. The surface of the corallum. Specimen 60, x 1
 Fig. 12. The surface of the corallum. Specimen 72, x 1



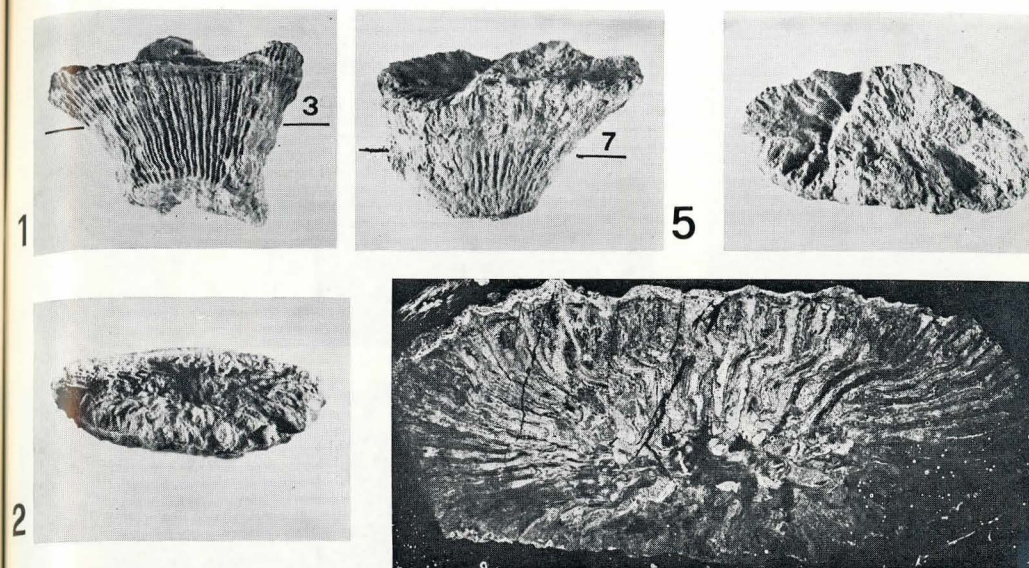


TABLA 16

Acrosmilia conica (d'ORBIGNY 1850)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od strani. Vzorec 34, x 1
 Sl. 2. Površina koraluma od zgoraj. Isti vzorec 34, x 1
 Sl. 3. Prečni presek istega koraluma. Zbrusek 34 a, x 4
 Sl. 4. Isti prečni presek kot na sl. 3. x 8
 Sl. 5. Površina koraluma. Vzorec 32, x 1
 Sl. 6. Isti koralum kot na sl. 5, od zgoraj. x 1
 Sl. 7. Prečni presek istega koraluma. Zbrusek 32 a, x 8

PLATE 16

Acrosmilia conica (d'ORBIGNY 1850)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from side Specimen 34, x 1
 Fig. 2. The same corallum from above (calice), 34, x 1
 Fig. 3. Cross-section of the same corallum. Thin section 34 a, x 4
 Fig. 4. The same cross-section as on Fig. 3. x 8
 Fig. 5. The surface of the corallum. Specimen 32, x 1
 Fig. 6. The surface of the same corallum from above (calice). Specimen 32, x 1
 Fig. 7. Cross-section of the same corallum. Thin section 32 a, x 8

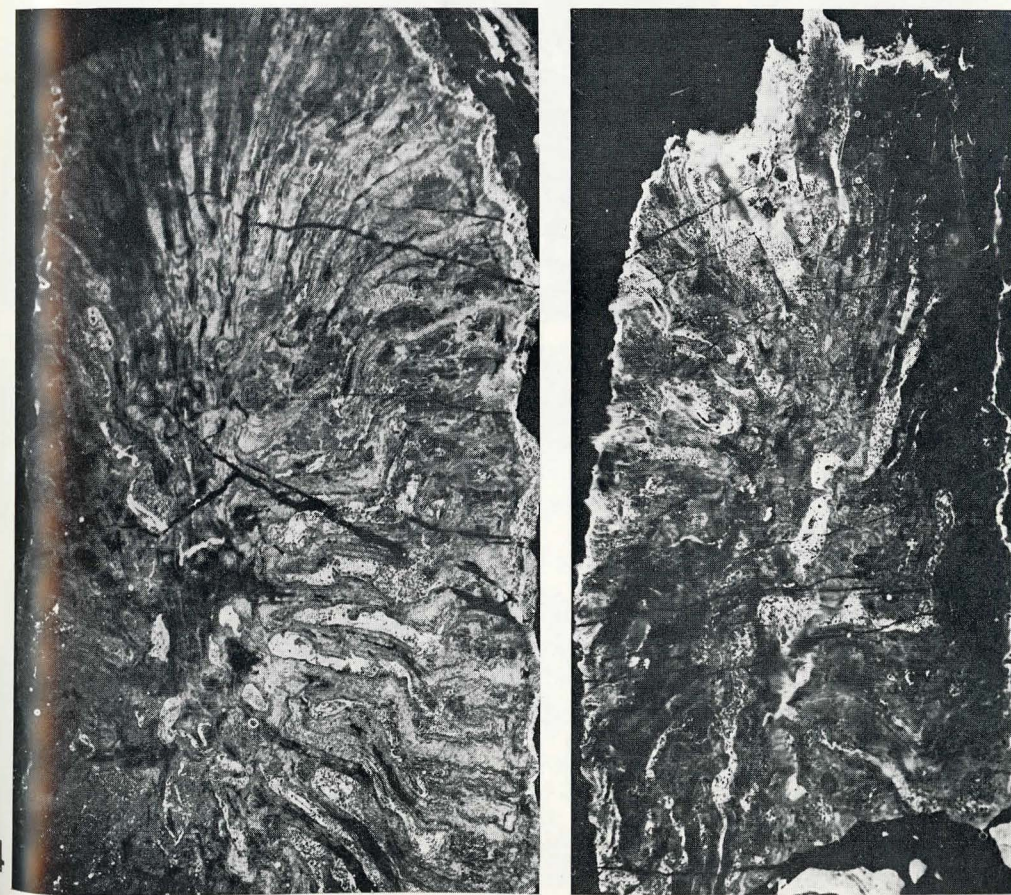


TABLA 17

(?) *Stephanosmilia polydectes* KOLOSVÁRY 1954

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina turbinatnega koraluma. Vzorec 75, x 1
 Sl. 2. Prečni presek istega koraluma. Zbrusek 75 a, x 4
 Sl. 3. Prečni presek istega koraluma niže. Zbrusek 75 b, x 4
 Sl. 4. Isti presek kot na sl. 2. x 8
 Sl. 5. Isti presek kot na sl. 3. x 8
 Sl. 6. Mikrostruktura. Večji sklerodermi ali trabekule, ki so nepravilno odebeljene ob stranskih prečkih. Zbrusek 75 a, x 40

PLATE 17

(?) *Stephanosmilia polydectes* KOLOSVÁRY 1954

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the turbinate corallum from side. Specimen 75, x 1
 Fig. 2. Cross-section of the same corallum in its upper part. Thin section 75 a, x 4
 Fig. 3. Cross-section of the same corallum in its lower part. Thin section 75 b, x 4
 Fig. 4. The same section as on Fig. 2. x 8
 Fig. 5. The same section as on Fig. 3. x 8
 Fig. 6. Microstructure, showing larger sclerodermites or trabeculae thickened at lateral traverses. Thin section 75 a, x 40

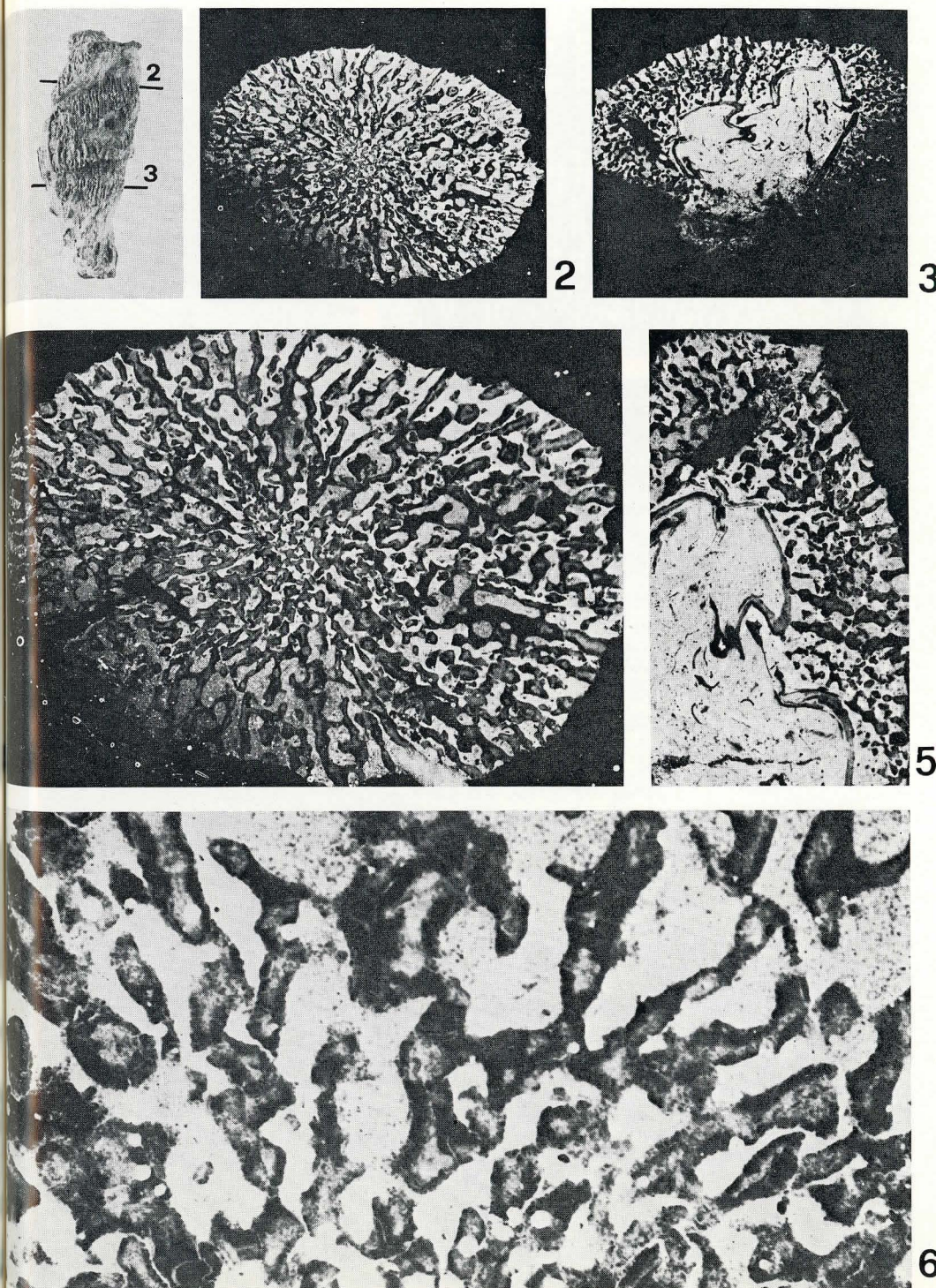


TABLA 18

Cunnolites (Cunnolites) profundus (OPPENHEIM 1930)

Nahajališče: Novaki, santonij-kampanij, (?) maastrichtij

- Sl. 1. Površina koraluma od zgoraj. Zraven je skica koraluma od strani. Vzorec 7—2, x 1,5
- Sl. 2. Radialni presek (vzporedno z bazalno ploskvijo) koraluma. Septa starejših ciklov so kompaktna. Zbrusek 7—2 b, x 4
- Sl. 3. Vertikalni presek skozi center koraluma. Endoteka je zelo bogata. Zbrusek 7—2 a, x 4
- Sl. 4. Isti presek kot na sl. 2. x 8

PLATE 18

Cunnolites (Cunnolites) profundus (OPPENHEIM 1930)

Locality: Novaki, Santonian-Campanian, (?) Maastrichtian

- Fig. 1. The surface of the corallum from above. Nearby is the sketch of the same corallum from side. Specimen 7—2, x 1
- Fig. 2. Radial section (parallel to basal plate) of the same corallum. Septa of older cycles are compact. Thin section 7—2 b, x 4
- Fig. 3. Vertical section of the same corallum through its centre. Endotheca is very rich. Thin section 7—2 a, x 4
- Fig. 4. The same section as on Fig. 2. x 8

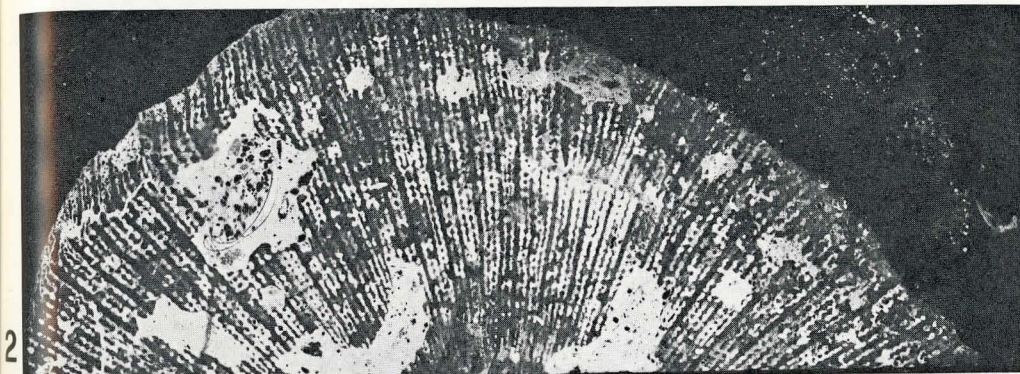
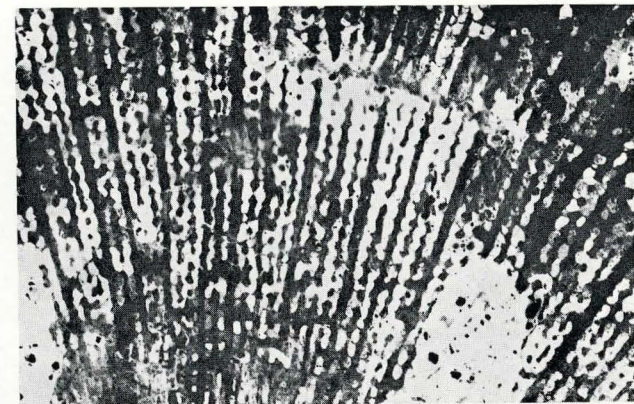
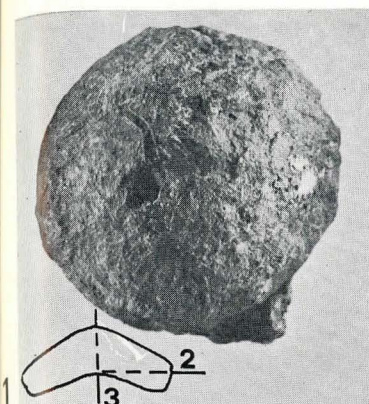


TABLA 19

Cunolites (Cunolites) profundus (OPPENHEIM 1930)

Nahajališče: Novaki, santonij-kampanij, (?) maastrichtij

- Sl. 1. Radialni presek koraluma, vzporedno z bazalno ploskvijo. Zbrusek 4 —1 b, x 4
 Sl. 2. Vertikalni presek koraluma. Endoteka je manj vidna kot na prejšnji tabli. Zbrusek 4 —1 a, x 4
 Sl. 3. Isti presek kot na sl. 1. x 8
 Sl. 4. Mikrostruktura. Zbrusek 4 —1 b, x 40

PLATE 19

Cunolites (Cunolites) profundus (OPPENHEIM 1930)

Locality: Novaki, Santonian-Campanian, (?) Maastrichtian

- Fig. 1. Radial section of the corallum, parallel to its basal plate. First septa are compact. Thin section 4 —1 b, x 4
 Fig. 2. Vertical section of the same corallum. Endotheca is less seen than on the Pl. 18. Thin section 4 —1 a, x 4
 Fig. 3. Part of the section from Fig. 1. x 8
 Fig. 4. Microstructure. Thin section 4 —1 b, x 40

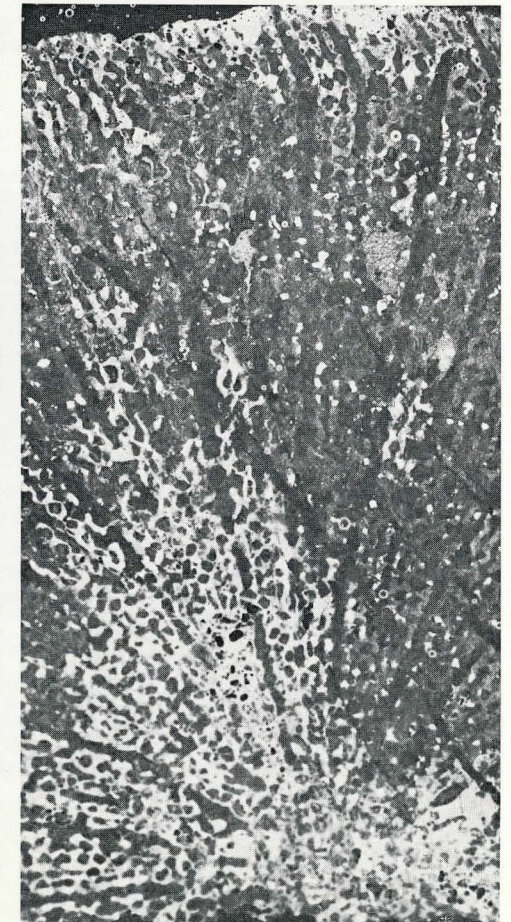
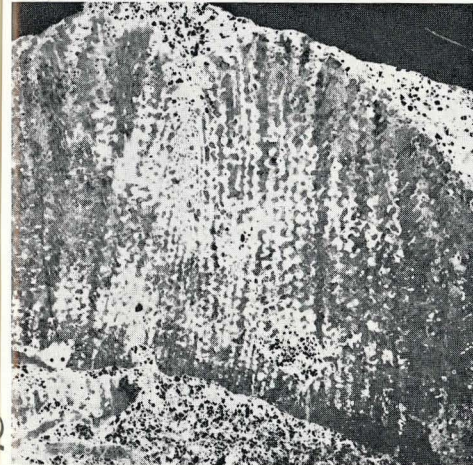
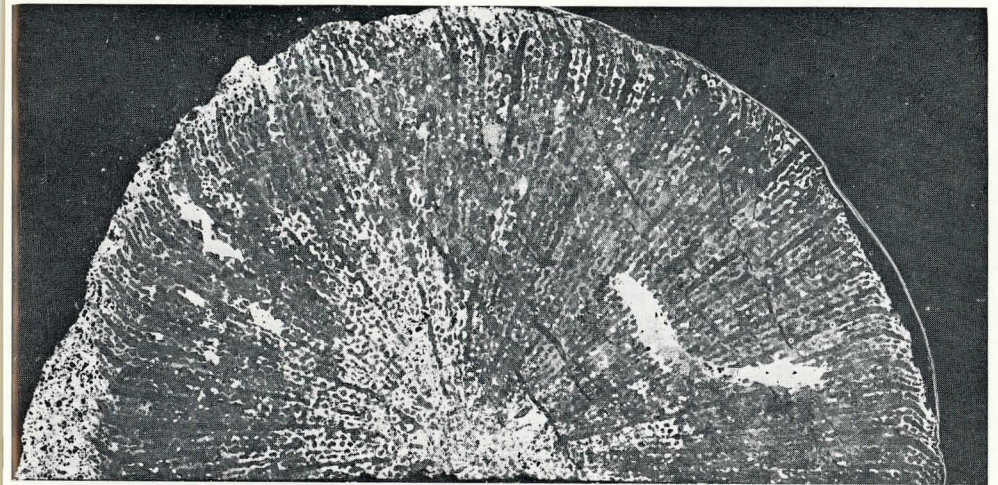


TABLA 20

Cunnolites (Cunnolites) reussi (FROMENTEL 1862)

Nahajališče: Radana vas, santonij-kampanij

- Sl. 1. Površina koraluma od zgoraj. Vzorec W —6, x 1
 Sl. 2. Površina istega koraluma od spodaj. W —6, x 1
 Sl. 3. Površina koraluma s sl. 1. x 3
 Sl. 4. Površina koraluma od zgoraj. Vzorec 1031 a, x 1
 Sl. 5. Površina istega koraluma od spodaj. x 1
 Sl. 6. Površina koraluma s sl. 4. x 3

Cunnolites (Cunnolites) sellata (QUENSTEDT 1880)

Nahajališče: Stranice, santonij-kampanij

- Sl. 7. Površina koraluma s fosulo pravokotno na daljšo os. Vzorec 9, x 1
 Sl. 8. Isti koralum kot na sl. 7 od spodaj
 Sl. 9. Isti koralum kot na sl. 7—8, x 3

PLATE 20

Cunnolites (Cunnolites) reussi (FROMENTEL 1862)

Locality: Radana vas, Santonian-Campanian

- Fig. 1. The surface of the corallum from above. Specimen W —6, x 1
 Fig. 2. The same corallum as Fig. 1 from below. x 1
 Fig. 3. The same surface as Fig. 1. x 3
 Fig. 4. The surface of the corallum from above. Specimen 1031 a, x 1
 Fig. 5. The same corallum as on Fig. 4 from below. x 1
 Fig. 6. The same surface as Fig. 4. x 3

Cunnolites (Cunnolites) sellata (QUENSTEDT 1880)

Locality: Stranice, Santonian-Campanian

- Fig. 7. The surface of the corallum with fossula rectangular to the longer axis. Specimen 9, x 1
 Fig. 8. The same corallum from below. Specimen 9, x 1
 Fig. 9. The same corallum as on Fig. 7. x 3

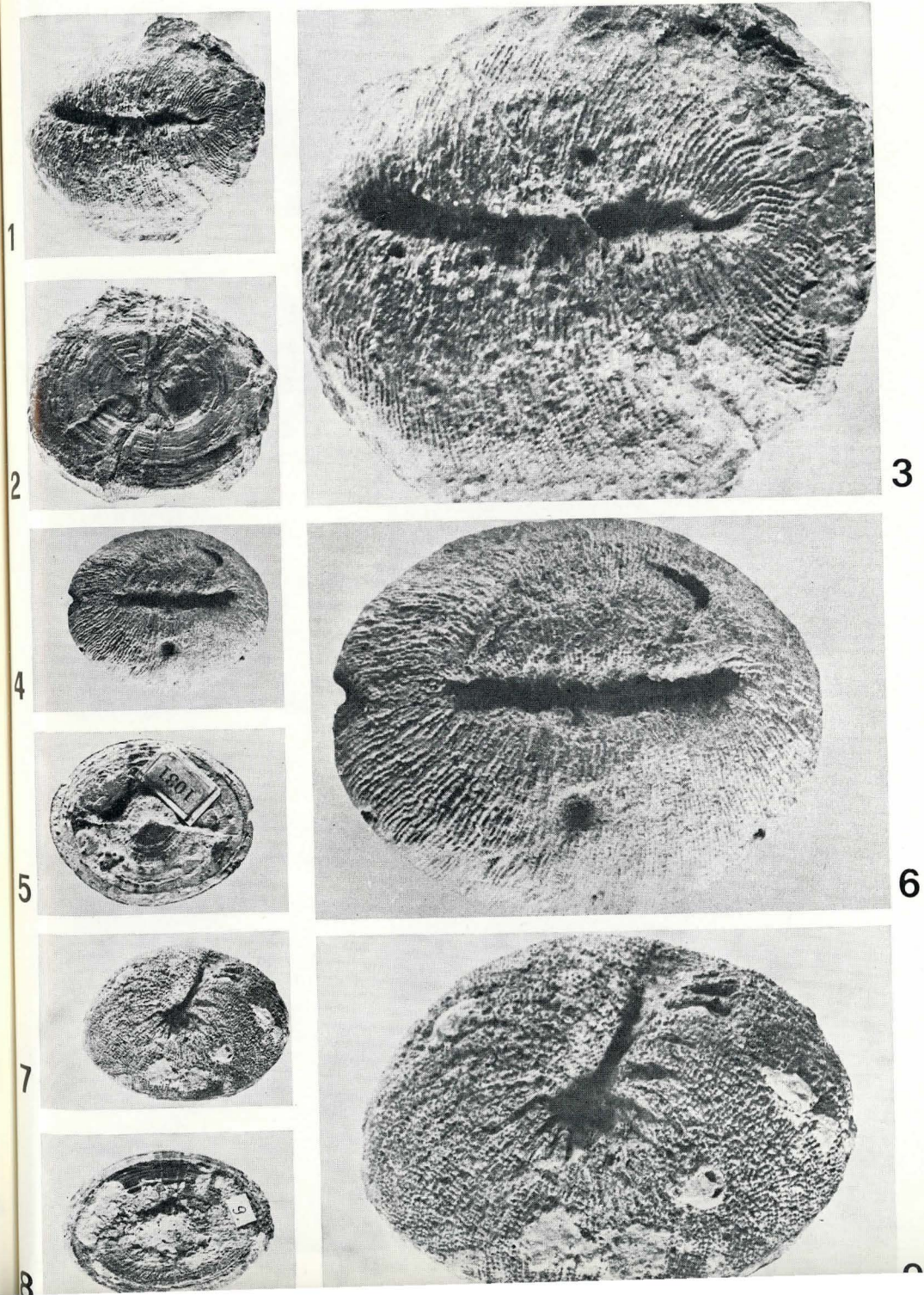


TABLA 21

Cunnolites (Paracunnolites) scutellum (REUSS 1854)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od zgoraj. Vzorec 1, x 1
 Sl. 2. Isti koralum od spodaj, ohranjena epiteka. Vzorec 1, x 1
 Sl. 3. Koralum od zgoraj. Vzorec 2, x 1
 Sl. 4. Isti koralum od spodaj. Vzorec 2, x 1
 Sl. 5. Površina koraluma od zgoraj. Vzorec 4, x 1
 Sl. 6. Isti koralum od spodaj. Vzorec 4, x 1
 Sl. 7. Radialni presek istega koraluma, tanka septa. Zbrusek 4 a, x 4
 Sl. 8. Podolžni presek koraluma, ki je nizek. Zbrusek 4 b, x 4
 Sl. 9. Površina koraluma od zgoraj. Vzorec 17, x 1
 Sl. 10. Isti koralum od spodaj. Vzorec 17, x 1
 Sl. 11. Radialni presek istega koraluma. Zbrusek 17 a, x 4
 Sl. 12. Podolžni presek istega koraluma. Septa so perforirana na zgornjem robu. Zbrusek 17 b, x 8

PLATE 21

Cunnolites (Paracunnolites) scutellum (REUSS 1854)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from above. Specimen 1, x 1
 Fig. 2. The same corallum from below. Specimen 1, x 1
 Fig. 3. The surface of the corallum from above. Specimen 2, x 1
 Fig. 4. The same corallum from below. Specimen 2, x 1
 Fig. 5. The surface of the corallum from above. Specimen 4, x 1
 Fig. 6. The same corallum from below. Specimen 4, x 1
 Fig. 7. Radial section of the same corallum. Thin section 4 a, x 4
 Fig. 8. Vertical section of the same corallum. Thin section 4 b, x 4
 Fig. 9. The surface of the corallum from above. Specimen 17, x 1
 Fig. 10. The same corallum from below. Specimen 17, x 1
 Fig. 11. Radial section of the same corallum. Thin section 17 a, x 4
 Fig. 12. Vertical section of the same corallum. Thin section 17 b, x 8

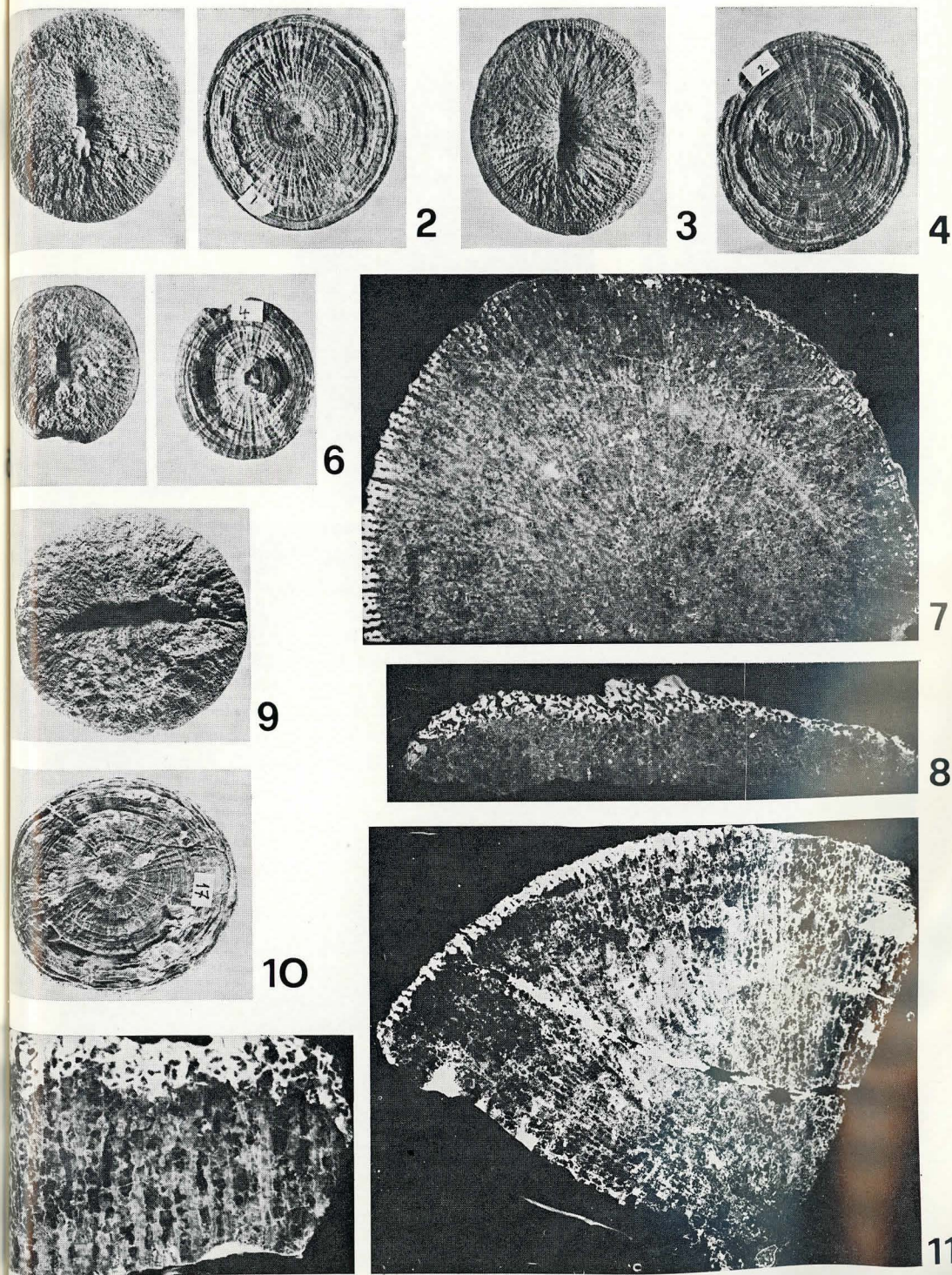


TABLA 22

Cunnolites (Plesiocunnolites) orbignyi (FROMENTEL 1864)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od zgoraj. Vzorec 22, x 1
 Sl. 2. Površina istega koraluma od spodaj, Epiteka v obliki obročkov. Vzorec 22, x 1
 Sl. 3. Radialni presek istega koraluma. Septa so debelejša. Zbrusek 22 b, x 4
 Sl. 4. Vertikalni presek istega koraluma. Septa so bolj perforirana ob aksialnem robu, ob fosuli, dobro so vidni tudi disepimenti. Zbrusek 22 a, x 4
 Sl. 5. Del vertikalnega preseka s sl. 4. x 8
 Sl. 6. Del radialnega preseka s sl. 3. x 8

PLATE 22

Cunnolites (Plesiocunnolites) orbignyi (FROMENTEL 1864)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from above. Specimen 22, x 1
 Fig. 2. The same corallum from below. Epitheca preserved in concentric rings. Specimen 22, x 1
 Fig. 3. Radial section (parallel to basal plate) showing thick septa. Thin section 22 b, x 4
 Fig. 4. Vertical section of the same corallum. Note axial perforations and numerous dissepiments. Thin section 22 a, x 4
 Fig. 5. The part of the vertical section from Fig. 4. x 8
 Fig. 6. The part of the radial section of the Fig. 3. x 8

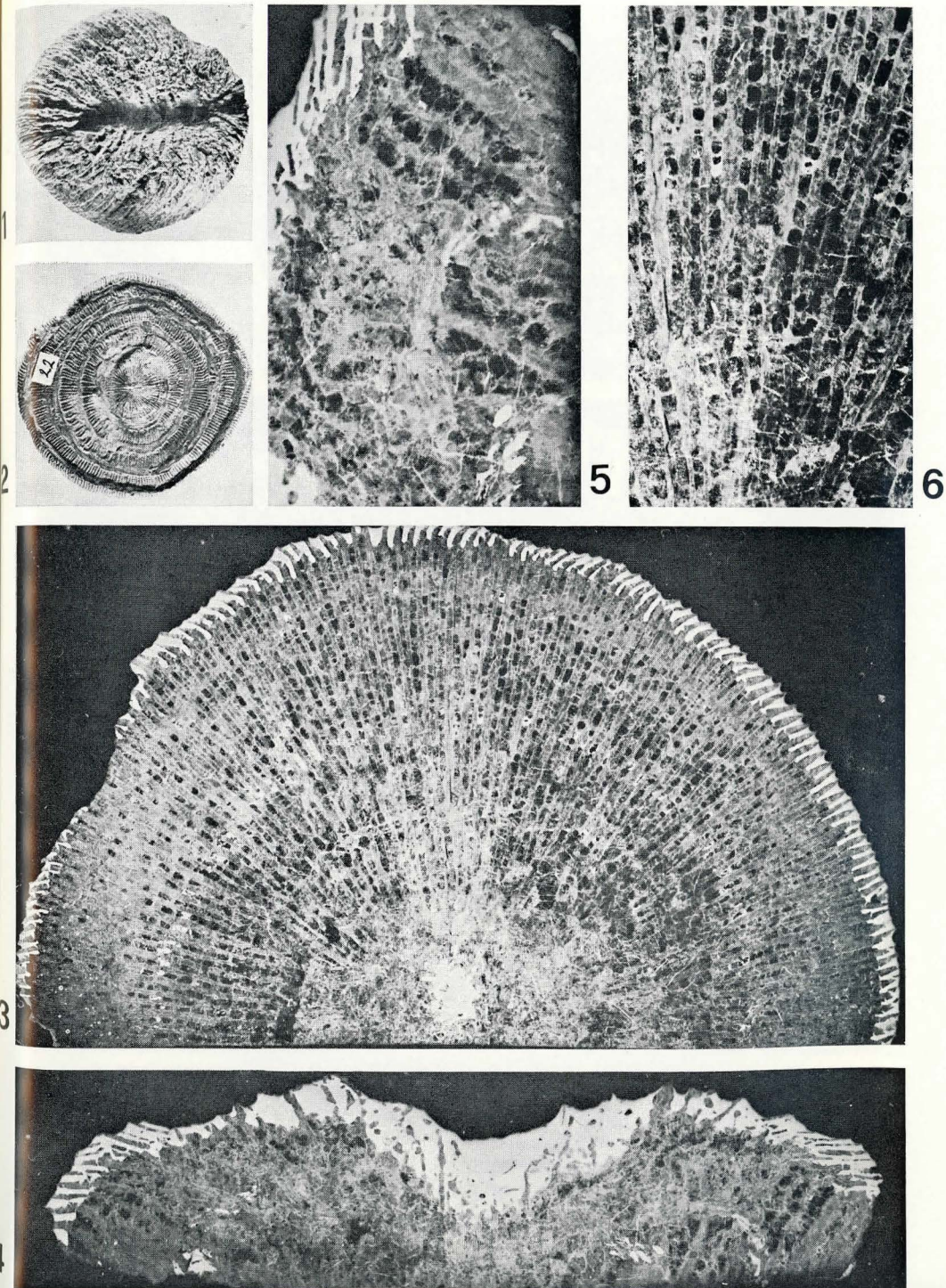


TABLA 23

Cunnolites (Plesiocunnolites) orbignyi (FROMENTEL 1864)

Nahajališče: Stranice, santonij-kampanij

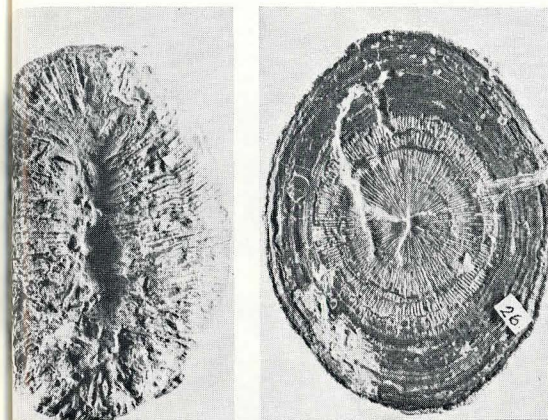
- Sl. 1. Površina koraluma od zgoraj. Vzorec 26, x 1
 Sl. 2. Spodnja ploskev istega koraluma. Vzorec 26, x 1
 Sl. 3. Radialni presek istega koraluma. Zbrusek 26 b, x 4
 Sl. 4. Vertikalni presek istega koraluma. Zbrusek 26 a, x 4
 Sl. 5. Mikrostruktura sept iz zbruska 26 b. x 40

PLATE 23

Cunnolites (Plesiocunnolites) orbignyi (FROMENTEL 1864)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from above. Specimen 26, x 1
 Fig. 2. Basal plate of the same corallum. Specimen 26, x 1
 Fig. 3. Radial section of the same corallum. Thin section 26 b, x 4
 Fig. 4. Vertical section of the same corallum. Thin section 26 a, x 4
 Fig. 5. Microstructure of the septa. Thin section 26 b, x 40



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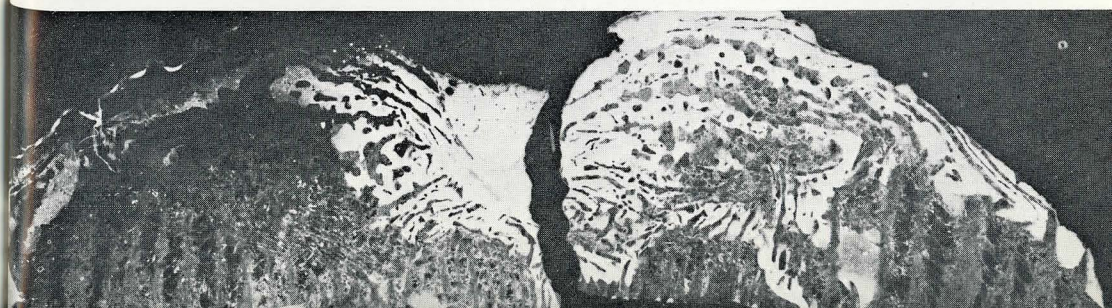
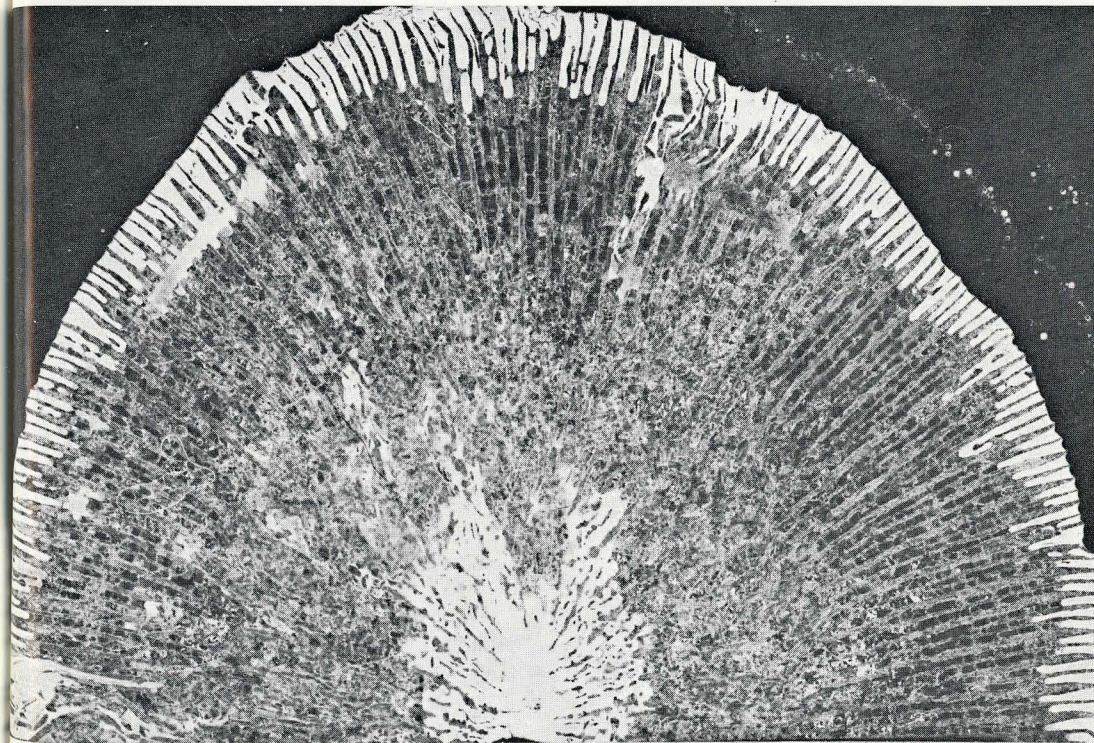


TABLA 24

Cunolites (Plesiocunolites) orbignyi (FROMENTEL 1864)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od zgoraj. Vzorec 20, x 1
 Sl. 2. Isti koralum od spodaj. Vzorec 20, x 1
 Sl. 3. Del vertikalnega preseka vzdolž fosule, kjer so septa močnejše perforirana. Zbrusek 20 c, x 8
 Sl. 4. Del radialnega preseka, vzporedno z bazalno ploskvijo, kjer so septa kompaktna. Zbrusek 20 b, x 8
 Sl. 5. Del vertikalnega preseka pravokotno na os fosule. Vidi se bogata endoteka. Zbrusek 20 a, x 8

PLATE 24

Cunolites (Plesiocunolites) orbignyi (FROMENTEL 1864)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from above. Specimen 20, x 1
 Fig. 2. Basal plate of the same corallum. Specimen 20, x 1
 Fig. 3. Part of the vertical section along the fossula, where the septa are more perforated. Thin section 20 c, x 8
 Fig. 4. Part of the radial section, parallel to basal plate, showing compact septa. Thin section 20 b, x 8
 Fig. 5. Part of the vertical section perpendicular to the axis of fossula. Note rich endotheca. Thin section 20 a, x 8

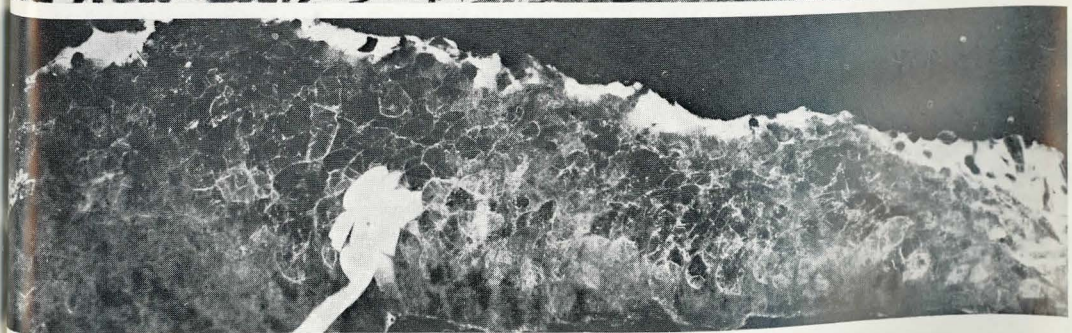
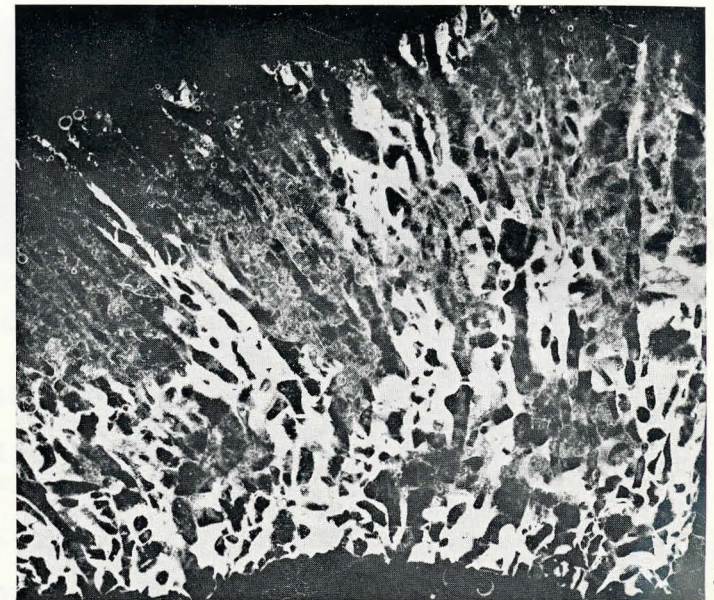
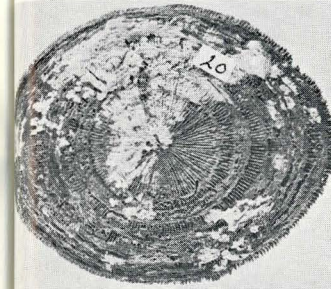
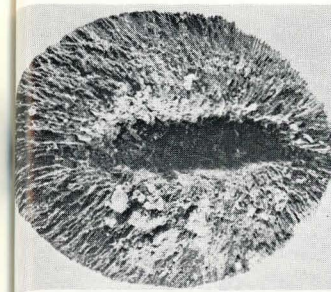


TABLA 25

Cunnolites (Plesiocunnolites) faecata (STOLICZKA 1873)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Bazalna ploskev koraluma. Vzorec 16, x 1
 Sl. 2. Vertikalni presek istega koraluma. Zbrusek 16 a, x 4
 Sl. 3. Površina koraluma od zgoraj. Vzorec 7, x 1
 Sl. 4. Bazalna ploskev istega koraluma. Vzorec 7, x 1
 Sl. 5. Radialni presek istega koraluma. V fosuli so odlomki sept. Zbrusek 7 b, x 4
 Sl. 6. Vertikalni presek istega koraluma. Zbrusek 7 a, x 4

Cunnolites (Plesiocunnolites) undulata (GOLDFUSS 1826)

Nahajališče: Stranice, santonij-kampanij

- Sl. 7. Površina koraluma od zgoraj. Vzorec 5, x 1,3
 Sl. 8. Ista površina kot na sl. 7. x 3
 Sl. 9. Bazalna ploskev istega koraluma. Vzorec 5, x 3
 Sl. 10. Skica istega koraluma od strani. (Vzorec 5), x 1

PLATE 25

Cunnolites (Plesiocunnolites) faecata (STOLICZKA 1873)

Locality: Stranice, Santonian-Campanian

- Fig. 1. Basal plate of the corallum. Specimen 16, x 1
 Fig. 2. Vertical section of the same corallum. Thin section 16 a, x 4
 Fig. 3. The surface of the corallum from above. Specimen 7, x 1
 Fig. 4. Basal plate of the same corallum. Specimen 7, x 1
 Fig. 5. Radial section of the same corallum. In fossula there are fragments of septa and septal teeth. Thin section 7 b, x 4
 Fig. 6. Vertical section of the same corallum. Thin section 7 a, x 4

Cunnolites (Plesiocunnolites) undulata (GOLDFUSS 1826)

Locality: Stranice, Santonian-Campanian

- Fig. 7. The surface of the corallum from above. Specimen 5, x 1,3
 Fig. 8. The same surface as Fig. 7. x 3
 Fig. 9. Basal plate of the same corallum. Specimen 5, x 3
 Fig. 10. Sketch of the same corallum from side. (Specimen 5), x 1

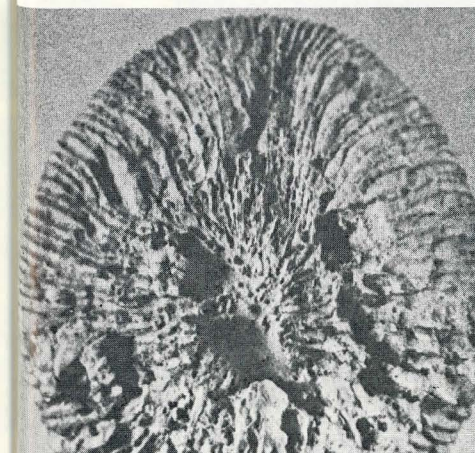
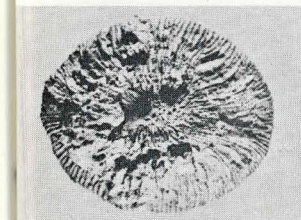
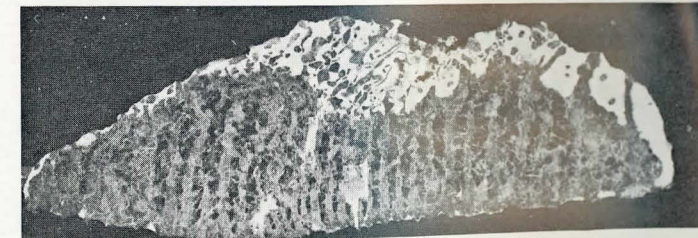
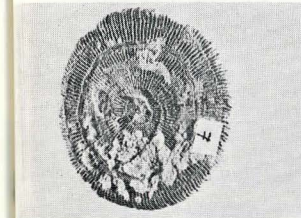
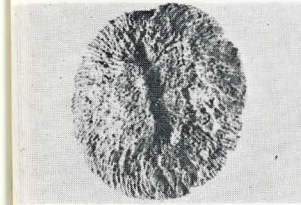


TABLA 26

Cunnolites (Plesiocunnolites) gosavicus (OPPENHEIM 1930)

Nahajališče: Stranice, santonij-kampanij

- Sl. 1. Površina koraluma od zgoraj. Vzorec 8, x 1
 Sl. 2. Bazalna ploskev istega koraluma. Vzorec 8, x 1
 Sl. 3. Površina s sl. 1. x 3
 Sl. 4. Bazalna ploskev s sl. 2. x 3

Cunnolites (Plesiocunnolites) nummulus (REUSS 1854)

Nahajališče: Rušovski brijeg, senonij

- Sl. 5. Radialni presek koraluma, ki je majhen, septa slabo ohranjena. Zbrusek 11 — 3 b, x 4
 Sl. 6. Vertikalni presek istega koraluma. Zbrusek 11 — 3 a, x 4
 Sl. 7. Radialni presek kot na sl. 5. Zbrusek 11 — 3 b, x 8

PLATE 26

Cunnolites (Plesiocunnolites) gosavicus (OPPENHEIM 1930)

Locality: Stranice, Santonian-Campanian

- Fig. 1. The surface of the corallum from above. Specimen 8, x 1
 Fig. 2. Basal plate of the same corallum. Specimen 8, x 1
 Fig. 3. Upper surface of the corallum from Fig. 1. x 3
 Fig. 4. Basal plate from the Fig. 2. x 3

Cunnolites (Plesiocunnolites) nummulus (REUSS 1854)

Locality: Rušovski brijeg, Senonian

- Fig. 5. Radial section of the corallum. It is small, septa are badly preserved. Thin section 11 — 3 b, x 4
 Fig. 6. Vertical section of the same corallum. Thin section 11 — 3 a, x 4
 Fig. 7. Radial section from the Fig. 5. Thin section 11 — 3 a, x 8

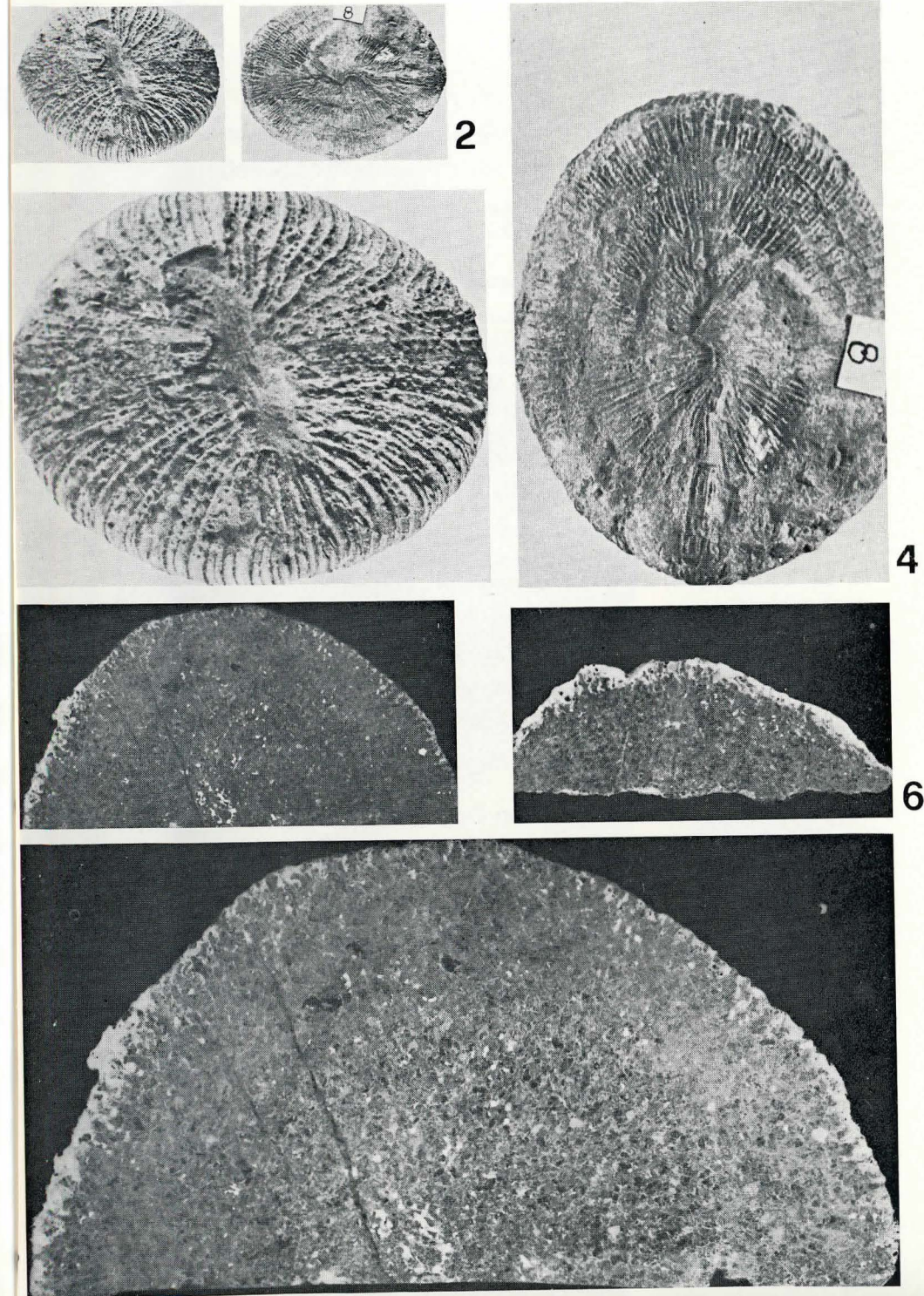


TABLA 27

Cunnolites (Plesiocunnolites) dispar (QUENSTEDT 1880)

Nahajališče: Radana vas, santonij-kampanij

Sl. 1—2. Površina koraluma od spodaj in z vrha. Vzorec W —7, x 1

Sl. 3—4. Isti koralum kot sl. 1—2. x 3

Cunnolites (Plesiocunnolites) cycloides (FELIX 1903)

Nahajališče: Radana vas, santonij-kampanij

Sl. 5—6. Površina koraluma z vrha in bazalna ploskev. Vzorec W —8, x 1

Sl. 7. Površina istega koraluma s sl. 5. Fosula je izven središča, čaša je nesimetrična. x 3

Cunnolites (Plesiocunnolites) cf. depressa (REUSS 1854)

Nahajališče: Radana vas, santonij-kampanij

Sl. 8—9. Površina koraluma z vrha in od spodaj. Rob je zaobljen in sploščen, čaša je dvignjena v sredini. Vzorec W —9, x 1

Sl. 10. Zgornja površina istega koraluma s fosulo. x 3

PLATE 27

Cunnolites (Plesiocunnolites) dispar (QUENSTEDT 1880)

Locality: Radana vas, Santonian-Campanian

Fig. 1—2. The surface of the corallum from above and below. Specimen W —7, x 1

Fig. 3—4. The same corallum as on Figs. 1—2. x 3

Cunnolites (Plesiocunnolites) cycloides (FELIX 1903)

Locality: Radana vas, Santonian-Campanian

Fig. 5—6. The surface of the corallum from above and below. Specimen W —8, x 1

Fig. 7. Upper surface of the same corallum. Fossula is out of the centre, the calice is asymmetrical. Specimen W —8, x 3

Cunnolites (Plesiocunnolites) cf. depressa (REUSS 1854)

Locality: Radana vas, Santonian-Campanian

Fig. 8—9. The surface of the corallum from above and basal plate. The edge is roundish and flattened, the calice is raised. Specimen W —9, x 1

Fig. 10. Upper surface of the same corallum with fossula. Specimen W —9, x 3

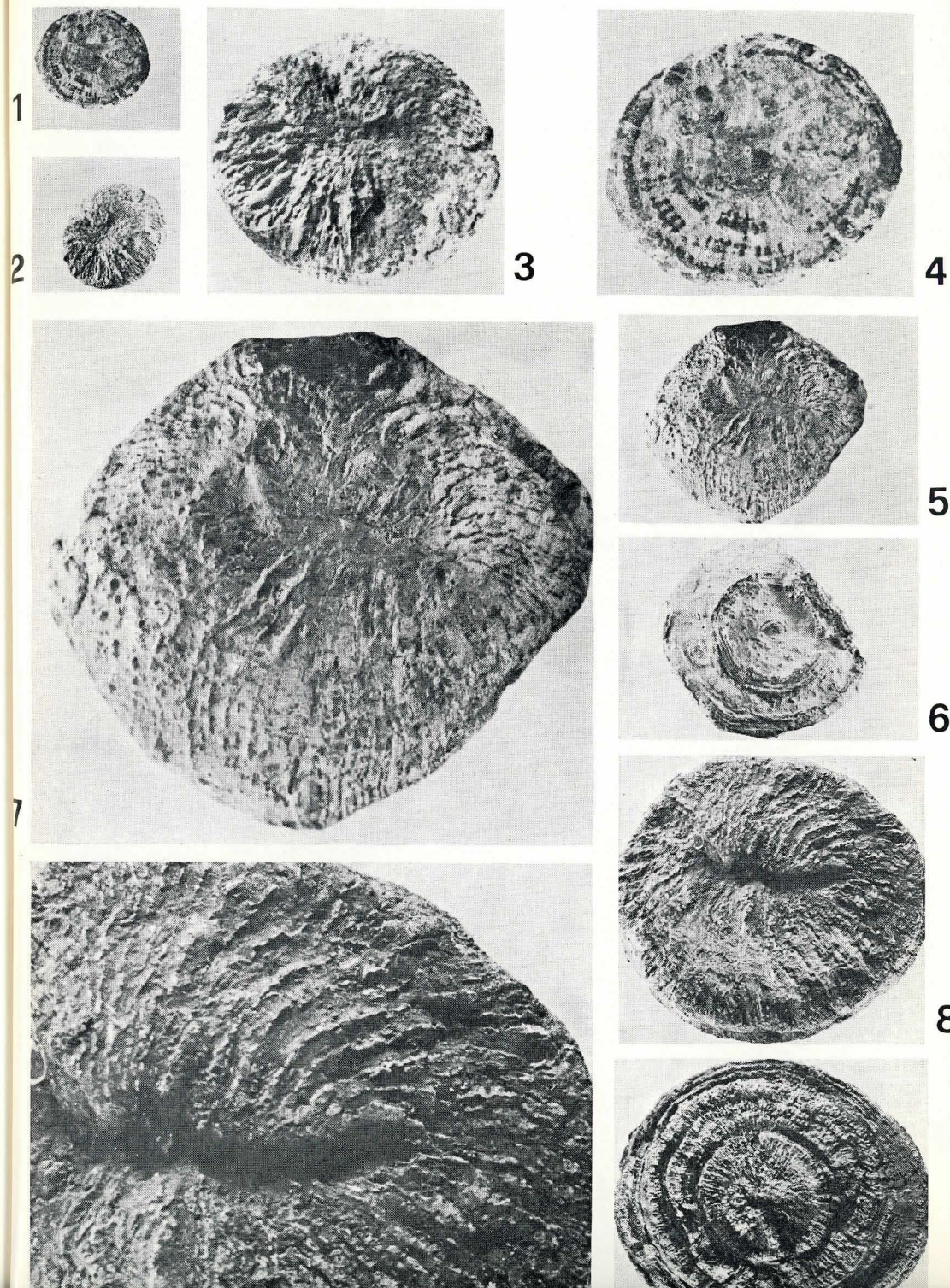


TABLA 28

Cunolites (Plesiocunolitopsis) robusta (QUENSTEDT 1880)

Nahajališče: Radana vas (W —10), Stranice (6), santonij-kampanij

- Sl. 1—2. Površina koraluma z vrha in bazalna ploskev. Vzorec W —10, x 1
 Sl. 3. Radialni presek istega koraluma (vzporedno z bazalno ploskvijo). Zbru-
 sek W —10 b, x 4
 Sl. 4—5. Površina koraluma z vrha in od spodaj. Vzorec 6, x 1

PLATE 28

Cunolites (Plesiocunolitopsis) robusta (QUENSTEDT 1880)

Locality: Radana vas (W —10), Stranice (6), Santonian-Campanian

- Fig. 1—2. The surface of the corallum from above and its basal plate. Spe-
 cimen W —10, x 1
 Fig. 3. Radial section of the same corallum, parallel to the basal plate. Thin
 section W —10 b, x 4
 Fig. 4—5. The surface of the corallum from above and its basal plate. Speci-
 men 6, x 1

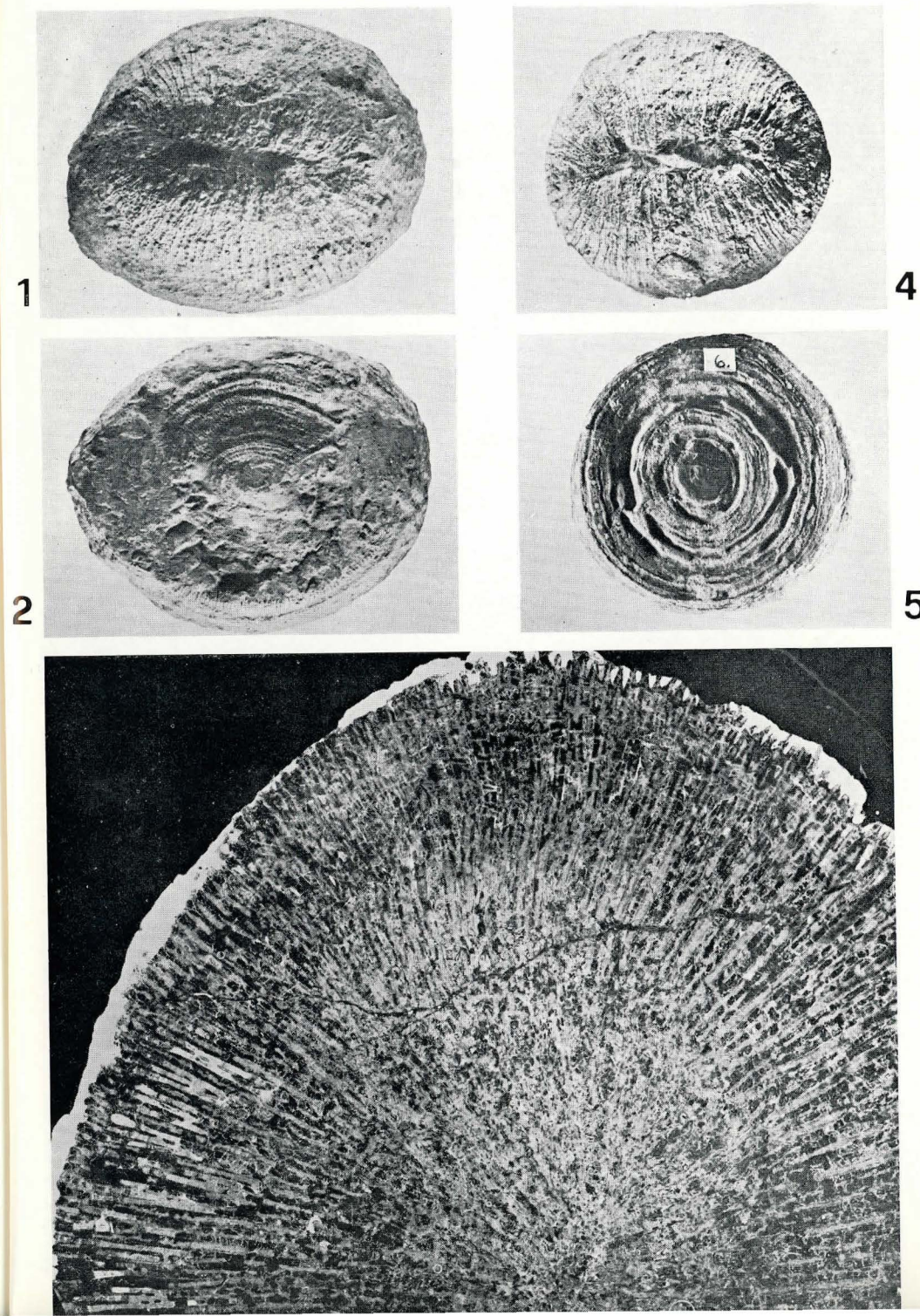


TABLA 29

Cunnolites (Plesiocunnolitopsis) robusta (QUENSTEDT 1880)

Nahajališče: Radana vas, santonij-kampanij

- Sl. 1. Vertikalni presek koraluma. Bogata endoteka. Koralum visok. Zbrusek W—10 a, x 8
- Sl. 2. Radialni presek koraluma, vzporeden z bazalno ploskvijo. Zbrusek W—10 b, x 8
- Sl. 3. Mikrostruktura sept. Lateralna stran je le redko nazobčana. Zbrusek W—10 b, x 40

PLATE 29

Cunnolites (Plesiocunnolitopsis) robusta (QUENSTEDT 1880)

Locality: Radana vas, Santonian-Campanian

- Fig. 1. Vertical section of corallum, showing rich endotheca. Corallum is high. Thin section W—10 a, x 8
- Fig. 2. Radial section of the same corallum, parallel to basal plate. Thin section W—10 b, x 8
- Fig. 3. Microstructure of septa. Lateral side of septa is only rarely dentate. Thin section W—10 b, x 40

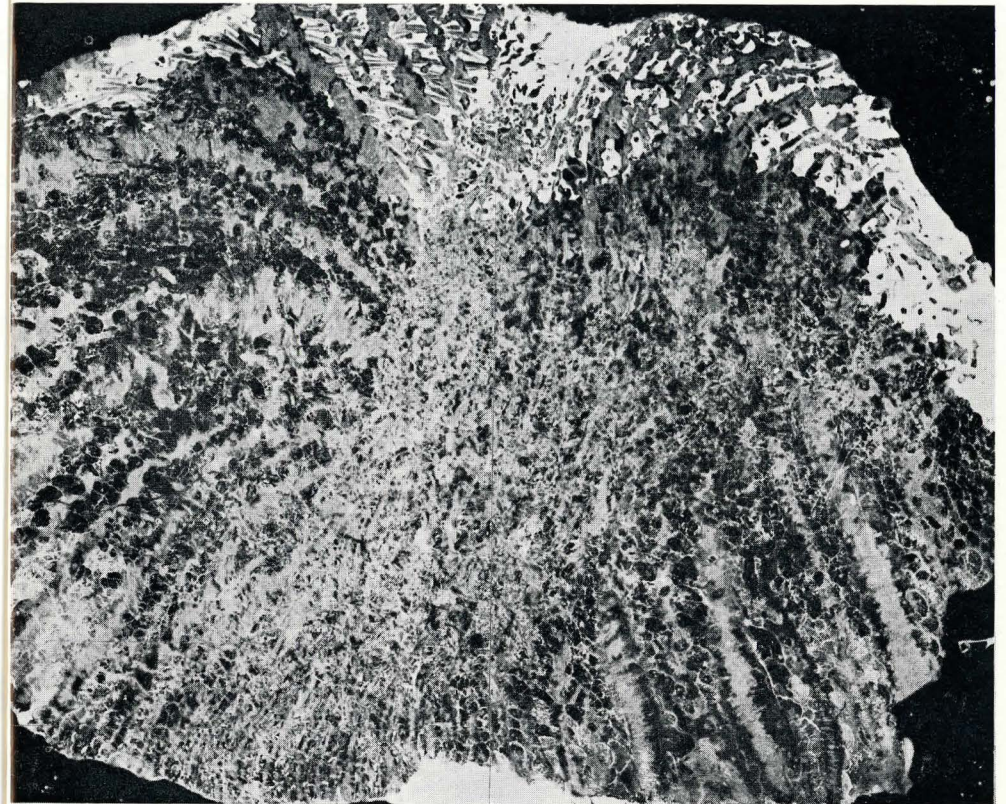


TABLA 30

Cunnolites (Plesiocunnolitopsis) longifossata (ČEŠMEDŽIEVA 1973)Nahajališče: Vrabečka gora (2—3), Novaki (6—2), santonij-kampanij
(?) maastrichtij

- Sl. 1—2. Površina koraluma z vrha in bazalna ploskev. Vzorec 2—3, x 1
 Sl. 3. Radialni presek koraluma, vzporeden z bazalno ploskvijo. Septa so
 gosta, srednje nazobčana. Zbrusek 6—2, x 4
 Sl. 4. Vertikalni presek istega koraluma. Bogata endoteka. Zbrusek 6—2 a, x 4
 Sl. 5. Del radialnega preseka s sl. 3. x 8

PLATE 30

Cunnolites (Plesiocunnolitopsis) longifossata (ČEŠMEDŽIEVA 1973)Locality: Vrabečka gora (2—3), Novaki (6—2), Santonian-Campanian,
(?) Maastrichtian

- Fig. 1—2. The surface of the corallum from above and its basal plate. Specimen 2—3, x 1
 Fig. 3. Radial section of the corallum, parallel to basal plate. Septa are dense, middle dentate. Thin section 6—2 b, x 4
 Fig. 4. Vertical section of the same corallum showing rich endotheca. Thin section 6—2 a, x 4
 Fig. 5. Part of the radial section from Fig. 3. x 8

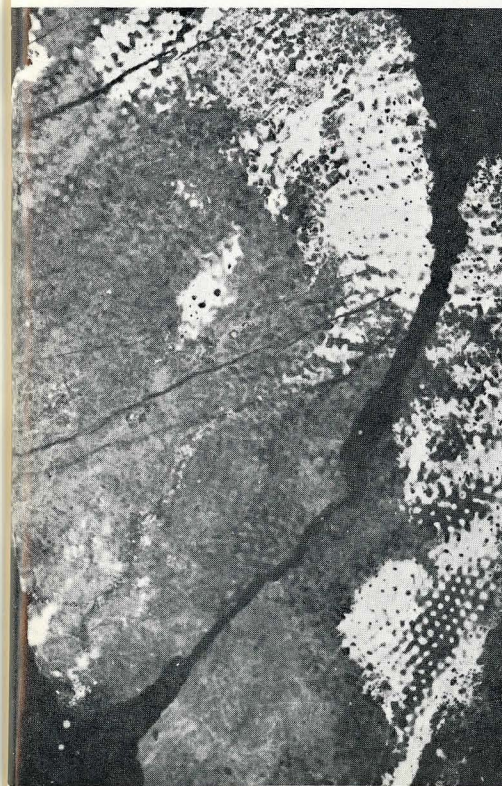
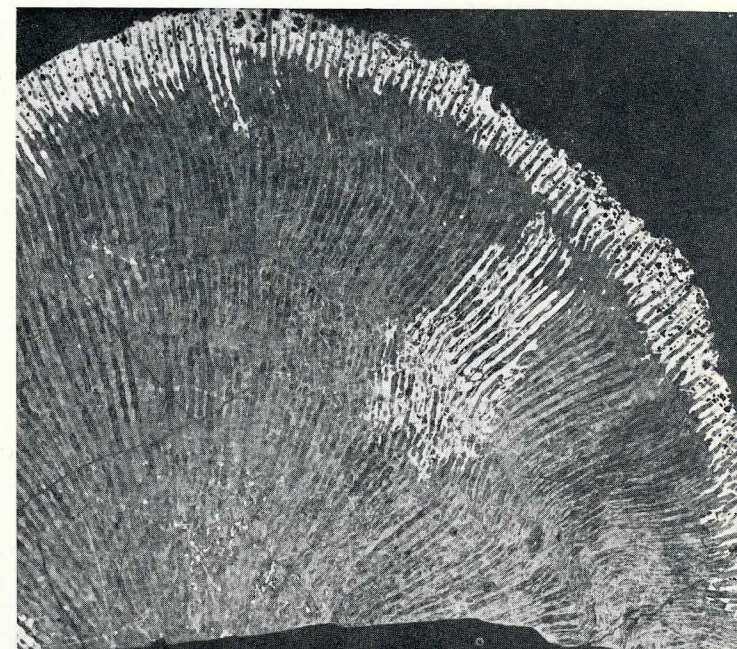
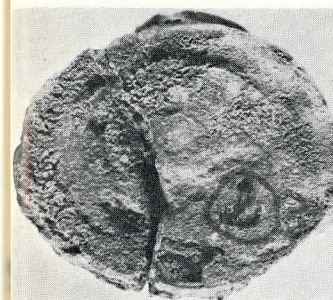
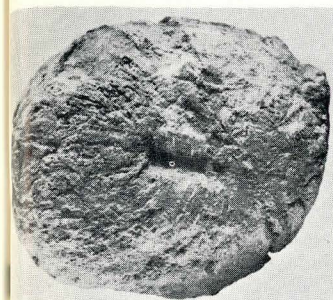


TABLA 31

Cunolites (Plesiocunolitopsis) sp.

Nahajališče: Stranice, santonij-kampanij

- Sl. 1—2. Površina koraluma z vrha in od spodaj. Vzorec 29, x 1
 Sl. 3. Radialni presek istega koraluma, vzporeden z bazalno ploskvijo. Zbrusek 29 b, x 4
 Sl. 4. Del radialnega preseka s sl. 3. x 8
 Sl. 5. Vertikalni presek istega koraluma, bogata endoteka. Zbrusek 29 a, x 4
 Sl. 6. Del vertikalnega koraluma s sl. 5. x 8

PLATE 31

Cunolites (Plesiocunolitopsis) sp.

Locality: Stranice, Santonian-Campanian

- Fig. 1—2. The surface of the corallum from above and its basal plate, Specimen 29, x 1
 Fig. 3. Radial section, parallel to the basal plate, of the same corallum. Thin section 29 b, x 4
 Fig. 4. Part of the radial section from Fig. 3. x 8
 Fig. 5. Vertical section of the same corallum showing rich endotheca. Thin section 29 a, x 4
 Fig. 6. Part of the vertical section from Fig. 5. x 8

