Revision of the Oligocene bryozoan taxa described by Stoliczka (1862), with the description of a new genus of Bryocryptellidae

Kamil ZÁGORŠEK
Department of Geography, Technical University of Liberec
Studentská 2, CZ-461 17 Liberec (Czech Republic)
kamil.zagorsek@gmail.com

Dennis P. GORDON
Marine Biodiversity & Biosecurity,
National Institute of Water & Atmospheric Research,
Private Bag 14901, Kilbirnie, Wellington, (New Zealand)
dennis.gordon@niwa.co.nz

ABSTRACT
A collection of bryozoans from the Oligocene of Latdorf, Germany, first described by Ferdinand Stoliczka in 1862 and not examined since, has been re-examined. Stoliczka had recognized 47 species, 24 of them new. Of these latter, 14 names remain valid; the remainder are synonyms of previously described taxa or, owing to the originally inadequate state of the fossil material examined, taxonomically indeterminable. The genera Orbitulipora Stoliczka, 1862 and Stichoporina Stoliczka, 1862, both introduced by Stoliczka in 1862 along with their type species, are still valid. Two of his species, one of which had not been examined since its first description, comprise a new bryocryptellid genus, Stoliczkella n. gen., which superficially resembles the celleporid genus Galeopsis Jullien & Calvet, 1903. Diagnoses or descriptions are provided herein for all of the taxa in the collection and lectotypes selected. The results of this revision will be applied to a forthcoming analysis of a recent extended excavation of the Latdorf section by the University of Leipzig, in which bryozoans are among the most abundant fossil groups.

KEY WORDS
Bryozoa, Oligocene, Germany, lectotypification, new genus, new combinations.
MATERIAL AND METHODS

Thanks to the EU project Synthesys (AT-TAF-2647) one of us (KZ) was able to access the type collection of Stoliczka (1862) stored in the Natural History Museum in Vienna (NHMV). The collection is in good condition and all type material examined is properly labelled. Specimens were cleaned briefly (several seconds) in an ultrasonic cleaner before initial study by optical microscopy and preliminary taxonomic assessment. During this preliminary study an attempt was made to match type specimens with Stoliczka’s (1862) illustrations. If the type collection included more than one specimen per species, a lectotype was selected that either most closely resembled the illustration made by Stoliczka (1862) or (if no such specimen could be found) was the best-preserved colony.

Selected specimens from among those showing sufficient preservation and important features were studied using SEM (Jeol, type JSM 6610 LV). The specimens were temporarily mounted on adhesive carbon disks and observed without coating in a low-vacuum regime. SEM micrographs were processed using CorelDraw X3® software to produce the final illustrations.

INTRODUCTION

Stoliczka (1862) described bryozoans from a fossil locality at Latdorf, Saxony-Anhalt, Germany, recognizing 47 species, 24 of them new, and ascribing an Oligocene age to the section. As is usual for many publications from the 19th century, the quality of illustrations and species descriptions is frequently inadequate for modern determination. Recently, an extended excavation of the Latdorf section was undertaken by the University of Leipzig (Institut für Geophysik und Geologie, Geologisch-Palaeontologische Sammlung). Bryozoans turned out to be among the most abundant fossil groups, but, in order to evaluate their taxonomic composition, and to contribute to a better understanding of the overall paleontological significance of the site, it has proven necessary to examine the type material of the species described by Stoliczka (1862). The main purpose of this paper is to revise Stoliczka’s collection and, at the same time, provide a basis for the inclusion of this group of colonial suspension-feeding organisms in a later paleoecological analysis of the faunal components of the section.

RÉSUMÉ

Révision des bryozoaires oligocènes décrits par Stoliczka (1862), avec la description d’un nouveau genre de Bryocryptellidae.

Une collection de bryozoaires de l’Oligocène de Latdorf, Allemagne, initialement décrite par Ferdinand Stoliczka en 1862 et jamais revue depuis, a été réexaminée. Stoliczka avait reconnu 47 espèces, dont 24 nouvelles. Parmi ces dernières, 14 noms restent acceptables, les autres sont des synonymes de taxons déjà décrits ou, de taxonomie indéterminable en raison du mauvais état d’origine du matériel fossile. Les genres Orbitulipora Stoliczka, 1862 et Stichoporina Stoliczka, 1862, tous deux introduits par Stoliczka en 1862 avec leur espèce type, sont toujours acceptables. Deux de ses espèces, dont l’une n’avait pas été examinée depuis sa première description, comprennent un nouveau genre de Bryocryptellidae, Stoliczkella n. gen., qui ressemble superficiellement à Galeopsis Jullien & Calvet, 1903 (Celleporidae). Ici, les diagnostics et descriptions sont fournis pour tous les taxons de la collection et les lectotypes sélectionnés. Les résultats de cette révision seront utilisés pour l’analyse d’une extension récente de l’excavation de la coupe de Latdorf, entreprise par l’Université de Leipzig, dans lequel les bryozoaires sont parmi les groupes de fossiles les plus abondants.
Our taxonomic and nomenclatural revision of the type collection is summarized in Table 1. Detailed description of all species described as new by Stoliczka (1862) follows, using taxonomically revised binominals where necessary. We illustrate those specimens that we regard as definitely intended by Stoliczka to represent his new taxa.

SYSTEMATICS

Phylum BRYOZOA Ehrenberg, 1831
Class STENOLAEMATA Borg, 1926
Order CYCLOSTOMATA Busk, 1852
Family TUBULIPORIDAE Johnston, 1838
Genus Exidmonea
David, Mongereau & Pouyet, 1972

Exidmonea hoernesi (Stoliczka, 1862)
(Fig. 1A)

Idmonea (Tubigera) hörnesi Stoliczka, 1862: 82, pl. 1, fig. 7.
Exidmonea hoernesi – Zágoršek 2003: 111, pl. 2, fig. 3 (cum syn.).

MATERIAL EXAMINED. — Holotype, registered as 1862/0022/0050.

DIAGNOSIS. — Four zooecia in each fascicular row, fascicles not alternating. One aperture, close to the dorsal side, always arranged outside the fascicle. Apertures rectangular, with short narrow peristome. Zooecial tubes perforated by pseudopores. Dorsal side of colony slightly ribbed and convex. No gonozooecium developed.

REMARKS
Although no gonozooecia have been found, the presence of one aperture, close to the dorsal side of the colony, which is always arranged outside the fascicle is diagnostic, allowing positive identification.

Exidmonea giebeli (Stoliczka, 1862)
(Fig. 1B)

Idmonea giebeli Stoliczka, 1862: 81, pl. 1, fig. 6 (v).
Exidmonea giebeli – Zágoršek 2003: 110, pl. 2, figs 4, 5 (cum syn.).

MATERIAL EXAMINED. — Holotype, registered as 1859/0026/0144.

DIAGNOSIS. — Colony with triangular transverse section, the angle between the frontal sides c. 120°. Fascicles comprising pairs of apertures with 1 additional aperture situated close to median area of frontal side of colony. Dorsal side of colony flat or rarely slightly convex, perforated by pseudopores, with slight outline of zooecial tubes. Gonozooecium not observed.

REMARKS
The species is similar to Ybseloecia typica (Manzoni, 1878) but differs in the presence of an additional aperture situated between the pairs of fasciculate apertures, in the middle of the frontal side of the colony. This seems to be diagnostic for the species. Although the absence of a gonozooecium can make species identification problematic, the presence of median rows of autozooecia not belonging to a fascicle is also a specific feature. The species name was used also by Zágoršek (2010) to accommodate Miocene Exidmonea with median rows of autozooecia in very wide, low-profile branches.

Due to the gently convex frontal surface and absence of keel separating two fascicles, the species may belong also to genus Nevianipora Borg, 1944. Without a well-preserved gonozooecium, these two genera cannot be clearly distinguished, so the generic attribution of the species remains uncertain.

Exidmonea hoernesi (Stoliczka, 1862) – Zágoršek 2003: 111, pl. 2, fig. 3 (cum syn.).

Exidmonea giebeli – Zágoršek 2003: 110, pl. 2, figs 4, 5 (cum syn.).

Exidmonea giebeli – Zágoršek 2010: 120, pl. 2, fig. 6 (cum syn.).

Familie ONCOUSOECIIDAE Canu, 1918
Genus Filisparsa d’Orbigny, 1853

Filisparsa? sp.
(Fig. 1C, D)

Filisparsa tenella Stoliczka, 1862: 80, pl. 1, fig. 5. — Zágoršek 2001: 519; 2003: 115, pl. 2, fig. 6 (cum syn.).

MATERIAL EXAMINED. — Holotype of Filisparsa tenella, registered as 1862/0022/0049.

REMARKS
Owing to the poor preservation and lack of the gonozooecium, the exact determination remains uncertain, but the arrangement of the autozooecia mostly resembles those in Filisparsa, even though the type species is Cretaceous. There is also some similarity to Tervia serrata (Reuss, 1869) in which, however, the V outline of the autozooecial tubes is observable on the dorsal side of the branch.

Family MECYNOECIIDAE Canu, 1918
Genus Mecynoea Canu, 1918

Mecynoea cf. pulchella (Reuss, 1847) (Fig. 1E)

Cricopora pulchella Reuss, 1847: 40, pl. 6, fig. 10.

Postulopora (Claus) retifera Stoliczka, 1862: 78, pl. 1, fig. 2.

Mecynoea pulchella – Zágoršek 2010: 32, pl. 17, figs 1-8 (cum syn.).

MATERIAL EXAMINED. — Two colonies of Postulopora (Claus) retifera, both lacking a gonozooecium, are registered as 1862/0022/0047. Owing to taxonomic uncertainty, no lectotype of Stoliczka’s species has been selected.

DIAGNOSIS. — Colonies branches broken into a short length, with 12-14 autozooecial tubes arranged around branch axis. Tubes narrow, short, with circular to oval aperture. Apertures are very densely arranged, situated on short peristomes. Frontal walls short, slightly convex, smooth, sparsely perforated by small pseudopores. Gonozooecium lacking.

REMARKS
The arrangement of zooecia very closely resembles that in Mecynoea pulchella, which is very common in tertiary sediments of Paratethys (see Zágoršek 2010). Insofar as gonozooecia are lacking in any of the Stoliczka specimens, the identification is not certain.
Revision of the Oligocene bryozoan taxa with the recognition of a new genus

Fig. 1. — A, *Exidmonea hoernesi* (Stoliczka, 1862), general view of holotype showing diagnostic features: one aperture, close to the dorsal side of the colony, which is always arranged outside the fascicle; B, *Exidmonea giebeli* (Stoliczka, 1862), general view of holotype; C, D, holotype of *Filisparsa tenella* identified as *Filisparsa?* sp. due to the poor preservation and lack of the gonozooecium; E, one of the syntypes of *Pustulopora* (Clausa) *retifera* identified as *Mecynoecia cf. pulchella* (Reuss, 1847) owing to the lack of a gonozooecium; F, holotype of *Pustulopora attenuate* identified as *Mecynoecia cf. proboscidea* (Milne-Edwards, 1838) owing to the lack of a gonozooecium; G, H, syntype of *Alveolaria Buski* identified as ?*Bobiesipora fasciculata* (Reuss, 1848); J, holotype of *Heteropora similis* Stoliczka, 1862, identified as *nomen dubium* due to the very poor preservation and the absence of a gonozooecium or any other characteristic features; K, L, holotype of *Pavotubigera anhaltina* identified as “*Disporella anhaltina* (Stoliczka, 1862)” *nomen dubium* owing to poor preservation and the absence of a gonozooecium. Scale bars: A-G, 1 mm; H-L, 100 μm.
Mecynoecia cf. proboscidea (Milne-Edwards, 1838) (Fig. 1F)

Pustulopora proboscidea Milne-Edwards, 1838: 219, pl. 12, fig. 2.

Pustulopora attenuata Stoliczka, 1862: 77, pl. 1, fig. 1.

Mecynoecia proboscidea – Zágoršek 2010: 32, pl. 18, figs 1-5 (cum syn.).

Material examined. Holotype of Pustulopora attenuata, registered as 2010/259/16A.

Diagnosis. Colony with four autozooecial tubes arranged around branch axis. Tubes very long, with circular to oval aperture situated on long peristomes. Frontal walls long, convex. Gonozooecium not developed.

Remarks

The arrangement of zooecia very closely resembles that in Mecynoecia proboscidea, which is one of the commonest cyclostomes species in the Eocene (see Zágoršek 2003). Insofar as no gonozooecium is known in any of the Stoliczka specimens, the identification is not certain. Registered as 2010/259/16B are unrecognizable cheilostomes with a similar arrangement of zooecia.

Suborder CERIOPORINA Hagenow, 1851
Family CERIOPORIDAE Busk, 1859
Genus Bobiesipora Vávra, 1977

?Bobiesipora fasciculata (Reuss, 1848) (Fig. 1G, H)

Apsendesia fasciculata Reuss, 1848: 40, pl. 6, fig. 8.

Alveolaria buski Stoliczka, 1862: 85, pl. 2, fig. 5.

Bobiesipora fasciculata – Zágoršek 2003: 119, pl. 5, fig. 3 (cum syn.).

Material examined. Four syntypes of Alveolaria buski registered as 1862/0022/0055. No lectotype selected.

Diagnosis. Colony with a large circular encrusting basal part. Branches with zooecial tubes irregularly arranged around base. Branches often bifurcate, perforated by many kenozooecia and apertures in fascicles. Fascicles corresponding with a keel on dorsal surface of colony. Gonozooecium not observed.

Remarks

In the absence of a gonozooecium in the Stoliczka specimens, the attribution to Bobiesipora remains uncertain. However, all other features (arrangement of apertures, branches and kenozooecia) show high similarities with Bobiesipora fasciculata.

“Heteropora similis” Stoliczka, 1862” nomen dubium (Fig. 1J)

Heteropora similis Stoliczka, 1862: 82, pl. 1, fig. 9.

Material examined. Holotype of Heteropora similis, registered as 1859/0026/0138.

Diagnosis. Small fragments of columnar colony with oval transverse section. Zooecia of two types, the larger perhaps autozooecia, the smaller probably kenozooecia. No gonozooecium.

Remarks

Owing to very poor preservation and the absence of a gonozooecium or any other characteristic features, the specimen is unrecognizable. The arrangement of apertures on the colony surface is cerioporine, somewhat comparable with Tetrocyclaecia and/or Heteropora (see Zágoršek 2003, 2010).

Suborder CANCELLATA Gregory, 1899
Family HORNERIDAE Gregory, 1899
Genus Hornera Lamouroux, 1821

Hornera cf. verrucosa Reuss, 1847 (Fig. 2A)

?Hornera verrucosa Reuss, 1847: 43, pl. 6, fig. 22; ?1851: 173, pl. 9, fig. 21; ?1866: 197, pl. 9, fig. 9.

Hornera porosa Stoliczka, 1862: 79, pl. 1, fig. 3.

Material examined. Two syntypes of Hornera porosa registered as 1862/0022/0048. Owing to the lack of gonozooecia and unclear attribution of the species, no lectotype has been selected.

Diagnosis. Apertures circular, alternating, forming more or less transverse rows. Cancelli of almost the same size, one proximal and one distal to the aperture. Dorsal side of colony with rare, scattered cancelli and anastomosing, wide, smooth nervi. Gonozooecia lacking in the Stoliczka specimens.
Revision of the Oligocene bryozoan taxa with the recognition of a new genus

REMARKS
Owing to poor preservation and the lack of a gonozooecium, plus the unrecognisable type material of Reuss (1847), the species cannot be clearly identified. Moreover, *Hornera verrucosa* seems to represent an unresolved nomenclatural problem. Reuss (1847) described *Hornera verrucosa* as occurring in the Vienna Basin (Miocene). Reuss (1851) later described other specimens from the Miocene of Poland as *Hornera verrucosa* [but not sensu Reuss (1847)] and, moreover, further described *Hornera verrucosa* sensu Reuss (1851) from Söllingen (Oligocene). Reuss (1866) stated that the species occurred from Early through Late Oligocene and the Miocene, even though all these specimens may represent different species. Smith *et al.* (2008) synonymized these three descriptions as one species (sensu Reuss 1847). Resolving this problem requires a thorough revision of the whole concept of Neogene *Hornera*, which is beyond the scope of this paper.

Because of this imprecise determination of the species, *Hornera verrucosa* has subsequently often been reported from Neogene (e.g., Bobies 1958; Vávra 1977; Zágoršek 2010) as well as Eocene sediments (Zágoršek 2001, 2003).
Suborder RECTANGULATA Waters, 1887
Family LICHENOPORIDAE Smitt, 1867
Genus Disporella Gray, 1848

“Disporella anhaltina (Stoliczka, 1862)”
nomen dubium
(Fig. 1K, L)

Pavotubigera anhaltina Stoliczka, 1862: 82, pl. 1, fig. 8.

MATERIAL EXAMINED. — Holotype of Pavotubigera anhaltina, registered as 1862/0022/0052.

DIAGNOSIS. — Small fragments of discoidal colony with autozooecia in radial fascicles. Fascicles comprising 1-2 parallel rows of apertures, slightly curving from centre of colony. Gonozoecium lacking.

REMARKS
The specimen is more or less unrecognizable owing to poor preservation and the absence of a gonozoecium. The arrangement of fascicles, however, resembles some species of Disporella (see Disporella radiata in Zágoršek [2003] and Disporella hispida in Zágoršek [2010]).

Class GYMNOLAEMATA Allman, 1856
Order CHEILOSTOMATA Busk, 1852
Suborder NEOCHEILOSTOMINA d’Hondt, 1985
Superfamily MICROPOROIDEA Gray, 1848
Family LUNULITIDAE Gregory, 1893
Genus Lunulites Lamarck, 1816

Lunulites latdorfensis Stoliczka, 1862
(Fig. 2B-F)

Lunulites Latdorfensis Stoliczka, 1862: 93, pl. 3, fig. 7. — Reuss 1867: 232 (not found in the collection).

MATERIAL EXAMINED. — Nine syntypes registered as 1867/0012/0018; five of them belong to Lunulites latdorfensis. A lectotype (Fig. 2C; designated here) has been selected from them that corresponds closely with Stoliczka (1862: pl. 3, fig. 7). The other four specimens belong to different species of Lunulites.

DIAGNOSIS. — Colony small, discoidal, always preserved intact. Autozooecia in very regular concentric rows, about 4-5 per colony. No budding from the fragments observed. Autozooecia roundly rectangular with granular frontal wall. Orifice semicircular. Vibracula small, acutely triangular. Dorsal side comprising sectors as wide as an autozooecium and arranged more or less radially, slightly chaotically curved. Only one row of pores per sector.

REMARKS
The most characteristic features are: small colonies with very regularly arranged concentric rows of autozooecia, small triangular vibracula and one row of pores per sector.

Family ONYCHOCELLIDAE Jullien, 1881
Genus Onychocella Jullien, 1882

Onychocella subpyriformis (d’Archiac, 1846)

Eschara subpyriformis d’Archiac, 1846: 195.

Membranipora (Semiflustrella) anhaltina Stoliczka, 1862: 85, pl. 2, fig. 4.

Onychocella subpyriformis — Zágoršek 2003: 139, pl. 14, fig. 2 (cum syn.).

MATERIAL EXAMINED. — Holotype of Membranipora (Semiflustrella) anhaltina, registered as 1862/0022/0054.

DIAGNOSIS. — Colony erect, multiserial, with flat cross section. Autozooecia hexagonal to oval, slightly longer than wide with large, semilunar opesia. Cryptocyst extensive, shallow, flat and smooth. Vicarious avicularium as long as but half as wide as autozooecium; orifice of vicarious avicularium small, circular, or seldom narrow and oval; rostrum very long, acute distally and usually curved laterally.

REMARKS
The Stoliczka specimen is identical with the material described by Braga (1980) and Zágoršek (2001, 2003) as Onychocella subpyriformis (d’Archiac, 1846). As Braga (1980) pointed out, O. subpyriformis is quite variable and one of the commonest Eocene species in the Alpine Carpathians region.

Family STEGINOPORELLIDAE Hincks, 1884
Genus Steginoporella Smitt, 1873

Steginoporella cf. reingruberbokensis
Zágoršek, 2003
(Fig. 3A)

Revision of the Oligocene bryozoan taxa with the recognition of a new genus

**Material Examined.** — Two syntypes of *Eschara reussi* registered as 1859/0026/0136. The chosen lectotype (designated here) is illustrated in Fig. 3A.

**Diagnosis.** — Colony erect, columnar, multiserial, large with oval to circular transverse section. Autozoecia oval

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**Fig. 3.** — A, Lectotype of *Eschara reussi* identified as *Steginoporella cf. reingruberhohensis* Zágoršek, 2003 showing large avicularia (top and lower right) and elevated distal zooecial rims; B-D, *Adeonella ornatissima* (Stoliczka, 1862); B, general view of lectotype with autozoecia and maternal zooecia; C, maternal zooecia showing the characteristic semilunar aperture and autozoecia with a deep narrow sinus; D, lectotype designated here as older stage of colony development showing secondary calcification producing a transverse apertural bar; E, F, *Adeonella mortisaga* (Stoliczka, 1862), n. comb.; E, general view of lectotype showing autozoecia with two suboral avicularia and large maternal zooecia; F, maternal zooecium with very large aperture (partly broken) and autozoecia with a narrow sinus. Scale bars: A, B, D, E, 1 mm; C, F, 100 μm.

Non *Cellaria haidingeri* Reuss, 1848: 60, pl. 7, fig. 30.

*Eschara reussi* Stoliczka, 1862: 88.

Non *Steginoporella cucullata* Pouyet & David, 1979: 774, fig. 3, pl. 3, fig. 10 (cum syn.).
to hexagonal, arranged in nine regular longitudinal rows. Mural rim wide and smooth. Cryptocyst shallow, perforated by 7-12 large pores but lacking opesiules. Orifice sunken, subcircular in shape, situated on the end of short peristome, bordered by a thin low rim. The vicarious avicularia (B-zooecia) up to twice as long and wide as autozooecia, with broad, truncate distal margin; cryptocyst perforated by about ten pores; palate wider than long, smooth, shallowly concave. Owing to poor preservation, opesial characters of vicarious avicularia are somewhat equivocal but polypide tube is well developed, its orifice similar to that of autozooecia.

Remarks
Zágoršek (2003) synonymised this species with Steginoporella haidingeri (sensu Reuss 1848). SEM study of Stoliczka’s material, however, shows features more reminiscent of Steginoporella reingruberhohensis Zágoršek, 2003. The main difference is the number of cryptocystal perforations. Whereas S. haidingeri usually has about 20-30 pores, S. reingruberhohensis has about 10-15, which is closer to the number (7-12) in Eschara reussi. Owing to the unclear cryptocystal features of the vicarious avicularia, these two species cannot presently be synonymised and the status of Eschara reussi remains unclear.

David & Pouyet (1974) and Pouyet & David (1979) synonymised Eschara reussi Stoliczka, 1862 with Steginoporella cucullata (Reuss, 1848). As already discussed by Zágoršek (2003), S. cucullata has a very wide mural rim, a consistently preserved pair of circular opesiules, and a wide vicarious avicularian palate. It is, moreover, a Miocene species.

Superfamily Adeonoidea Busk, 1884
Family Adeonidae Busk, 1884
Genus Adeonella Busk, 1884

Adeonella ornatissima (Stoliczka, 1862) (Fig. 3B-D)

Eschara (Escharifora) ornatissima Stoliczka, 1862: 86, pl. 2, fig. 7.

Adeonella ornatissima – Zágoršek 2003: 152, pl. 19, fig. 2 (cum syn.).

Material examined. — Two syntypes registered as 2010/0259/0010. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 2, fig. 7) and is depicted in Figure 3D herein.

Diagnosis. — Colony erect, flat, multiserial, bifurcating, with 8-10 longitudinal rows of autozooecia. Autozooecia at colony margin can be more than twice as long as those in colony centre. Frontal shield without granulations, knobly, perforated by marginal areolar pores; lateral tubercles sometimes developing when secondary calcification occurs; frontal area relatively narrow in zooecia located in middle part of colony. Orifice oval to subbicular with broad poster. Lateral-oral pair of avicularia small, circular, often fusing as bridge across aperture in older parts of colony. Secondary calcification often expressed as well-developed tubercles situated usually in corners of zooecia.

Remarks
Adeonella ornatissima differs from Adeonella mortisaga (Stoliczka, 1862), n. comb. in having shorter autozooecia with a knobly frontal shield and oral avicularia that may fuse across the aperture.

Adeonella mortisaga (Stoliczka, 1862), n. comb. (Fig. 3E-F)

Eschara (Escharifora) mortisaga Stoliczka, 1862: 86, pl. 2, fig. 6.

Material examined. — Two syntypes registered as 1859/0026/0137. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 2, fig. 6) and is depicted as Figure 3E herein.

Diagnosis. — Colony erect, multiserial. Autozooecia may be rhomboidal in central part of colony, more elongate on colony margin. Frontal shield granular, perforated by marginal areolar-septular pores. Orifice with transversely D-shaped anter and narrow sinus. Adventitious avicularia small, paired, one on either side suborally. Maternal zooecia up to more than twice as wide distally as autozooecia, with smooth ooeial margin much wider than long, showing beneath distal secondary calcification. Secondary zooecial calcification often accompanied by tubercles situated usually in margins and/or on frontal shield including loci of suboral avicularia.

Remarks
This species differs from A. ornatissima in having very large maternal zooecia, longer autozooecia with granular frontal shields, and suboral (not lateral-oral) avicularia. It is similar also to Adeonella minor (Reuss, 1869) which, however, never has such large brooding zooids and the apertural sinus is less prominent.
Genus *Adeonellopsis* MacGillivray, 1886

*Adeonellopsis pulchra* (Stoliczka, 1862) n. comb.

(Fig. 4A)

*Eschara* (*Porellia*) *pulchra* Stoliczka, 1862: 87, pl. 2, fig. 10.

**MATERIAL EXAMINED.** — Three syntypes registered as 1862/0022/0056. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 2, fig. 10) and is depicted as Figure 4A herein.

**DIAGNOSIS.** — Colony columnar, multiserial with 6-8 autozoecial rows. Autozoecia elongate-oval with thick raised margins and very small areolar-septular pores in interzooidal furrows. Frontal shield mostly occupied by a very large spiraminal area with 12-16 perforations. Aperature semilunar to semicircular, narrow. Avicularia mostly median suboral, more or less transversely orientated with a very short acute rostrum; mostly eroded and represented by a subcircular foramen, this only slightly larger than spiraminal pores in some zooecia. Gonozoecium unknown.

**REMARKS**

*Adeonellopsis pulchra* n. comb. differs from other similar species in having a small avicularium and a large spiraminal area, perforated by more than 12 pores (Fig. 4A), that leaves a very narrow remaining area of frontal shield that comprises a raised rim.
“Lepralia pedicularis” Stoliczka, 1862
nomen dubium
(Fig. 4B)

Lepralia pedicularis Stoliczka, 1862: 84, pl. 2, fig. 2.

MATERIAL EXAMINED. — Holotype of Lepralia pedicularis, registered as 1862/0022/0053.

DESCRIPTION
Colony robust, erect, bifurcating, exteriorly heavily secondarily calcified and rather densely perforated by tiny pores, some of which are in linear series. Obvious autozooecial boundaries are lacking although very thin, faint lines may be indicative; no other exterior features are visible. Interior view of a fracture shows parts of several elongate zooecial chambers with undersides of mixed frontal shields excluding orifices; each shows the internal openings of sparsely scattered lepralioid pseudopores and a small oval umbonuloid area of planar-spherulitic microstructure, bounded by a ring scar and in the centre of which is a foramen. Interzooecial communications via simple, uniporous pore.

REMARKS
The internal opening surrounded by a small umbonuloid area of exterior skeletal wall is highly distinctive. The only other known example at the present time is a species of Siphonicytara (Gordon & Taylor in press), from the Early Eocene of Chatham Island, New Zealand, which has an identical arrangement. Insofar as all other examined species of Siphonicytara Busk, 1884 have an ascopore, Gordon & Taylor interpreted the foramen as technically a spiraminal opening and that the genus evolved from a fully umbonuloid ancestor, perhaps resembling Beisselina Canu, 1913.

Lepralia pedicularis need not have belonged to a family Siphonicytaridae, however. Members of this monogeneric family were rooted in soft sediments and no known species has the same degree of robust secondary calcification. Adeonidae is a much more likely family, members of which include wholly umbonuloid and wholly lepralioid frontal shields; no species has yet been found with a skeletally mixed shield but it is highly likely that such species exist. Based on external appearance, similar colonies are produced by several genera in Miocene of the Paratethys. The most similar is the non-spiraminate adeonid Schizostomella grinzingensis David & Pouyet, 1974, the branches of which are often heavily calcified proximally, gradually obliterating apertures and just leaving scattered pores and thin zooecial boundary lines as in L. pedicularis. Similarly, spiraminate fossil Reptadeonella cf. violacea (Johnston, 1847), as described by Zágoršek (2010), also produced heavily calcified parts of multilamellar colonies in which some orifices and spiramina become almost completely obliterated. Species of Reptadeonella, however, are all encrusting. Our conclusion is that Lepralia pedicularis is a presently indeterminable genus of adeonid and the species is nomen dubium.

Superfamily LEPRALIELLOIDEA Vigneaux, 1949
Family BRYOCRYPTELLIDAE Vigneaux, 1949

Genus Stoliczkella n. gen.

TYPE SPECIES. — Eschara (Flustrina) subovata Stoliczka, 1862.

ETYMOLOGY. — Honorific for Ferdinand Stoliczka (Czech, Stolička), 7 June 1838-19 June 1874, a Moravian paleontologist who worked in India on paleontology, geology and various aspects of zoology, including ornithology and herpetology. He died of high-altitude sickness, at the early age of 36, during an expedition across the Himalayas.

DIAGNOSIS. — Erect, bilamellar colonies with median lamina and narrow, flat or with lensoidal cross section. Autozooecia umbonuloid, frontally imperforate apart from marginal areolar-septular pores. Aperture with median and lateral processes forming paired peristomial spiramina. Large suboral avicularia and imperfectly immersed ooecium. Additional adventitious and vicarious avicularia may be present, the latter larger than autozooecia and situated along the colony margin.

REMARKS
The apertural features of Stoliczkella n. gen. superficially resemble some species of the genus Galeopsis Jullien & Calvet, 1903 (Celleporidae), in which paired lateral-oral avicularia can fuse across the aperture forming a bridge and peristomial spiramen. In Stoliczkella n. gen., a median process fuses with a pair of lateral processes to form a double...
spiramena and the apertural avicularium is single and median-suboral. Further, the frontal shield is umbonuloid with a distinct ring scar surrounding an area of planar-spherulitic ultrastructure on the undersurface, whereas the frontal shield in Galeopsis is lepraloid-cryptocystidean.

The double apertural spiramen resembles similar arrangements in some species of Exochella Jullien, 1888 (Romancheiniidae), but the median suboral avicularium and erect habit suggest Bryocryptellidae. It may be that these two families (Romancheiniidae Jullien, 1888 and Bryocryptellidae Vigneaux, 1949) should be merged but the type species of the type genera do not suggest a close relationship. Stoliczkella n. gen. is introduced here for two species described by Stoliczka (1862).

Stoliczkella subovata (Stoliczka, 1862) n. comb. (Fig. 4C-G)

Eschara (Flustrina) subovata Stoliczka, 1862: 87, pl. 2, fig. 9.

Non Reteporella subovata – Zágoršek 2001: 558, pl. 20, fig. 2; 2003: 181, pl. 31, fig. 5.

Galeopsis cf. subquadrangularis – Zágoršek 2001: 556, pl. 19, fig. 1; 2003: 179, pl. 29, figs 3, 4.

Material examined. — Seven specimens labelled as Eschara (Flustrina) subovata registered as 2010/0259/0006, but only five may be regarded as syntypes. Two specimens belong to the genus Reteporella. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 2, fig. 9) and is depicted as Figure 4B herein.

Description

Colony erect, bilamellar, flat or with lensoidal cross section, with zoocoal orientation indicative of potential bifurcation distally, autozooecia opening on both faces. Autozooecia somewhat elongate-oval (especially in interior view) to rhomboidal, although exterior boundary lines can disappear with secondary calcification. Frontal shield umbonuloid, frontally smooth, convex, imperforate except for tiny marginal areolar pores, these often tending to be lacking laterally, paired proximally. Interior view shows a large area of planar-spherulitic microstructure bordered by a ring scar. Peristomial aperture shows a proximal median process that may or may not have 2–3 slight projections distally; median process fusing with a projection from either side to form a pair of spiramena; this arrangement more clearly seen from interior view, with the median process sometimes grooved. ‘Primary orifice’ (observable from interior view) semicircular with slightly convex proximal margin. Oral spines absent. Median suboral avicularium relatively large, subcircular, rostrum proximofrontally directed, crossbar mostly broken. Ooecium deeply immersed, recumbent on distal zooecium, ectooecium imperforate, typically somewhat concealed by secondary calcification. Additional smaller adventitious avicularia, circular, sparsely found laterofrontally or proximally on frontal shield, with rostrum directed obliquely laterally or proximally. Vicarious avicularia situated on margin of the colony, these larger than autozooecia with a rounded rostrum and oval aperture.

Remarks

Two species occurred in a single box with the same name (Eschara (Flustrina) subovata) and registration number. Five specimens are Stoliczkella subovata n. comb. and correspond with Stoliczka’s original description and illustrations. The remaining two specimens belong to Reteporella and comprise colony fragments with apertures opening only on one side. These two specimens were erroneously cited as Eschara (Flustrina) subovata by Zágoršek (2001, 2003) and listed under Reteporella. According to Stoliczka’s original description and illustration, Eschara (Flustrina) subovata has bilamellar colonies (with a medial lamella) that definitely do not belong to Phidoloporidae; the species described as Reteporella subovata from Eocene sediments of Reingrubernohe (Zágoršek 2003) and Buda Marls (Zágoršek 2001) may represent a new species of Reteporella.

The specimen described by Zágoršek (2003) as Galeopsis cf. subquadrangularis (Reuss) corresponds to Stoliczkella subovata n. comb. in having elongate-oval autozooecia, large suboral avicularia and one pair of areolar septular pores in the proximal part of the autozooecium. Although adventitious and vicarious avicularia have not been observed in the Reingrubernohe specimens, we believe they belong to Stoliczkella subovata n. comb.
**Stoliczkella crenatula** (Stoliczka, 1862) n. comb.
(Fig. 5A-F)

*Eschara crenatula* Stoliczka, 1862: 87, pl. 2, fig. 8.

**Material examined.** — Five syntypes, registered as 2010/0259/0007. Stoliczka’s (1862) illustration does not correspond exactly to any of the specimens labelled as *Eschara crenatula*, hence the illustrated specimen may be lost, or Stoliczka inadvertently illustrated a different species. The selected lectotype (designated here) is the best-preserved of the syntypes and is depicted as Figure 5A herein.

**Description**
Colony erect, bilamellar, flat, autozooecia opening on both faces. Autozooecia of similar shape to *Stoliczkella subovata* n. comb., with combined peristomial aperture/suboral avicularium complex proportionately larger, occupying a considerable part of frontal surface. Frontal shield smooth, imperforate except for small, sparse, areolar-septular pores in the margins typically paired proximally. Secondary calcification increases convexity of frontal shield. Two areolar-septular pores situated on the proximal margin of the autozooecia, sometimes indistinct. ‘Primary aperture’ deeply immersed beneath peristomial aperture, the rim of which embraces the suboral avicularium so that the paired spiramina and broken avicularian chamber often appear as three holes of equivalent size. Median process separating spiramina shorter than in *Stoliczkella subovata* n. comb. Oral spines absent. Suboral avicularium circular, with no trace of crossbar remaining in any zooecium. Ooecium deeply immersed, recumbent on distal zooecium, ectooecium imperforate, typically mostly concealed by secondary calcification. Adventitious avicularia rare on frontal shield, large, with long rostrum tapering laterally. Vicarious avicularia situated on the margin of colony, as large as autozooecium, with rounder rostrum and drop-like aperture.

**Remarks**
The type material examined cannot be fractured and the interior of the frontal shield and aperture have not been observed. From frontal view we infer that the construction of the spiraminal complex is similar to that in *Stoliczkella subovata* n. comb. *Stoliczkella crenatula* n. comb. differs from *S. subovata* n. comb. in having shorter autozooecia, smaller suboral avicularia and larger adventitious avicularia with a pointed rostrum.

**Family Exechonellidae** Harmer, 1957
**Genus Anarthropora** Smitt, 1868

**Anarthropora macropora** (Stoliczka, 1862) n. comb.
(Fig. 6A-D)

*Lepralia macropora* Stoliczka, 1862: 84, pl. 2, fig. 3.

*Adeona* sp. n. – Nehyba et al. 2008: 55, table 3.

**Material examined.** — Three syntypes, registered as 1859/0026/0140. The selected lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 2, fig. 3) and is depicted as Figure 6A herein.

**Diagnosis.** — Colony encrusting, autozooecia sub-oval, arranged in irregular longitudinal rows. Frontal shield coarsely perforated by 8-12 large excavations, each bowl-shaped with a broad smooth rim and the sides sloping to a smaller hole edged with several blunt denticles, these conferring a stellate appearance to each foramen. Peristomial aperture subcircular to transversely oval, with low rim; deeper interior proximal margin of aperture straight with tiny separated denticles along its edge. No oral spines. Small avicularian chamber on mid-distal rim of peristome; a larger avicularium situated suborally at one corner of the aperture, the rostrum long, acute, directed laterally, no crossbar or pivots. No ooecia observed.

**Remarks**
Recent *Anarthropora monodon* Busk, 1860 (type species) differs in having a much more densely foraminate frontal shield and smaller peristomial avicularia.

**Family Romancheinidae** Jullien, 1888
**Genus Escharella** Gray, 1848

**Escharella grotriani** (Stoliczka, 1862)
(Fig. 6E-F)

*Lepralia grotriani* Stoliczka, 1862: 84, pl. 2, fig. 1.
Revision of the Oligocene bryozoan taxa with the recognition of a new genus

555

Escharella grotriani – Zágoršek 2001: 51, pl. 17, fig. 8; 2003: 157 (cum syn.).

Material examined. – Holotype, registered as 1862/0022/0051.

Diagnosis. – Colony encrusting, the fragment comprising three short rows of autozoecia, these rhomboidal to oval with about 30 very small marginal areolar-septular pores. Frontal shield prominent, convex, smooth or slightly granular, with a small umbo. Aperture oval with a shallow lyrula and usually 5-7 oral-spine bases around periphery. Ooecium small, globular, recumbent on distal zooecium; ooecial aperture not preserved.

Remarks

Escharella grotriani differs from Escharella tenera (Reuss, 1874) in having a small umbo on the frontal shield, 5-7 oral spines and broad, rhomboidal
autozooecia. Zágoršek (2003) presented a detailed discussion of the generic attribution of this species.

Superfamily **Schizoporellidea** Jullien, 1883  
Family **Myriaporidae** Gray, 1841  
Genus **Myriapora** De Blainville, 1830

*Myriapora* *beyrichi* (Stoliczka, 1862) n. comb.  
(Fig. 6G-H)

*Cellaria beyrichi* Stoliczka, 1862: 83, pl. 1, fig. 10.

**MATERIAL EXAMINED.** — Holotype, registered as 1859/0026/0133.

**DIAGNOSIS.** — Colony multiserial, erect with circular cross section. Branch fragment comprising fewer than 20 autozooecia, these trapezoidal, with densely pseudoporous frontal shields bordered by smooth interzoooidal boundaries that represent frontally eroded adjacent zooecial margins. Apertures large, more or less cleithridiate with wedge-shaped sinus delimited by prominent condyles. No avicularia or ooecia.

**REMARKS**
The smooth interzooecial boundaries and cleithridi-ate orifice are distinctive features of this species. The generic attribution is uncertain in the absence of ovicells and avicularia. The apertural shape most resembles that seen in *Myriapora*, a genus confined to Mediterranean and Arctic-Boreal waters, whose species, however, do not normally have such distinct interzooecial boundaries. A species with similar-looking zooecia is *Myriapora kuhni* Vávra, 2011, from the Oligocene of Germany; it is encrusting, however, and the visible autozooecial boundaries do not form such a wide outline.

On the other hand, the colonial and zooecial morphology of Stoliczka’s species match that found in *Opphiphorina* Gordon & d’Hondt, 1997 (Phorioppniidae), a monotypic genus known only from New Caledonia and the Kermadec Islands in the Southwest Pacific. *Opphiphorina epaxia* (Gordon, 1984) has somewhat cleithridiate apertures (with a broader sinus, however) and densely perforated zooecia with raised margins that, if eroded, would present exactly the smooth interzooecial boundaries seen in *C. beyrichi*. Similar margins are seen in confamilial *Phorioppnia* Gordon & d’Hondt, 1997 from New Caledonia, which, however, has non-cleithridiate apertures and dimorphic female orifices. Only the finding of ovicells in Stoliczka’s species will settle the matter.

Family **Margarettidae** Harmer, 1957  
Genus **Tubucella** Canu & Bassler, 1917

*Tubucella mammillaris*  
(Milne Edwards, 1836)  
(Fig. 6I, J)

*Eschara mammillaris* Milne Edwards, 1836: 336, pl. 11, fig. 10.

*Eschara* (*Porina*) *porulosa* Stoliczka, 1862: 89, pl. 3, fig. 3.

*Tubucella mammillaris* — Zágoršek 2001: 67, pl. 28, figs 2, 3, 5; 2003: 176 (cum syn.).

**MATERIAL EXAMINED.** — Three syntypes of *Eschara porulosa*, registered as 2010/0259/0009. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 3, fig. 3) and is depicted as Figure 6I herein.

**DIAGNOSIS.** — Colony large, bilamellar, with lensoidal cross section and well-developed median lamella. Autozooecia hexagonal to circular, arranged in c. 12-15 longitudinal series around branch. Each autozooecium comprising two regions of about equal length, a distal peristomial part and a proximofrontal part, the former strongly convex, sometimes hexagonal, the latter weakly convex, not clearly delimited from that neighbours, the frontal shield coarsely pseudoporous. Aperture circular to oval, surrounded by thick, low peristome. Ascopore of similar size to pseudopores, situated in distal half of autozooecia. Ooecia and avicularia lacking.

**REMARKS**
The separation of autozooecia into two parts as described by Zágoršek (2003) and also illustrated by Bock (2013a) is not evident in the syntype specimens (the thin threads of calcification normally separating these parts are not observable). Other features, however (flat colonies, presence of median lamella and ascopore situated in the distal half of the autozooecium), clearly identify this species.

*Tubucella mammillaris* differs from *Tubucella papillosa* (Reuss, 1848) in having flatter branch profiles (*T. papillosa* has more-rounded branches), shorter autozooecia (more elongate in *T. papil-
Revision of the Oligocene bryozoan taxa with the recognition of a new genus

Fig. 6. – A-D, Anarthropora macropora (Stoliczka, 1862), n. comb.; A, general view of lectotype; B, autozoecium showing frontal foramina and suboral avicularium; C, syntype showing quincuncial arrangement of autozoecia; D, frontal-shield foramen showing well-preserved radial denticulation; E, F, Escharella grotriani (Stoliczka, 1862); E, lectotype showing arrangement of autozoecia; F, zooeum with ooeum and oral spines; G, H, Myriapora? beyrichi (Stoliczka, 1862), n. comb.; G, lectotype showing smooth outlines of autozoecia; H, detail of aperture with condyles typical of myriaporids; I, J, syntype of Eschara porulosa identified as Tubucella mammilaris (Milne Edwards, 1836); I, general view of chosen lectotype of synonymous Eschara porulosa Stoliczka, 1862; J, lateral view of colony showing autozoecia with large apertures. Scale bars: 100 μm.
losa) and the ascopore situated closer to the aperture (near the centre of the frontal shield in \textit{T. papillosa}).

**Superfamily Celleporoidea Johnston, 1838**  
**Family Phidoloporidae Gabb & Horn, 1862**  

\textit{"Retepora fasciata"} Stoliczka, 1862  
\textit{nomen dubium}

\textit{Retepora fasciata} Stoliczka, 1862: 91, pl. 3, fig. 4.  

**Material examined.** — Holotype of \textit{Retepora fasciata}, registered as 1862/0022/0044.  

**Diagnosis.** — Poorly preserved small fragment of branch with zooecia arranged in two longitudinal rows on one side only. Autozooecia elongate, lacking clear boundaries. Apertural characters weakly defined, possibly including a suboral spiramen or broken avicularian chamber. No frontal avicularia or ooecia observed.  

**Remarks**  
Owing to the very poor preservation of the specimen, with weakly defined autozooecia and no obvious avicularia and oocells, this species must be regarded as a \textit{nomen dubium}.

**Superfamily Conescharellaidea Levinsen, 1909**  
**Family Orbituliporidae Canu & Bassler, 1923**  
**Genus Orbitulipora Stoliczka, 1862**  

\textit{Orbitulipora haidingeri} Stoliczka, 1862  
(Fig. 7A-H)

\textit{Orbitulipora haidingeri} Stoliczka, 1862: 91, pl. 3, fig. 5.  


\textit{Orbitulipora petiolus} — Braga & Barbin 1988: 530. — Zágoršek 2003: 184, pl. 31, fig. 6 (cum syn.).  

**Material examined.** — Five syntypes, registered as 1862/0022/0045. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 3, fig. 5) and is depicted as Figure 7A herein. The Auversian specimen illustrated in Bock (2013b) is from a section at Bramshaw, Hampshire, England (Voigt Collection).  

**Diagnosis.** — Colony orbicular, bilamellar, discoidal with a perforated peduncle. Median lamella not formed; in cross section opposing autozooecial basal walls alternating in zigzag pattern. Ancestrula circular, no associated kenozoecia observed. Autozooecia grow in slightly regular radial rows, circular with orbicular aperture, the largest arranged at the colony margin, the smallest in the colony centre. Kenozoecia rarely present, usually visible on marginal autozooecia; aperture semilunar with straight or slightly elevated proximal edge. Large subvicarious avicularia present, about half the size of autozooecia, with subcircular aperture and massive pivot bar. Marginal zooecia at or near periphery of colony; owing to the reversed zooecial budding pattern, their ooecia are directed towards colony centre; ooecia subimmersed with bulging skeletal wall that is imperforate but decorated by reticulate, hexagonal sculpturing. A broad median lyrulate structure produced from lower edge of ooecial wall that is imperforate but decorated by reticulate, hexagonal sculpturing.  

**Remarks**  
\textit{Orbitulipora haidingeri} is the type species of the genus. Cheetham (1966) considered it to be a junior synonym of \textit{Orbitulipora petiolus} Lonsdale, 1850. The lectotype and other syntypes have, however, subvicarious avicularia with a near-circular aperture, kenozoecia distributed among marginal autozooecia, hexagonal decoration of the ooecial surface and a lyrulate structure arising from the lower edge of the ooecium. These features are not present in \textit{O. petiolus} and may be characteristic of \textit{O. haidingeri}. Cheetham (1966) also described the hyperstomial ovicells of \textit{O. petiolus} as deeply immersed, whereas those of \textit{O. haidingeri} are less immersed. The specimens described by Braga & Barbin (1988) and Zágoršek (2003) are likely to have been \textit{O. haidingeri}.  

**Genus Stichoporina Stoliczka, 1862**  

\textit{Stichoporina reussi} Stoliczka, 1862  
(Fig. 8A-G)

FIG. 7. — Orbitulipora haidingeri Stoliczka, 1862; A, lectotype colony; B, detail of distal colony margin showing ooeia with reticulate surface sculpturing; C, broken ooeial roof in relation to autozooidal aperture; D, large interzooidal avicularium with complete pivot bar; E, transverse section of the colony showing arrangement of autozoecia in two parallel rows; F, a syntype colony with a more regular autozooidal budding pattern; G, syntype with perforated peduncle; H, detail of C focusing on ledge-like structure at deeper level of aperture. Scale bars: A, F, G, 1 mm; B-E, H, 100 μm.
FIG. 8. — Stichoporina reussi Stoliczka, 1862; A, lectotype colony; B, colony margin showing budding pattern; C, a smaller syntype colony; D, detail of ooecium; E, abfrontal view of colony showing a single pore in zooecial basal wall; F, transverse section of colony showing arrangement of autozoecia in one row with a highly calcified central part; G, section showing internal view of autozoecia. Scale bars: 100 μm.

MATERIAL EXAMINED. — Nine syntypes, registered as 1862/0022/0046. The chosen lectotype (designated here) corresponds with Stoliczka’s illustration (1862: pl. 2, fig. 6) and is depicted as Figure 8A herein. The species has been illustrated by Gordon on http://bryozoa.net/cheilostomata/orbituliporidae/sticreu.html (last access 1st December 2014).
Revision of the Oligocene bryozoan taxa with the recognition of a new genus

DESCRIPTION

Colony discoidal, free-living, with a circular central kenozoooidal pit on frontal face and having a concave obverse face. Autozooecia oval to regularly hexagonal with convex frontal shield on upper face of colony; hexagonal with a slightly porous basal wall on lower face; aperture more or less central in zooecium, elongate-oval/subpyriform with short condyles sometimes in evidence. In cross section, autozooecia bottle shaped, with slightly curved distal part. Small kenozooecia with tiny central foramen scattered among autozooecia on upper face. Avicularium usually not present. Ooecia situated on margin of colony, globular with imperforate frontal skeletal wall, slightly immersed in distal autozooecia.

REMARKS

Stichoporina reussi Stoliczka, 1862 has no avicularia, whereas Stichoporina simplex Koschinsky, 1885 and Stichoporina protecta Koschinsky, 1885 have them. Stichoporina reussi is the type species of the genus, which has been synonymised by Braga (1980) and many other authors with Stenosipora Canu & Bassler, 1927 (type species Stichoporina protecta). Stenosipora, however, has avicularia, lacks a central pit and basal kenozooecia, and does not form evenly circular colonies. We accept both genera as valid.

DISCUSSION

In his original paper, Stoliczka (1862) recognized 47 species, 24 of them new. Of these latter, 14 names remain valid; the remainder are synonyms of previously described taxa or, owing to the originally inadequate state of the fossil material examined, taxonomically indeterminable. The genera Orbitalipora and Stichoporina, both introduced by Stoliczka in 1862 along with their type species, are still valid. Two of his species, one of which had not been examined since its first description, comprise a new bryocryptellid genus, Stoliczkella n. gen., which superficially resembles the celleporid genus Galeopsis.

Oligocene bryozoans are part of the poorly known transitional fauna between very common Eocene and Miocene faunas. Stoliczka (1862) was the first to describe bryozoans from this time span and therefore his paper has both historical and contemporary importance in understanding the European bryozoan fauna. Moreover, many Oligocene taxa show similarities linking Eocene and Miocene bryozoans. Many of Stoliczka’s types can be regarded as new and/or as ‘living fossils’. For example, a typical Eocene element is represented by the new genus Stoliczkella n. gen., which shows similarities with species described as Galeopsis cf. subquadrangularis from the Eocene of Hungary and Austria (Zágoršek 2001, 2003). Lunulites latdorfensis may be part of the ancestral lineage to Miocene Lunulites androsaces Michelotti, 1838, and Myriapora beyrichi n. comb. is the earliest myriaporid with an erect growth form, which it has in common with Recent M. truncata Pallas, 1766. Both L. androsaces and M. truncata are common in Miocene sediments of the Alpine-Carpathian basins (Vávra 1977; Zágoršek, 2010) but are absent from Eocene sediments (Zágoršek 2001, 2003).

As well as adding to our understanding of Oligocene bryozoan faunas in general, this revision of the material examined by Stoliczka (1862) is also the basis for forthcoming research on Oligocene sedimentary sequences in Germany.

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