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Yarkov A.A. What does a unique collection of the remains of fossil organisms (Zarizinlaminata, Fungi, Lichens, Xenophyophora) in the exposition of the "Evolutionary Ecology and Archeology Museum" of Volzhsky branch of VolSU tell us about?

Ярков А.А. О чем рассказывает коллекция остатков уникальных ископаемых организмов (Zarizinlaminata - грибы Fungi?, лишайники Lichenes?, Xenophyophora?) в экспозиции музея "Эволюционной экологии и археологии" ВГИ (филиала) ВолГУ

http://museum.vgi.volsu.ru/zarizinlaminata-czarskie-plastinki/zarizinlaminata-v-nauchnyix-statyax/597-yarkov-a.a.-o-chem-rasskazyivaet-kollekcziya-ostatkov-unikalnyix-iskopaemyix-organizmov-(zarizinlaminata-gribyi-fungi,-lishajniki-lichenes,-xenophyophora)-v-ekspoziczii-muzeya-evolyuczionnoj-ekologii-i-arxeologii-vgi-(filiala)-volgu,-2017-g.html

A large collection of seemingly unremarkable and similar to lifeless sandstone fossils along with bones of rhinos, mammoths, mosasaurs, plesiosaurus and teeth of predatory sharks is presented in the paleontological exposition of "Evolutionary Ecology and Archeology Museum" in Volzhsky branch of VolSU. Some fossils can be compared with large branches of bushes (inventory number №85); others are interwoven in monolithic stone slab (№ 2897) just like roots of trees. In the displays of the museum one can see rusty-colored(because of the high content of iron oxides) pointed ends of fossils, which are spherical, like cannonballs (№ 400) and cylindrical, up to 40 cm in length (№ 2878, 2879).Some samples resemble platy sandstones with a thin-layer structure. The structure of the Taman Peninsula thin-layer plates of Miocene clays looks like a brick wall, created

by the hand of man, and it consists of small squares. Located in a separate showcase yellowish and gray stones have a radial symmetry just like flowers and attract interrogative views of students and pupils, willingly or unwillingly (№2966 – 3008).

It is hard to believe for an inexperienced in the paleontological subtleties visitor that there are the unique remains of the oldest inhabitants of the planet, whose ancestors appeared in the World Ocean during the Archean era, almost 3.5 billion years ago, on the floor and in the showcases of the Museum. That is why the author has devoted more than 10 years to studying and collecting these seemingly nondescript inhabitants of the disappeared ocean Tethys (Yarkov, 2006, 2008).And every year the interest in organisms for which a separate type of Zarizinlaminata (in honor of the city of Zarizin) in the Protista kingdom only increases.

Since ancient times, scientists have been trying to understand the nature of branched and radiant fossils, which were called «Problematika», protected by sacred writings – Hieroglyphen. Covered with papillaebranches of Callionassafalsus (synonyms: Algacites, Granularia, Cylindrities, Ophiomorpha, Sabularia, Alcyonidiopsis) from Jurassic, Cretaceous and Paleogene deposits of the Volgograd region scientists considered, together with corals and bryozoans, to zoophytes, or animals similar to plants. The history of studying of Callionassafalsus, as well as all branched problematikas, lasts more than 150 years. Thallussimilar in appearance, covered with papillae, was described as an alga Algacitesgranulatus by the famous paleobotanist Schlotheim in 1822.In 1842 Pomel renamed the genus Algacites into Granularia.In 1841 the President of Geographical and Geological Society of London R. I. Murchison compared "long branching bodies" of Callionassafalsus (which were discovered in the cliff of the Volga river, near to the station Antipovka (in the south off Kamyshin) with corals or sponges Alcyonia. In 1842 Heinrich Göppert singled out a new species of algae called Cylindritesspongioides from the Cenomanian Saxony. Later, in 1865, the Russian paleontologist E. Eichwald described two small fragments of the branches

of the Cretaceous sandstones called Cylindritiestuberosus (which were found near Syzran) as fossilizedthallus of green algae.

In the Museum one can also see whitish limestone plates, discovered by the author on the shore of the Black sea, in the Cretaceous flysch deposits near to Divnomorsk (Gelendzhik). There are dark branched contours, which have a striking resemblance to the leaves of algae on these plates.Forms of preservation of branched Zarizinlaminata should be divided into volumetric (physical) and planar(embedded in the surface of the rock and erroneously attributed to the prints). The Greek scientist Pliny the Elder took the volumetric dendrobiinaefossilsas Phycites. The paleobotanic Alexandre Brongniart (1822) saw the prints of brown algae in planar Problematikas, therefore he interpreted them as «Fucoiden, Fucoides» (in honor of brown algae Fucus).Other scientists called them Dendrophycus or Chondrites, in honor of another brown algae Chondriadecipiens.

The Russian paleoanthologist Maslov (1956) attributed impregnated with limestone Ungdarellauralica Maslov to Coralline algae. At the end of the 19th century the attitude to Fucoiden changed but not in a positive way. Basing only on resemblance, palaeoichnology (the specialists in the remains of invertebrates) interpreted the branched fossils as Ichnofossils (or Trace fossils, Lebensspuren). In 1895 after a long observation of the behavior of worms and molluscs, the paleobotanist A. Nathorst came to the conclusion that Fucoiden are not the remains of plants, but worm's and crustacean's burrows. The main argument against the algal hypothesis was that dendritic fossils had no cellular structure. In 1905, T. Fuchs pointed out that the mysterious Fucoiden area branching system of Nereites and Skolithos worms' passages filled with the secondary sediment. A. K. Alekseev gave quite an original and unexpected interpretation to thallus Callionassafalsus (Celindrites) tuberosus Eichw in 1945.He considered them to be traces of bivalves Cultellus in the sand. V. Henschel concluded that thallusCallionassafalsus should be considered as residential tubes of burrowing decapods. He thought that knobby sculptures on the walls of the branches were the result of covering the walls with the balls, made from the sediment by decapods.

The outstanding palaeoichnologist O.S. Vyalov (1966) considered the Callionassafalsus (Ophiomorpha) papillae as crustacean's coprolites.

Lately touchable fossils have acquired an empirical status of the spiritual substance, which is expressed, according to Dronov and Mikulash (Dronov, Mikulash, 2006, p. 33) in "the petrified behavior of fossil organisms". Having rejected the material substance of branched fossils, Adolf Seilacher invented incompatible with common sense « ethological (behavioral) classification» for supposed traces. (Seilacher, 1953)Nowadays it is not strange that such a meaningless (having no cause-and-effect relationship) ethological classification «has gained wide fame and popularity among palaeoichnologists» (Dronov, Mikulash, p. 33).Branchy grooves along with holes in rocks, framed by colorful arguments, got Latin designations at the level of ichnospecies, ichnogenera and even ichnofamilies. Moreover, traces left by modern animals are systematized in a normal mode, using original names of these animals. Unfortunately, empirical hypotheses of palaeoichnologists have become axioms. The ichnological (spiritual) classification has been added to the International Code of Zoological nomenclature, and the attitude to branched formations like skeletons of the unique extinct organisms is persecuted.

http://museum.vgi.volsu.ru/zarizinlaminata-czarskie-plastinki/zarizinlaminata-v-nauchnyix-statyax/597-yarkov-a.a.-o-chem-rasskazyivaet-kollekcziya-ostatkov-unikalnyix-iskopaemyix-organizmov-(zarizinlaminata-gribyi-fungi,-lishajniki-lichenes,-xenophyophora)-v-ekspoziczii-muzeya-evolyuczionnoj-ekologii-i-arxeologii-vgi-(filiala)-volgu,-2017-g.html

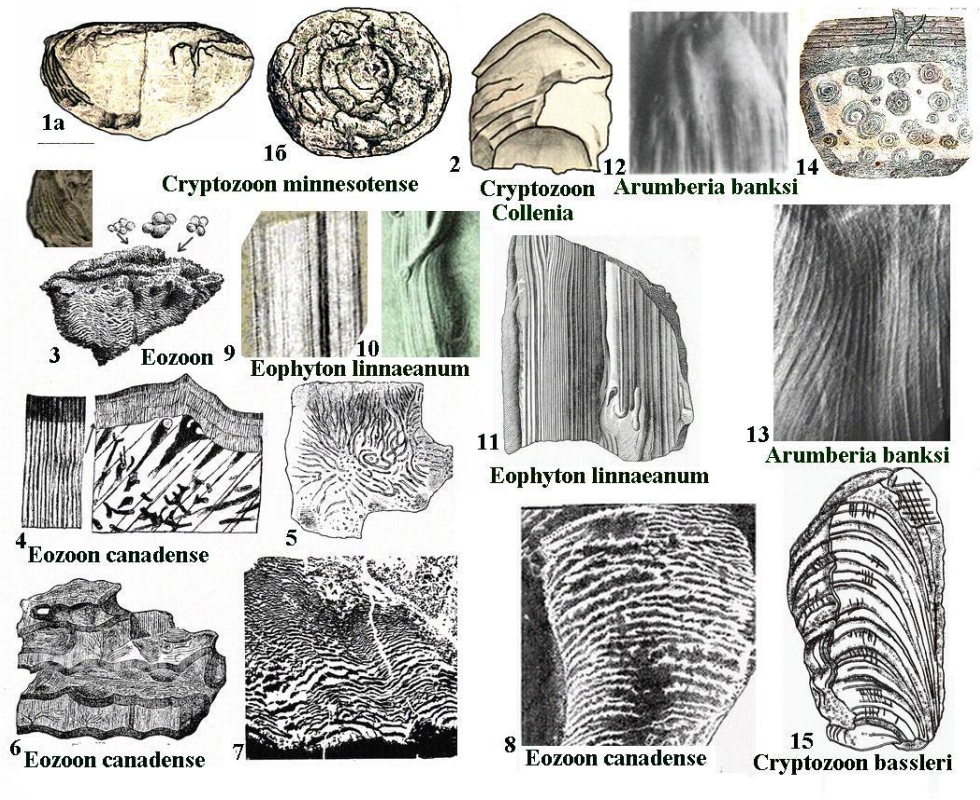

Рис. 1. 1а,1б,2 – Cryptozoon minnesotense Winchell, 1886; 3-8 – Eozoon canadense Dawson, 1865; 9 –11 – Eophyton linnaeanum Torell, 1868; 12,13 – Arumberia banksi Glaessner; 14 – Girvanella, ламинированные карбонатные конкреции, Steele, 1825; 15 – Cryptozoon bassleri Winchell, 1885. Обратите внимание на сходство линейных структур эозоон(4), эофитон (10,11) и арумберия (13).

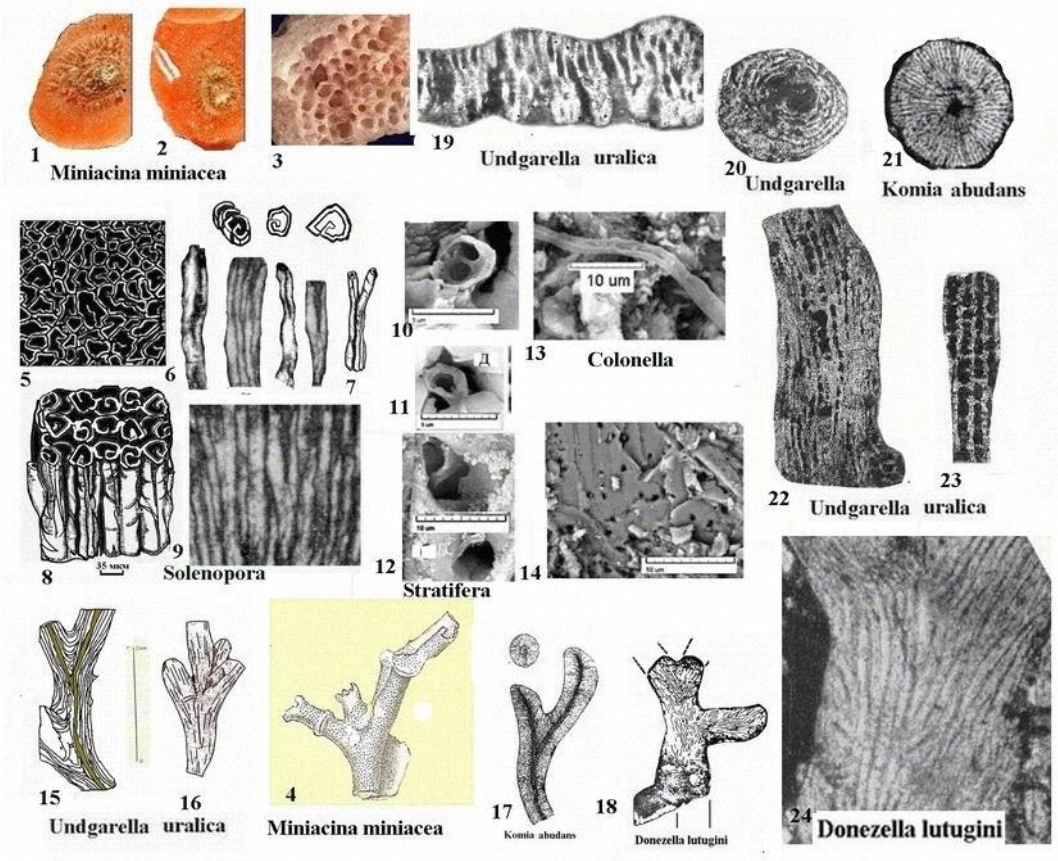

Рис. 2. 1-4 – фораминиферы Miniacina miniacea с высоким содержанием магния; 5-9 – слоевище Solenopora, диаметр гофрированных трубок 35 мкм; 10-14 – трубки и желобки в талломах Stratifera, Colonella, диаметр трубок 5 мкм (Литвинова, Сонин, 2013); 15,16, – Ungdarella uralica Maslov, 1956; 19,20, 22,23 – Ungdarella uralica (Иванова, 2013); 21,17 – Komia; 18,24 – Donezella (Маслов, 1956).

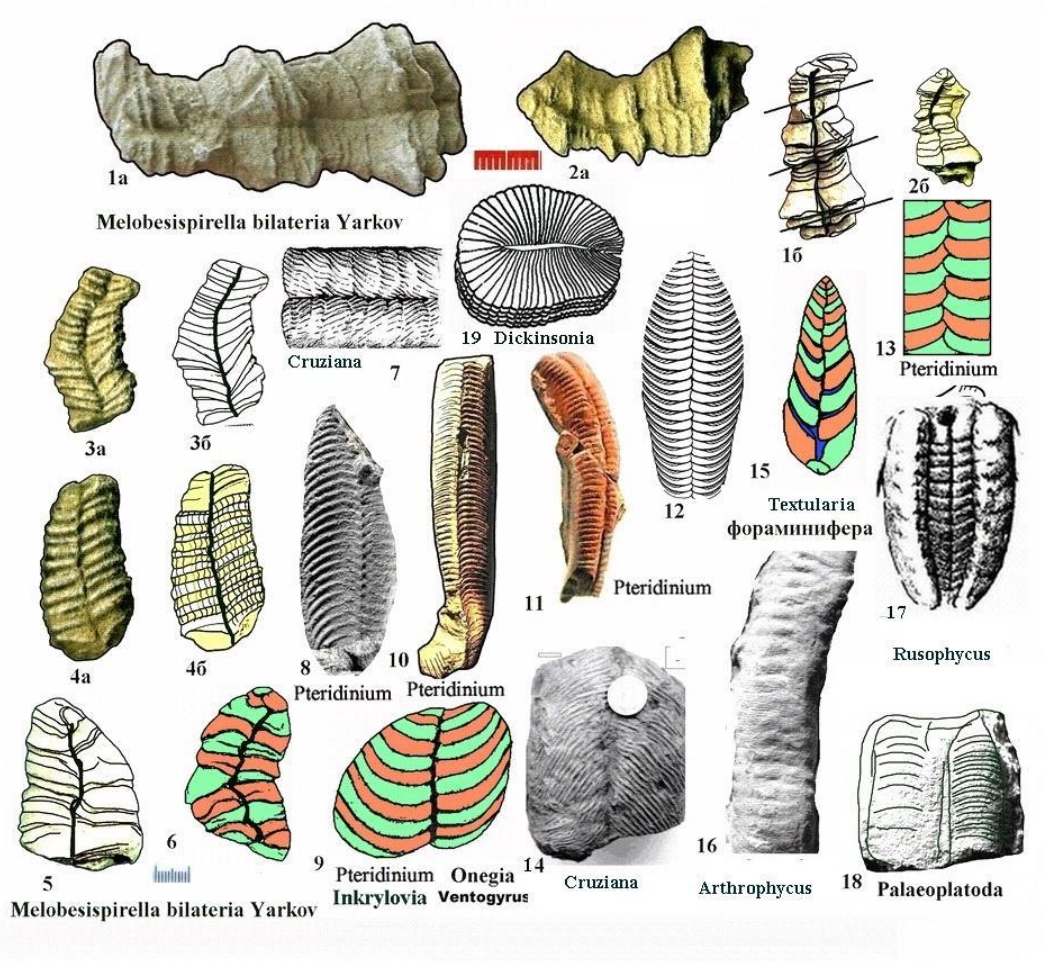

Рис. 3. 1,6 – фрагменты талломов Melobesispirella bilateria Yarkov. Таллом состоит из двух рядов сегментов, последовательно почкующихся друг от друга, обратите внимание на фигуру 1б, которая состоит из 3 модулей; 7, 14 – фрагменты билатеральных талломов бесконечного роста Cruziana; 8-13 – Pteridinium (синонимы: Ventogyrus, Inkrylovia, Onegia); 15 – двурядная фораминифера Textularia; 16 – линейный таллом бесконечного роста Arthrophycus; 17 – таллом Rusophycus является утолщенным слоевищем Cruziana; 18 – Palaeoplatoda segmentala невозможно отличить от Cruziana.

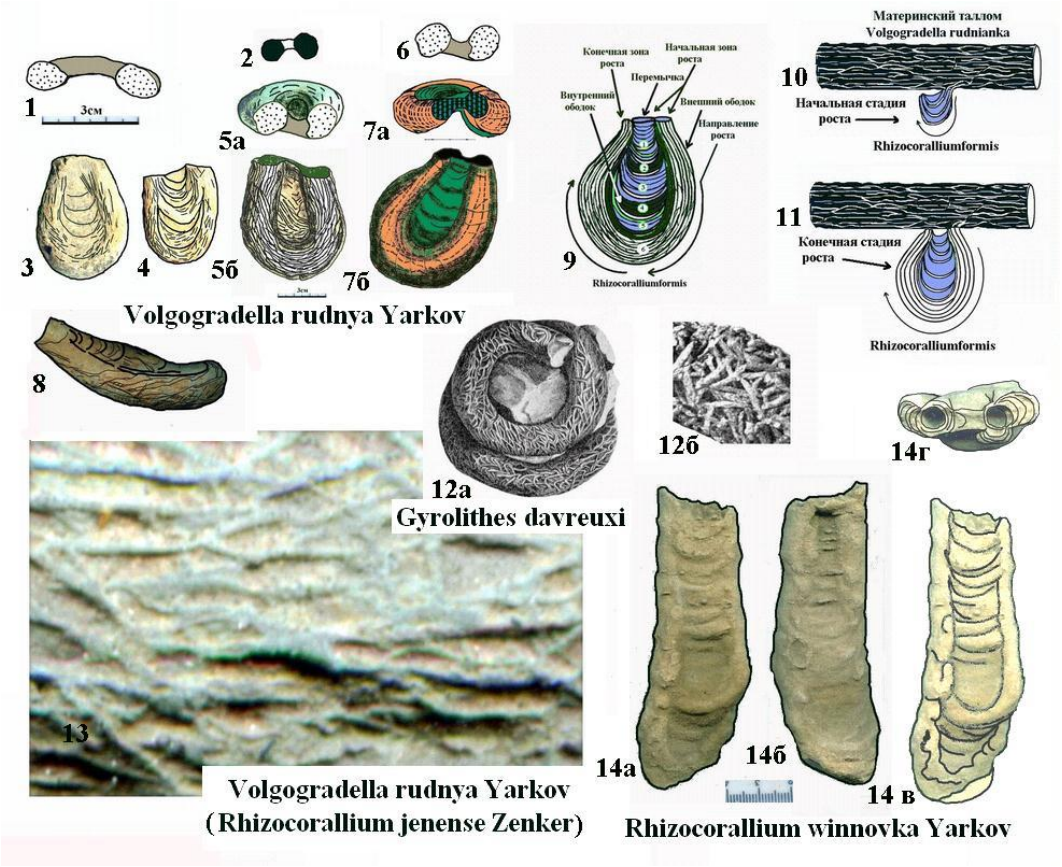

Рис. 4. 1-9 – изогнутые ветви Volgogradella rudnya Yarkov палеоихнологи относят к виду Rhizocorallium jenense; 10-11 – схематическое изображение показывающее, как от линейного таллома Volgogradella rudnya почкуется Rhizocorallium jenense; 12 – спиральный таллом Gyrolithes davreuxi всего лишь вегетативная ветвь рода Volgogradella; 13 – линейная скульптура на слоевище изогнутого таллома Volgogradella rudnya; 14 – Rhizocorallium winnovka Yarkov, 14г – на срезе хорошо выделяется слоистость трубок.

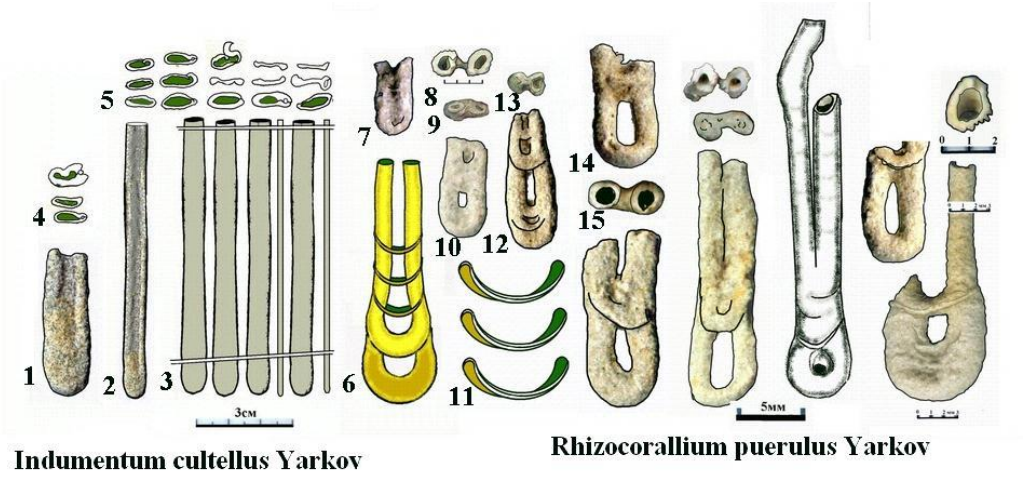

Рис. 5. 1-5 – чехлы Indumentum cultellus Yarkov, обратите внимание, что трубка присутствует не всегда и она разных очертаний (4, 5); 7-15 – Rhizocorallium puerulus Yarkov; 6 - схематическое изображение модульного таллома с изогнутыми перекладинами в форме повернутых вниз желобков (11). Обратите внимание, что трубка также

отсутствует (9), либо она слабо выражена (13). Нередко контуры у трубок овальные, чего мы не наблюдаем у жилых трубок насекомых и червей.

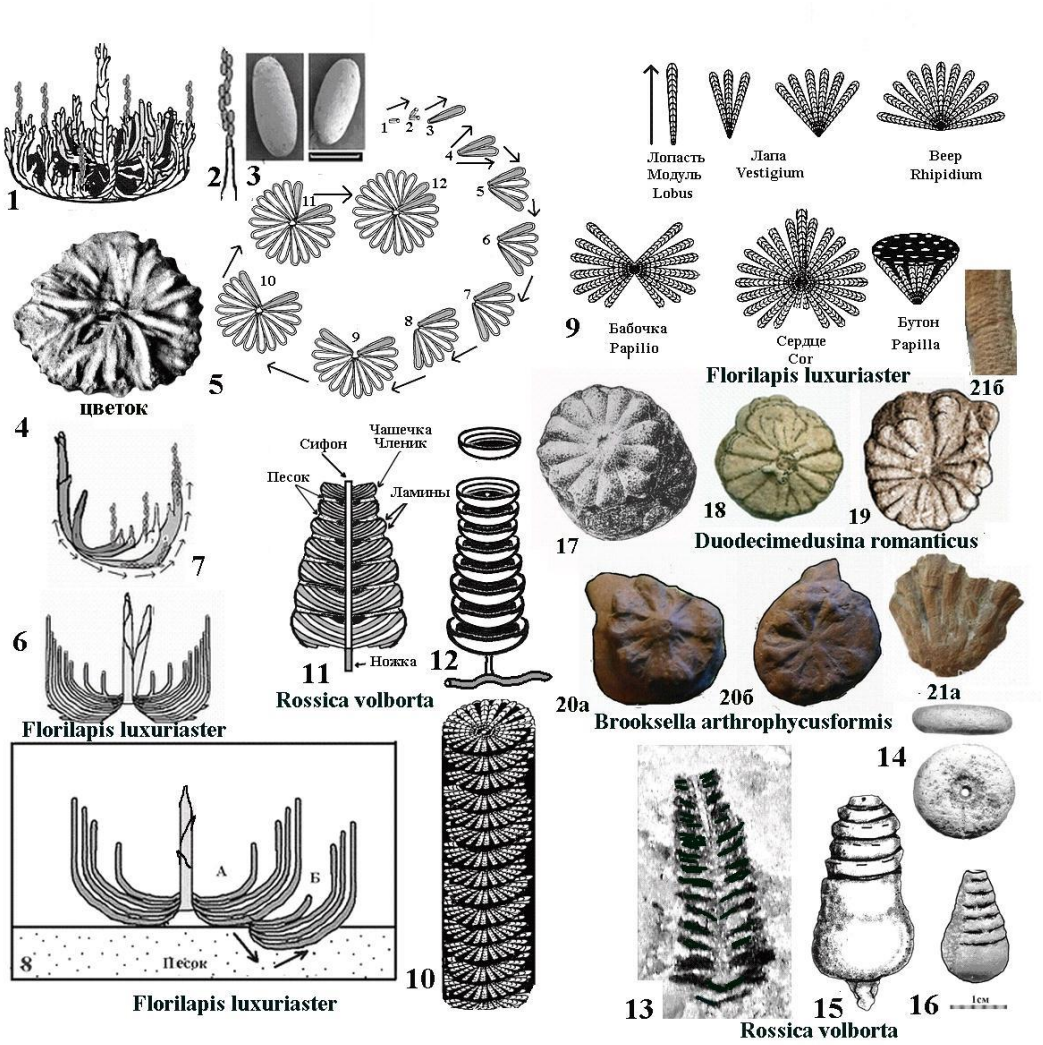

Рис. 6. 1-9 – схематическое изображение Florilapis luxuriaster, фото плодов (3) или, кому как нравится, они же по замыслам палеоихнологов фекалии Tomaculum problematicum, рост таллома флорилапис в двух направлениях (7), дихтомически ветвящийся осевой таллом (6), от базальной поверхности почкуется юный таллом (8), схематическое изображение вегетации таллома (5,9); 11-16 - Rossica volborta, схематическое изображение россики на тонкой ножке (11,12), продольный срез россики (13), членик россики (14), таллом россики на тонкой ножке (15). Палеоцен Серафимовича, средний эоцен «россиковый горизонт», Волгоградская обл.; 17 – тип рода Duodecimedusina, девон США; 18,19 – радиально-лучистые талломы Duodecimedusina romanticus Yarkov, палеоцен Серафимовича; 20,21 – таллом Brooksella arthrophycusformis Yarkov, нижний мел, р. Жане, от общего центра отходят ветви с поперечной скульптурой как у Arthrophycus (21а, 21б).