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Lower and Middle Jurassic Gastropods from the Bakony Mountains (Hungary) Part III. Patellacea and Trochacea (Archaeogastropoda)

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Abstract — Nine of the here described eighteen species are new: eight from the Bajocian and one from the Pliensbachian; two, perhaps endemic genera are also defined: *Proconulus epuloides* sp. n., *P. epuliformis* sp. n., *P. rimosus* sp. n., *Dimorphotectus unicarinatus* sp. n., *D. bicarinatus* sp. n., *Trochopsidea kondai* sp. n., *Zircia zircensis* gen. & sp. n. (Ataphridae), *Adeorbisina procera* sp. n. and *Bakonyia planapex* gen. & sp. n. (Turbinidae, Colloniinae). With 1 figure and 2 photoplates.

Suborder PATELLINA von Ihering, 1876
Superfamily *Patellacea* Rafinesque, 1815
Family **Acmaeidae** Carpenter, 1857

Genus *PSEUDORHYTIDOPILUS* Cox, 1960

Pseudorhytidopilus sp. (Plate I: fig. 1.)

Measurements:	H	L	W
Plate I: fig. 1	—	19.5	—

Material: — A small juvenile, and a larger fragmentary specimen.

Shape — Conical, with slightly ovate peristome. The height and length of the shell are approximately equal. The apex is excentric, shifting anteriorly (?), more exactly: toward the top of the peristome. The shell outline is convex near the apex only in lateral wiew.

Ornament — Above the growth lines, ornamental elements are not observable.

Embryonal shape and ornament — The nucleus is subglobose, followed by shell part with convex sides. The ornament is similar to the corresponding parts in the adult.

Remarks — Cox (in Moore 1960), defined *Pseudorhytidopilus* as a genus without radial ornament ranging it in a family of uncertain systematic position perhaps belonging to Pulmonata, too. However, the one-sentence definition of this genus indicates an insufficient basis of this ranging: "Like *Rhytidopilus*, but lacking anterior elevate sector" (p. 237), i.e. lacks the only definite feature, which would prove its non-patellacean position. Consequently, the *Pseudorhytidopilus* might rather belong to Acmaeidae. In this case, its relationship to the genus *Acmaea* needs a clearing up, since they might well be synonyms. Owing to the bad preservation, the species state of this form is doubtful.

Distribution — Bakony Mts: Somhegy, Humphriesianum Zone; Gyenespuszta (near to Hárskút). ? Upper Bajocian

Suborder TROCHINA Cox & Knight, 1960
Superfamily *Trochacea* Rafinesque, 1815
Family **Trochidae** Rafinesque, 1815
Subfamily Proconulinae Cox, 1960

Genus *PROCONULUS* COSSMANN, 1918

Proconulus epuloides sp. n. (Plate I: figs. 2–3)

Holotypus: Plate I: fig. 2–3 — Locus typicus: Eplény, Manganese Mine — Stratum typicum: vertical fissure-filling limestone. — Derivatio nominis: similar to the species *Epulotrochus epulus* (D'ORBIGNY) — Diagnosis: high conical or somewhat cyrtoconoid spire with somewhat acute juvenile whorls; the last one or two of the whorls are slightly concave, the others are flat; inner lip with callus

Measurements:	H	HL	HA	D	W	A
Plate I: fig. 2–3:	36.5	11.5	6.5	19.5	9.5	35°

Material — One of the 22 specimens is an inner mould, the others are shelly specimens, of which some are excellently preserved.

Shape — Dextral, high conical or slightly cyrtoconoid spire with somewhat acute juvenile shell. The surface of the whorls are flat, except the last whorls of the adult specimens, which are slightly concave. The periphery is sharply angulate, like a carina on the adult specimens. The basis is flattened, anomphalous, the aperture with strongly opisthocyrt outer (basal) lip. At the foot of the columella, there is a distinct callus.

Ornament — It consists of fine growth lines being prosocline on the whorls and opisthocyrt on the basis. The adult whorls and mainly the basis show obscure spiral lines too.

Remarks — The shape of the shell is similar to *Epulotrochus epulus* (D'ORB.) species. Beside the not too considerable difference between the measurements of the two species, *Proconulus epuloides* sp. n. has a callus and accordingly the species belongs to the genus *Proconulus*.

Existence or non-existence of a callus is the least subjective basis for the distinction of the genera *Proconulus* and *Epulotrochus*. Both genera have one species each which are very similar to each other and differ by the mentioned feature only. Owing to this fact it seems to be unjustified to separate the two genera.

Distribution — Bakony Mts.: Kericser, beds with mixed Upper Sinemurian to Ibex Zone fauna — Ibex Zone; Eplény, Domerian

Proconulus scherinus (GEMMELLARO, 1874) (Plate I: figs. 4–5)

1874: *Trochus Scherinus* GEMMELLARO, G. G., p. 99, pl. XII, figs. 10.a, b.

Measurements:	H	HL	HA	D	W	A
Plate I: figs. 4–5	13	4.5	3	7.5	4	35°

Material — Four adult and one juvenile specimens with more or less damaged shells.

Shape — Dextral, conical with slightly acute apex. The surface of the whorls are flat or somewhat convex. The periphery is rounded-angular; the base is convex, anomphalous; peristome quadrangular, prosocline, its columellar part has a callus.

Ornament — The shell is ornamented by growth lines being prosocline on the whorls and opisthocyrt on the base. Obscure spiral lines appear under magnification also on the whorls along 0.5–1 whorl length.

Remarks — The base of a juvenile specimen is striated concentrically, corresponding mostly to GEMMELLARO's description. The adult specimens are without distinct spiral lines and their form is also slightly different: the surface of the last 1–2 whorls is somewhat more convex and the periphery is more rounded than on GEMMELLARO's figures. From the species occurring in the Bakony Mts., the juvenile specimens of *P. epuloides* sp. n. cause difficulty in the separation. Above the measurements, *P. epuloides* sp. n. has always sharp periphery.

Distribution — Sicily: Chiusa Sclafani, "Terebratula aspasia Zone"; Bakony Mts.: Sümeg? Upper Sinemurian; Kericser, Ibex Zone

Proconulus epuliformis sp. n. (Plate I: figs. 6–8)

Holotypus: Plate I: fig. 6. — Locus typicus: Bakonybél, Somhegy — Stratum typicum: horizontal fissure-filling limestone — Derivatio nominis: similarly shaped as "*Epulotrochus epulus*" D'ORB. — Diagnosis: numerous depressed whorls; flattened base; callus on columellar lip; ornament more or less distinct as spiral threads on the whorls

Measurements:	H	HL	HA	D	W	A
Plate I: fig. 6	14	6	3.5	9.5	5	36°

Material — More than forty specimens, mostly with strongly damaged shells.

Shape — Dextral, high-conical, near the apex cyrtoconoid shell. The spire consists of numerous low whorls, the surface of these is slightly concave on the juvenile part and flat on the adult shell. In cross section, the inner space of the whorls is axially depressed elliptical. The base is flattened, medially excavated, anomphalous. The peristome is subquadral, its columellar lip bears a callus and a shallow excavation, moreover a tooth-like protrusion on its apertural side.

Ornament — From the end of the third whorl, the spire and the base is covered by spiral threads, strength of these is rather variable, sometimes wholly missing, then only the growth lines give the ornamentation. These are strongly prosocline on the whorls and opisthocyrt on the base.

Embryonal shape and ornament — The embryonal shape is cyrtoconoid. The protoconch consists of the spherical nucleus and about three whorls, which are convex in the beginning but later become concave. Half whorl after the nucleus, a carina appears on the middle of the whorls dissected by tiny nodes. This carina gradually removes to the lower suture to the end of embryonal shell, while the nodes disappear.

Remarks — With the low whorls, this species is also similar to the *Epulotrochus epulus* (D'ORB.), especially those specimens without spiral ornament. However, its embryonal shell shows close relationship to *Proconulus rimosus* sp. n. This example suggests, that these genera are badly in need of a revision.

Among the previously described species, "*Calliostoma*" *contextum* G. SEG. (in. M. GEMMELLARO 1911) is most similar to *P. epuliformis* sp. n. However, its juvenile shell is not cyrtoconoid and the surface of the whorls is always flat.

Distribution — Bakony Mts.: Somhegy, Humphriesianum to Parkinsoni Zone.

Proconulus rimosus sp. n. (Plate I: figs. 9–13)

Holotype: Plate I: figs. 10–11. — Locus typicus: Bakonybél, Somhegy—Stratum typicum: horizontal fissure — filling limestone. — Derivatio nominis: *rimosus* (LAT.) = cracked; on a high number of the specimens unique cracked (or bored) shell portions are visible. — Diagnosis: trochiform; suture in a furrow, above it a carina is present, but the periphery of the adult shell is rounded; there is a shallow ridge on the base; ornament: spiral cords.

Measurements:	H	HL	HA	D	W	A
Plate I: fig. 10–11	—	10	6.5	11.5	7.5	57°

Material — Forty-five, mostly damaged shelly specimens, well completing each other.

Shape — Dextral, trochiform; the moderate high spire consisting of numerous whorls and has a slightly cyrtoconical outline. The surface of the whorls is somewhat convex on the juvenile and more convex on the adult shell. The height of this convexity is placed on the middle of the upper half of the whorls, so a narrow steep ramp runs below the suture. Above the suture, a strong carina is present, but the same is absent from the last half to one whorl of the adult specimens only. In cross-section, the whorls are subquadral, their inner space is orbicular. The base is convex, anomphalous, the peristome rather prosocline, next to its inner lip there is a narrow, elongated callus, columellar part of which is broader and gives rise to a low ridge on the basis.

Ornament — The dominant ornamental elements of the adult shell are the longitudinal cords. Their number and strength increase during the ontogenesis to the last quarter or half whorl, where the growth lines become more marked, and the spiral lines disappear sometimes. The growth lines are prosocline on the surface of the volutions and double opisthocyrt on the base, because they are broken at the basal ridge.

Embryonal shape and ornament — The nucleus is globular, smooth and slightly depressed in the first whorl. The surface of the whorls is convex in the beginning (1–1.5 whorls approx.), then it becomes flat (1.5–2 whorls) and thereafter the adult convex form is attained.

A half coil after the nucleus, a spiral line appears on the midwhorl, on which small tubercles develope later. These become elongated transversally and shortly extend as riblets from suture to suture. From the onset of the riblets, the spiral line appearing first is one of the many longitudinal lines covering the whole surface of the volutions. The riblets of the flat whorls are weakly sigmoid and their ends are thicker than their middle section. The disappearance of these riblets is the boundary of the embryonal shell (but it may be at the onset of the riblets and in this case, the ribbed whorls would be a juvenile part of the shell). The spiral ornament continues without interruption.

Remarks — The juvenile shell is similar to *P. marga* (HUDL.), but its whorls are higher, its spiral angle is less than that of *P. rimosus* sp. n. and the embryonal (or juvenile) shell is without ornament. *Proconulus rimosus* sp. n. is closest to *P. avernus* (STOL.), which differs in its measurements and in having a carina on the adult last whorl, too, moreover in the absence of the basal ridge.

Distribution — Bakony Mts.: Somhegy, Humphriesianum to Parkinsoni Zone.

Genus *MURICOTROCHUS* COSSMANN, 1918

Muricotrochus aff. **subluciensis** (HUDLESTON, 1894) (Plate II: figs. 1–2)

aff. 1894: *Trochus subluciensis* HUDLESTON, p. 381, pl. XXXII, figs. 6–7.

Material — Five, only partially visible specimens.

Shape — Dextral, conical shell with flattened surface over the whorls. Inner space of the volutions is axially depressed elliptic in cross-section. The periphery is angular, the base is slightly convex, having a shallow depression medially with an umbilicus. The peristome is quadrangular, bearing a callus on its columellar part.

Ornament — The whorls are covered by longitudinal, nodose cords. Their number on the last whorl may be five or six. The base is ornamented with fine spiral lines. The growth lines are prosocyrt between the sutures and strongly opisthocyrt on the base.

Embryonal shape and ornament — A single fragmentary protoconch is avialable only, lacking the nucleus and roughly the first whorl. The remaining part is conical with flat volutions, its extent is about three whorls. The existing first coil bears a cord with tiny nodes above the suture. The next whorl is covered by fine spiral lines and the first distinct growth lines are visible. Parallel with the latest, small ridges appear periodically on the third whorl, dissecting the cord below the suture. This cord is strengthened from an earlier spiral line together the appearance of the ridges. From the existing fifth whorl, there are not any cord-free bands on the surface of the whorls.

Remarks — Owing to the strong ornamentation, the specimens could not be freed from the limestone matrix. The available fragments are indicative of *Muricotrochus subluciensis*.

Distribution — Bakony Mts.: Somhegy, condensed Subfurcatum to Garantiana Zone.

Genus *DIMORPHOTECTUS* COSSMANN, 1918

Dimorphotectus sp. (Plate I: figs. 14–15)

Material — A single, fragmentary specimen.

Shape — Dextral, slightly cyrtoconoid; the surface of the low volutions is flat, the periphery is carinated and the base is slightly convex. On the columellar lip, there is a large swelling.

Ornament — It consists of fine growth lines, which are prosocline on the whorls and opisthocyrt on the base.

Remarks — Owing to bad preservation, the specimen is not identifiable to species. Its shape is similar to *Epulotrochus acteon* (D'ORB.) but its columellar swelling suggests another genus.

Distribution — Bakony Mts.: Sümeg, ? Upper Sinemurian.

Dimorphotectus unicarinatus sp. n. (Plate I: figs. 16–18)

Holotype: Plate I: figs. 16–18. — Locus typicus: Bakonybél, Somhegy—Stratum typicum: horizontal fissure—filling limestone — Derivatio nominis: unicarinatus = having one carina (on the periphery) — Diagnosis: high spire; carinate periphery; riblet-like nodes above the suture of every whorl; collabral ribs on the last whorl.

Measurements:	H	HL	HA	D	W	A
Plate I: figs. 161–18	—	5.3	3.3	9	5	27°

Material — Six, mainly badly preserved specimens.

Shape — Dextral, high trochiform. The shell consists of numerous flat or slightly convex whorls, their inner shape is rounded quadrate in cross-section. The periphery is carinate, sharp, a flattened base is present below it, having a shallow medial depression. The aperture is quadrangular, its columellar margin thickened and bears a tooth-like swelling rather inside from the level of the peristome.

Ornament — The most conspicuous sculptural element of the shell is the row of transversally elongated nodes on the lower rim of the whorls. These nodes end apically by gradual weakening, but downwards suddenly. Advancing to the peristome, these become rather like minute, sharp riblets, then pointing nodes on the penultimate whorl with one or two small ribs. All of the riblets reach one of the weaker tubercles occupying a position on the weak cord running immediately below the suture over the entire length of the shell. A few spiral lines are also observed under magnification together the variable prosocline growth lines. On the base, the latter are opisthocyrt, and crossed by spiral cords on the outer and some obscure lines in the middle parts.

Remarks — The *D. unicarinatus* sp. n. and *D. bicarinatus* sp. n. (see below) are greatly similar to *D. salinaria* and *D. lima* from the Triassic (KOKEN's species, 1897). However, they are nodose (ribbed) on their juvenile shells only.

Distribution — Bakony Mts.: Somhegy, Subfurcatum to Garantiana Zone (condensed).

Dimorphotectus bicarinatus sp. n. (Plate I: figs. 19–21)

Holotypus: Plate I: figs. 20–21 — Locus typicus: Bakonybél, Somhegy—Stratum typicum: horizontal fissure—filling limestone—Derivatio nominis: bicarinatus = with two carina (on the periphery of the last whorl) — Diagnosis: high spire; bicarinate periphery; parietal callus; transversally elongated, rib-like nodes on the juvenile shell; low suture to suture ribs on the last whorl of the adult shell.

Measurements:	H	HL	HA	D	W	A
Plate I: figs. 20–21	—	6.3	4.5	8	5.5	24°

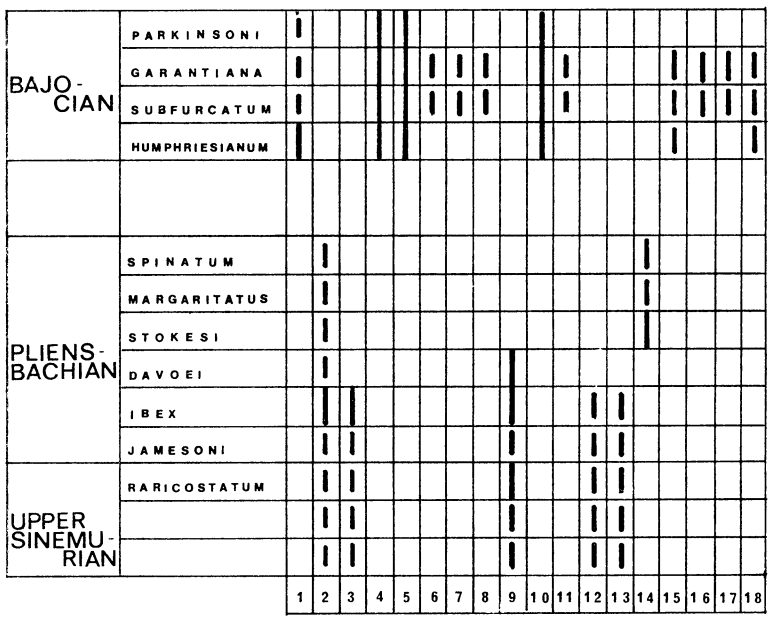

Fig. 1. Stratigraphic distribution of the species in the Bakony Mts.: 1 = *Pseudorhytidopilus* sp., 2 = *Proconulus epuloides* sp. n., 3 = *Proconulus scherinus* (G. G. GEMM.), 4 = *Proconulus epuliformis* sp. n., 5 = *Proconulus rimosus* sp. n., 6 = *Muricotrochus* aff. *subluciensis* (HUDL.), 7 = *Dimorphotectus* sp., 8 = *Dimorphotectus unicarinatus* sp. n., 9 = *Dimorphotectus bicarinatus* sp. n., 10= *Anticonulus lateumbilicatus* (D'ORB.), 11 = *Eucycloscala acanthicum* (UHLIG), 12 = *Bakonyia planapex* sp. n., 13 = *Ataphrus folcoi* (M. GEMM.), 14 = *Trochopsidea latilabra* (STOL.), 15 = *Trochopsidea kondai* sp. n., 16 = *Adeorbisina lateumbilicata* (UHLIG), 17 = *Adeorbisina procera* sp. n., 18 = *Zircia zircensis* sp. n.

Material — Two fragmentary specimens, completing each other with some overlapping.

Shape — It is a dextral, very high trochiform species. The last whorl bicarinate, the other whorls are unicarinate, bacause the lower one is overlapped by the suture. The surface of the whorls consists of two flattened bands meeting at the upper keel. The lower, narrower band develops just on the juvenile whorls; the lower half of the upper band becomes concave on the last whorl. The base is convex, anomphalous. The peristome is preserved only partially, it has a parietal callus and a columellar inner swelling.

Ornament — Close to the upper suture, a beaded longitudinal cord is running, its tubercles are elongated parallel to the growth lines. On the surface of the whorls, obscure spiral lines and on the whole base spiral cords are observed. On the keel of the volutions, stronger nodes are seen, beginning at the embryonal shell. These are lengthened later transversely like costae almost to the upper row of tubercles. Their highest points are placed on the carina. During growth, the tubercles are restricted to the carina, as weak undulations, then from the penultimate whorl, they reappear, but remain weaker than on the juvenile whorls and connected to the the upper tubercles by gradually lengthened and strengthened ribs on the last whorl.

Embryonal shape and ornament — It is visible from the fragmentary embryonal shell, that its shape is cyrtoconical and the carina with the nodes appears on this part.

Remarks — This species is distinguishable from *D. unicarinatus* sp. n. by the number of keels, the differences in the nodosities and the basal shape and ornament.

DUBAR's (1948) species *Proconulus* sp. A. has a shape and an ornament similar to *D. bicarinatus* sp. n., but its nodes are stronger and sparser, than on the latter, moreover being present over the full length of the shell.

Distribution — Bakony Mts.: Somhegy, condensed Subfurcatum to Garantiana Zone

Genus *ANTICONULUS* COSSMANN, 1918

Anticonulus lateumbilicatus (D'ORBIGNY, 1852) (Plate I: fig. 22)

1852: *Trochus lateumbilicatus* D'ORBIGNY, p. 249, pl. 306, figs. 1–4.
1861: *Trochus lateumbilicatus*, STOLICZKA, p. 169, pl. 1, fig. 13.

Measurements:	H	HL	HA	D	W	A
Plate I: fig. 22	—	6.5	4.5	11	4.4	50–80°

Material — Twenty-eight specimens mainly in good state of preservation.

Shape — The shell is dextral, cyrtoconoid with acute apex. The surface of the whorls are slightly convex. The periphery is sharply angulate and a convex, broadly phaneromphalous base is seen below it. The aperture is probably quadral, but it is unobservable, owing to the extremely thin, fragile shell.

Ornament — It consists of fine growth lines, which are prosocline on the whorls and opisthocline—opishtocyrt on the base.

Remarks — The forms from the Bakony Mts. and the Northern Alps are close to each other and differ from D'ORBIGNY's figures in the acute apex and larger dimensions.

Distribution — France, Middle Liassic; North-eastern Alps: Hierlatz Limestone; Bakony Mts., Sümeg: ? Upper Sinemurian, Szentgál: Raricostatum Zone, Kericser: beds with mixed fauna (Obtusum to Ibex Zone) and Ibex Zone.

Family **Turbinidae** RAFINESQUE, 1815
Subfamily Liotiinae ADAMS & ADAMS, 1854

Genus *EUCYCLOSCALA* COSSMANN, 1895

Eucycloscala acanticum (UHLIG, 1881) (Plate II: figs. 3–4)

1881: (?) *Brachytrema acanthicum* UHLIG, p. 393, pl. IX, figs. 3 a, b

Measurements:	H	HL	HA	D	W	A
Plate II: fig. 3	15.5	9	6	10	—	62°

Material — Fifteen, mostly fragmentary specimens.

Shape — Dextral, with high conical, pagodiform spire. The whorls are convex, angulate, the last one is bicarinate; the upper keel is on the angulation, the lower keel is overlapped by the

suture on the earlier whorls. The base is convex and anomphalous. The rounded, axially somewhat elongated aperture is enclosed by a thickened peristome. Its outer lip bears an outer varix yet the inner lip a weaker inner thickening, which is a part of the columella. A groove separates the inner lip from the base. The outer varices are regularly repeated on each of the whorls.

Ornament — Some obscure spiral lines are only as spiral ornament besides the above mentioned two carinae. The upper one of these is dissected by short spines at the points of crossing with the varices. On the earlier volutions, the spines are elongated transversely, but do not reach the sutures, however on the last two or three whorls shallow, broad ridges run from sutur to suture and as weak undulations, these latter continues on the base. The growth lines are variously prosocline. A parabolic line borders each of the varices, pointing to the spines. The parts are the most prosocline above the upper carina and the least prosocline below it. Between two spines, the growth lines enclose an angle with the earlier parabolic line, then become more and more similar to the next parabolic line.

Remarks — The specimens are well identifiable with UHLIG's description. On the basis of specimens with peristome, it is sure that the species does not belong to the genus *Brachytrema*, but owing to a shallow sinus of the basal lip, somewhat referable to the order *Caenogastropoda*.

Distribution — West Carpathians, Babierzowka: Callovian; Bakony Mts., Somhegy: Humphriesianum to Parkinsoni Zone.

Subfamily *Colloniinae* COSSMANN, 1916

Genus **Bakonyia** gen. n.

Type species: *Bakonyia planapex* sp. n. — Derivatio nominis: from the Bakony Mountains — Diagnosis: subglobose, thick shell with convex whorls and planispiral protoconch; convex, broadly phaneromphalous base; the aperture orbicular with peristome lying nearly in one plane, its sutural part is somewhat thickened; at its lower part the umbilical lip bears a strong inner protrusion, which is the end of a strong, beaded or rather transversely ribbed carina encircling the umbilicus; the carina, at least its peristomal end, is covering a narrow, longitudinal, inner channel; smooth shell with fine growth lines, which are feebly prosocline on the whorls and opisthocline on the base.

Remarks — It is a special, perhaps an endemic form. *Bakonyia* gen. n. is somewhat similar to *Collonia* GRAY, 1850, perhaps by homeomorphism but differs from it in the protoconch, the broader umbilicus surrounding much stronger, ribbed (not granular) carina and the not thickened outer lip.

Bakonyia planapex sp. n. (Plate II: figs. 5–8)

Holotype: plate II: figs. 5–6. — Locus typicus: Bakonybél, Somhegy — Stratum typicum: horizontal fissure—filling limestone—Derivatio nominis: planapex = reference to the planispiral protoconch — Diagnosis: see above, at the *Bakonyia* gen. n.

Measurements:	H	HL	HA	D	W	A
Plate II: figs. 5–6	10	9	6.5	12	6.3	125°

Material — Ten, more or less well-preserved specimens.

Shape and ornament — See above at the diagnosis of *Bakonyia*

Embryonal shape and ornament — The nucleus and the first whorl are sunk into the plain of the second whorl, thus resulting in a blunt apex. A keel appears on the midwhorl shortly behinde the nucleus. It is seen along one-and-a-quarter whorls, than it becomes flat, but as a weak undulation it may appear near the suture to the adult peristome.

Remarks — Some of the specimens show obscure spiral lines, mainly at the suture.

Distribution — Bakony Mts., Somhegy: Subfurcatum to Garantiana Zone (condensed).

Family **Ataphridae** COSSMANN, 1918

Genus *ATAPHRUS* GABB, 1869

Ataphrus folcoi (M. GEMMELLARO, 1911) (Plate II: fig. 14)

1911: *Trochus Folcoi* M. GEMMELLARO, p. 2,25 pl. 9, fig. 33–34.
(?) *Chrysostoma Sequenzai* M. GEMMELLARO, p. 232, pl. 9, fig. 29–32.

Measurements:	H	HL	HA	D	W	A
Plate II: fig. 14	9.5	7	4.8	8.5	4	—

Material — Eight + two(?) shelly, more or less fragmentary specimens.

Shape — Dextral, low turbiniform species having convex whorls and base. The shell is bending upwards toward the former whorl as a narrow band. The aperture is almost orbicular. The columellar lip is thickened, bearing a shallow furrow in its middle, that is ending at a tubercle on the basal lip. This tubercle continues on the base as a weak swelling. The shell is probably cryptomphalous.

Ornament — Above the prosocline growth lines, several weak spiral lines of the basal swelling give the ornament.

Remarks — In the available, relatively small material, the two "species" mentioned in the synonymy are observed, besides them more depressed specimens with deeper sutures are also occurred. This suggests, that the specimens belong to a single but variable species.

Distribution — Sicily, Galati: "Terlbratula Aspasia" Zone; Bakony Mts., Sümeg: ? Upper Sinemurian; Kericser: beds with mixed Obtusum to Ibex Zone fauna.

Genus *TROCHOPSIDEA* WENZ, 1938

Trochopsidea latilabra (STOLICZKA, 1861) (Plate II: figs. 15–16)

1861: *Trochus latilabrus* STOLICZKA, p. 173, pl. II, fig. 9.
1876: *Turbo latilabrus* TATE, p. 343, pl. IX, fig. 15.

Measurements:	H	HL	HA	D	W	A
Plate II: figs. 15–16	—	16	11.5	20	11.7	109°

Material — One specimen with good preservation and three fragments.

Shape — Dextral, with convex surface of the whorls and base. The shell is bending up along the suture. The rounded, prosocline peristome is depressed axially. Its columellar lip is thick, but it is damaged, so the generic marks are not seen, STOLICZKA's description has given information in order to make decision in this question. The species has no umbilicus.

Ornament — It consists of fine growth lines and even finer spiral lines, the latter are seen under magnification only. The growth lines are more prosocline on the whorls and less so on the base. Along the suture and the inner lip they become prosocyrt in a narrow band.

Remarks — TATE's *T. latilabrus* STOL. differs from the others in its feebly cyrtoconoid outline. Practically, there are no difference between the measurable specimen from the Bakony Mts. and STOLICZKA's figure. The counted ratios agree up to the first decimal.

Distribution — Northern Alps: Hierlatz Limestone; SW England Spinatum Zone; Bakony Mts., Kericser: Stokesi Zone; Eplény: Domerian.

Trochopsidea kondai sp. n. (Plate II: figs. 17–18)

Holotype: Plate II: figs. 17–18 — Locus typicus: Bakonybél, Somhegy—Stratum typicum: horizontal fissure—filling limestone—Derivatio nominis: the name is given after DR. J. KONDA, who collected the majority of the available material, including the holotype. — Diagnosis: heliciform, smooth shell with moderately convex surface of the whorls and the base; the latter having a medial depression with a narrow umbilicus, hidden by a callus.

Measurements:	H	HL	HA	D	W	A
Plate II: figs. 17–18.	10	8.5	5	9.5	5	85–125°

Material — It is represented by thirty specimens.

Shape — Dextral, heliciform with a somewhat convex outline. The whorls are slightly convex, but along the suture, there is a narrow concave band where it bends upwards to the former whorl. The peristome is orbicular, with a callus on the inner lip, bearing moreover an inner thickening parallel to its outer face. The thickening starts on the outer lip and ends on the basal lip. A groove runs between the outer border of the columellar lip and the thickening. The relatively large callus covers the umbilicus (except a narrow slit) and a part of the base on the parietal region.

Ornament — The obscure growth lines seen in magnification, are weakly prosocline, but opisthocyrt on the callus.

Embryonal shape and ornament — Similar to the adult shell, but the shape is more depressed and lacks the concavity along the suture. The nucleus raises from the first whorl a little. The possible end of the embryonal shell is at the beginning of the mentioned concavity on the third whorl.

Remarks — A few species have such a deep umbilical region as the *Trochopsis kondai* sp. n., in other stratigraphical distribution, but no one has such an umbilicus, owing to this the generic position is somewhat uncertain.

Distribution — Bakony Mts., Somhegy: ? Humphriesianum and Subfurcatum to Garantiana (condensed) Zone.

Genus *ADEORBISINA* GRECO, 1899

Adeorbisina lateumbilicata (UHLIG, 1881) (Plate II: figs. 9–11)

1881: *Chrysostoma lateumbilicatum* UHLIG, p. 402, pl. 8, fig. 3, 5.

Measurements:	H	HL	HA	D	W	A
Plate II: figs. 9–11	12	10.5	9	18	9	122°

Material — Ten, more or less well preserved, shelly specimens.

Shape — Dextral, lenticular, the spire is conical with slightly convex whorls. The periphery is angulate and carinate on the last half whorl. The characteristic deviation from the normal coiling on the last whorl of the genus appears here as breaking of the carina. The aperture is orbicular, surrounded by a weakly thickened peristome. The strongly convex base has a shallow excavation medially, partially infilled by a callus.

Ornament — The shell is smooth, with fine prosocline growth lines.

Remarks — UHLIG's description of the species was made from Upper Callovian specimens. In spite of the significant difference between the ages of the two material, the specimens from Somhegy do not differ remarkably from UHLIG's figures.

Distribution — W. Carpathians: Upper Callovian; Bakony Mts., Somhegy: condensed Subfurcatum to Garantiana Zone.

Adeorbisina procera sp. n. (Plate II: figs. 12–13)

Holotype: Plate II: figs. 12–13. — Locus typicus: Bakonybél, Somhegy—Stratum typicum: horizontal fissure-filling limestone—Derivatio nominis: *procera* (LAT.) = high, prominent, this species has the highest spire amongst the known species. — Diagnosis: high spire; strong, axially depressed expansion on the last whorl; The upper edge of the last whorl is bent upwards to the penultimate whorl.

Measurements:	H	HL	HA	D	W	A
Plate II: figs. 12–13	21	16.5	9	—	—	55–75°

Material — Five, mostly damaged adult and two juvenile specimens.

Shape — The shell is dextral, somewhat cyrtoconoid. The surface of the whorls is slightly convex, but on the last whorl there is a narrow concave band along the upper suture. The expansion of the last whorl is large and depressed axially. The normally coiled whorl portion following the expansion, ends in a slightly expanded peristome, which encloses an orbicular aperture. The base is convex, anomphalous, bearing a callus connected to the inner lip.

Ornament — The shell is smooth with very fine, somewhat prosocline gtowth lines, being prosocyrt at the inner lip only.

Remarks — It is a species with the highest spire amongst the known species. By this feature and by the last whorl having no spiral angulation or carina, the species is well distinguishable.

Distribution — Bakony Mts., Somhegy: condensed Subfurcatum to Garanciana Zone.

Genus *ZIRCIA* gen. n.

Type species: *Zircia zircensis* sp. n. (see below) — Derivatio nominis: after Zirc (a village near the locality). — Diagnosis: thick shell, with conical shape having a blunt apex; a keel immediately below the suture, resulting an extremely narrow ramp on its adapical side and a weak convexity below; rounded periphery; elliptical, prosocline peristome with a thick and large callus; ornament spiral grooves and lines on the base and below the carina.

Remarks — *Zircia* gen. n. having a carina on the whorls differs from all of the genera of Ataphridae. By the deeper suture, the Trochopsidea is seen as its closest ally, but the building the peristome is unlike. However, the embryonal (juvenile) shell of the *Zircia* is like as that of *Trochopsidea*.

Zircia zircensis sp. n. (Plate II: figs. 19–20)

Holotypus: Plate II: fig. 19. — Locus typicus: Bakonybél, Somhegy — Stratum typicum: horizontal fissure-filling limestone — Derivatio nominis and diagnosis: see above, at *Zircia* gen.n.

Measurements:	H	HL	HA	D	W	A
Plate II: fig. 19	8.2	6	4.5	6.2	—	60°

Material — Seven, mostly damaged specimens, well completing each other.

Shape — See in the diagnosis.

Ornament — No transversal ornament is besides the fine prosocline growth lines. These are crossed longitudinally by a few lines below the carina, the first of them appears on the fifth whorl and their number increases to three or four at the last whorl. On the base, except a narrow band beside the callus, dense spiral grooving is seen.

Embryonal shape and ornament — The subglobose protoconch consists of a smooth nucleus and about 2.5 whorls, which are convex and unsculptured. The appearance of the carina may be the boundary between the embryonal and the juvenile shell.

Remarks — The "C"-like callus is circumscribed by a groove, its lower part may be a slit to a possible umbilicus.

Distribution — Bakony Mts.: Somhegy, ? Humphriesianum and condensed Subfurcatum to Garantiana Zone.

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Plate I.

Fig. 1. *Pseudorhytidopilus* sp., Gyenespuszta, ×1.3

Figs. 2–3. *Proconulus epuloides* sp. n., holotype J 10 121, Eplény, ×1.1

Figs. 4–5. *Proconulus scherinus* (G. G. GEMM.), Kericser, ×2.2

Figs. 6–8. *Proconulus epuliformis* sp. n.: 6 = holotype J 10 122, Somhegy, ×2.3; 7 = juvenile part of another specimen, Somhegy, ×5.7; 8 = the last whorl of the specimen of fig. 7., ×6

Figs. 9–13. *Proconulus rimosus* sp. n.; 9 = a specimen with cracked shell, ×2; 10 = holotype J 10 123, Somhegy, ×2.6; 11 = apertural view of the holotype, ×2.6; 12–13 = embryonal shell of the specimen of fig. 9., ×5

Figs. 14–15. *Dimorphotectus* sp., Sümeg, ×1.4

Figs. 16–18. *Dimorphotectus unicarinatus* sp. n.; 16–17 = holotype J 10 124, Somhegy, ×2.2; 18 = ornament of the last whorls of the holotype ×5

Figs. 19–21. *Dimorphotectus bicarinatus* sp. n.; 19 = juvenile whorls, Somhegy, ×2.5; 20–21 = holotype J 10 125, Somhegy, ×2.6

Fig. 22. *Anticonulus lateumbilicatus* (D'ORB), Kericser, ×1.6

Plate I.

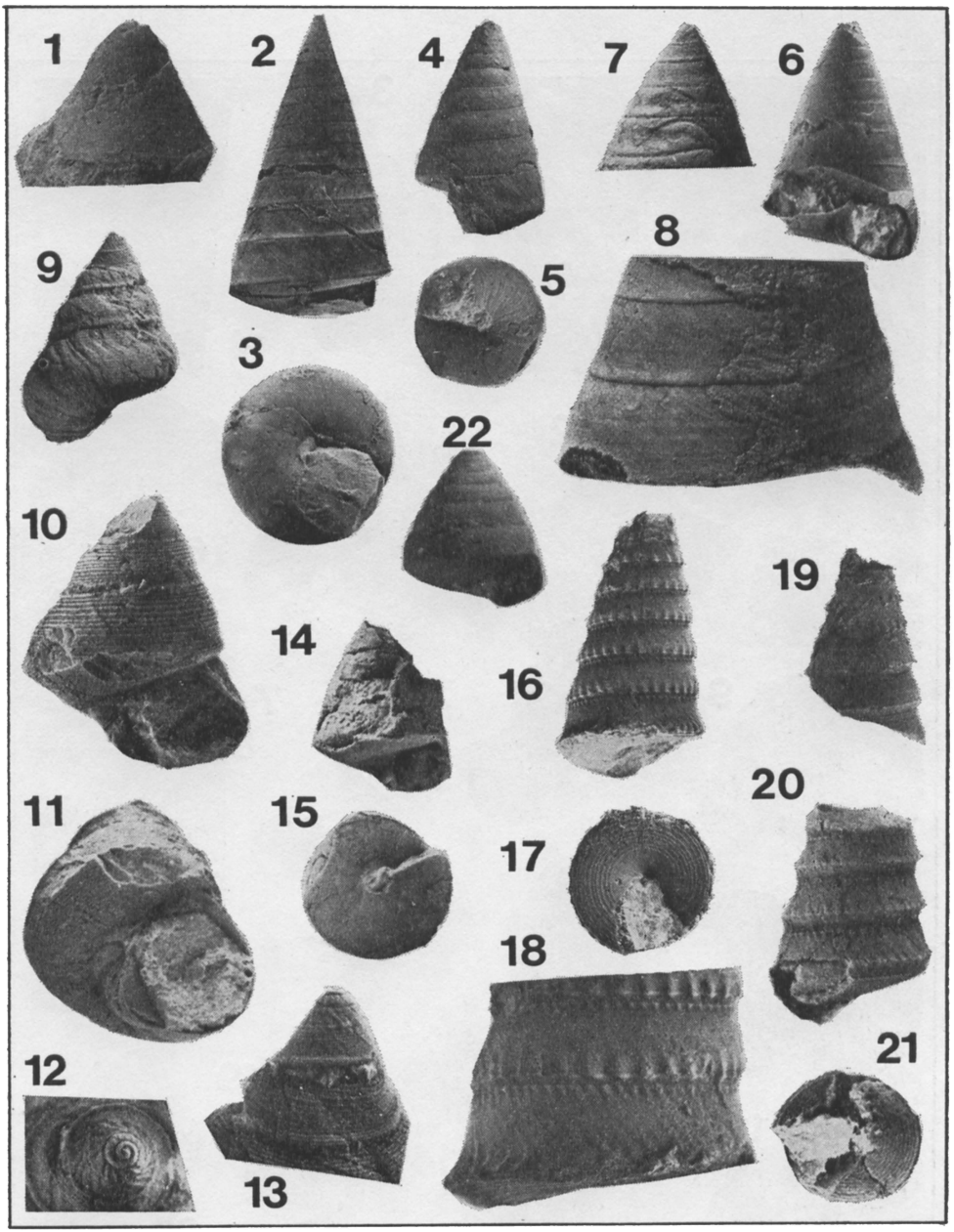

Plate II.

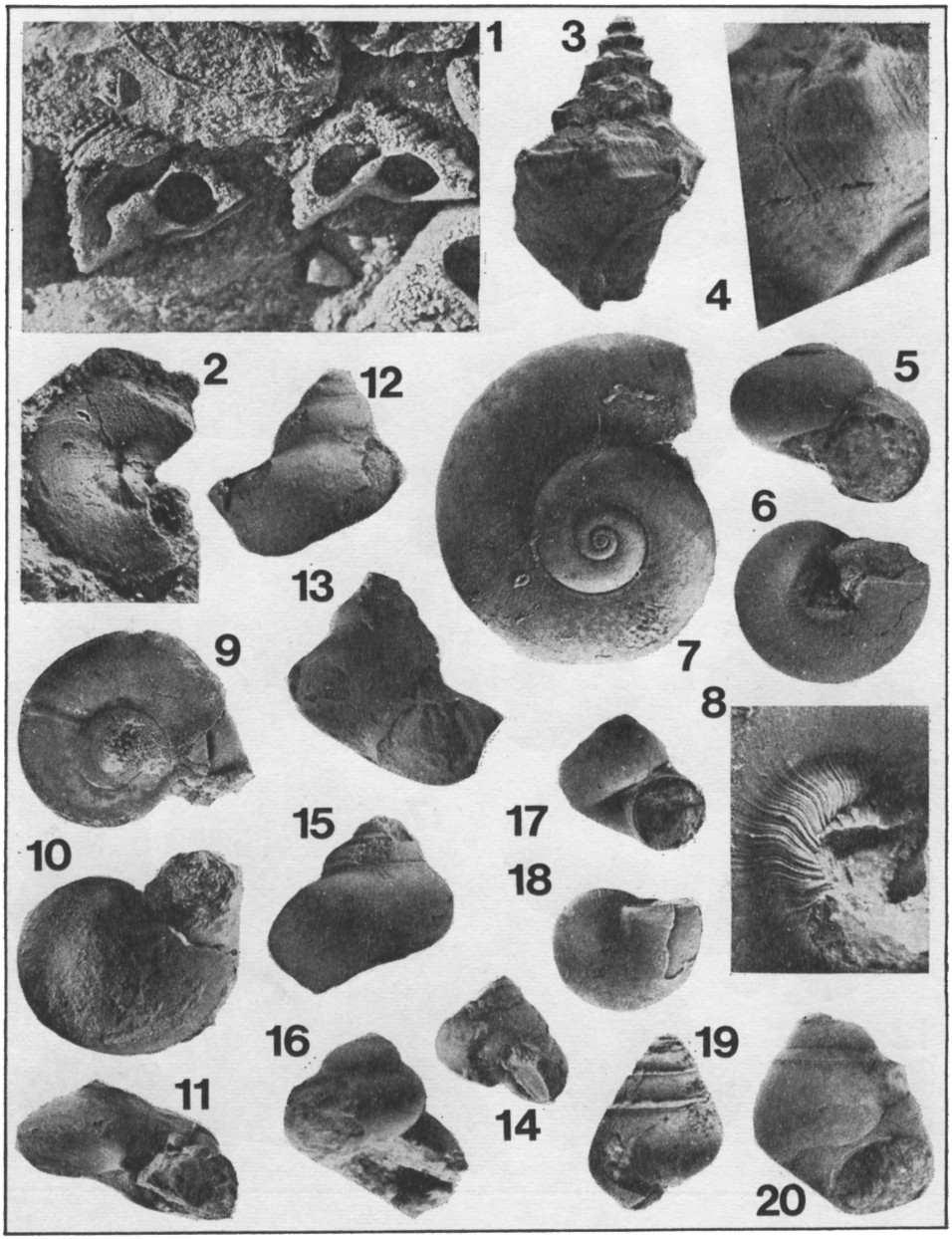

Plate II.

Figs. 1–2. *Murcotrochus* aff. *subluciensis* (HUDL.): 1 = specimens on a weathered limestone surface from Somhegy, ×2.4; 2 = base of another specimen, 2.3
Figs. 3–4. *Eucycloscala acanthicum* (UHLIG), Somhegy; 3 = ×2.5; 4 = a parabolic growth line of the specimen of fig. 3., ×5
Figs. 5–8. *Bakonyia planapex* gen. et sp. n.; 5 = holotype J 10 126, Somhegy, ×2.2; 7 = another specimen showing the embryonal shell, too, ×3.6; 8 = the carina around the umbilicus of the specimen of fig. 7., ×6
Figs. 9–11. *Adeorbisina lateumbilicata* (UHLIG), Somhegy, ×1.7
Figs. 12–13. *Adeorbisina procera* sp. n., holotype J 10 127, Somhegy, ×1.3
Fig. 14. *Ataphrus folcoi* (M. GEMM.), Sümeg, ×2.3
Figs. 15–16. *Trochopsidea latilabra* (Stol.), Kericser, ×1.2
Figs. 17–18. *Trochopsidea kondai* sp. n., holotype J 10 128, ×1.7
Figs. 19–20. *Zircia zircensis* gen. et sp. n.; 19 = holotype J 10 129, ×2.8; 20 = apertural view of another specimen, ×3.1