ANNALES HISTORICO-NATURALES MUSEI NATIONALIS HUNGARICI
Tomus 79. Budapest, 1987 p. 43–59.

Comparison of Bajocian gastropod faunas from the Bakony Mts. (Hungary) and Umbria (Italy)

by M. A. CONTI, Roma & J. SZABÓ, Budapest

M. A. CONTI & J. SZABÓ: Comparison of Bajocian gastropod faunas from the Bakony Mts. (Hungary) and Umbria (Italy). — *Annls hist.-nat. Mus. natn. hung.* 1987 **79:** 43–59.

Abstract — The systematic part of this paper, containing also nomenclatorical and additional taxonomic remarks to the species common in both faunas, resulted a revised joint list of the Bakony Mountains and the Umbrian faunas (Table 1). Designation of a new genus is also given here: *Laevitomaria (Pleurotomariidae).* Table 1 informs about the mode of life of all the 98 species, recognised in the two areas. Palaeoecologic circumstances of the localities and the palaeo/bio/geography of the two Tethyan regions are also discussed. With 2 figures and 1 table.

Introduction — During the last decade, after an interval of almost a century, several papers were published more or less contemporaneously on the Bajocian gastropod faunas of the Tethys (SZABÓ 1979, 1980 a, b, 1981, 1982, 1983; CONTI & FISCHER 1981, 1983 1984 a, b) from the Bakony Mountains as well as from Umbria. In these papers, numerous new taxa were established. Many of them became subjective synonyms and this fact caused confusions in the taxonomy. For this reason the authors thought necessary to give a complete revision of the faunas. Comparing the Italian and Hungarian material, further species, in bad state of perservation, became identifiable. The corrected faunal lists (Table 1) show clearer picture of relationship between the gastropod faunas of the two regions of the central Tethys.

Generally, the writers followed the systematics proposed by Cox (in MOORE 1960) as in their previous works. In case of certain groups, however, this systematics seemed to be rather artificial and needed a basic revision. In this paper, some genera are revised completely in respect of familiar position. Necessarily, this means partial revision of some families, too.

Systematics — During the preparation of this paper, an important methodological problem emerged: what is the significance of the presence or absence of an umbilicus (disregarding pseudoumbilicus) in classification? This feature was not used consistently by former palaeontologists. It was regarded to have importance either on generic or on species level, respectively. Usually in a featureless group (like *Crossostomatidae*), it was attributed a generic role but in some other families (for example: *Pleurotomariidae*) having a lot of morphological characters, the existence or lack of an umbilicus got only specific value. Unfortunately, no biological evidence has been given to explain why an umbilicus appears and why not.

The two opinions are as follows:

1. The most useful features for classification are the ones which may be characterized by "yes-no" pairs. The presence or absence of an umbilicus belong to these criteria. Without knowing their real taxonomical importance, it is useful to make subdivisions at generic level in featureless families.
2. The anomphalous stage is only one in the scale ($0- \leq 300°$), along which the umbilicus

may change. There are many form-pairs, in which the only significant difference is the opening of an umbilicus. Only larger umbilicus angle-intervals together with (an)other feature(s) may chara.cterize higher taxa, for example: appearance of planispiral or pseudosinistral (hyperstrophic) coliing. The simple presence-absence pair may be base of subgeneric distinction at most.

In our opinion, the latter one seems more likely but we cannot verify this opinion without doubt. Owing to this reason, this principle is not consistently followed in this paper. In case of *Crossostomatidae*, *Crossostoma* and *Palaeocollonia* are treated in the traditional manner as independent genera, though the only difference between them is the prsence of an umbilicus in *Palaeocollonia*. However, this character is used to separate only subgenera in another family *(Coleostylinidae)*.

Family **Euomphalidae** DE KONINCK, 1881

Discohelix cooki CONTI et FISCHER, 1984

1968: *Discohelix (Discohelix) cotswoldiae* (LYCETT, 1850) — WENDT, p. 520, Pl. 110: 5–12, figs 2F, 3M
1979: ? *Discohelix cotswoldiae* (LYCETT, 1850) — SZABÓ, p. 25, Pl. II: figs 1–3., fig. 6F.
1984: *Discohelix cooki* CONTI et FISCHER, p. 132, fig. 5., Pl. I: 5a–b, 6a–b, 7a–b.
1987: *Discohelix cooki* CONTI et FISCHER, 1984 — CONTI & MONARI, p. 182, Pl. I: figs 12–13.

Remarks — The identification, given by Wendt (cit. above) is not correct. The dimensions of the real *D. cotswoldiae* are much smaller than those of Wendt's figured specimens, belonging really to *D. cooki* CONTI et FISCHER, 1984. An adult shell of this species is about twice larger than that of Lycett's species. The ornament is also different: *D. cotswoldiae* has nodulae along the outer angulations but *D. cooki* bears radial riblets at comparable position. In a previous paper, SZABÓ (1979) has already tried to denote the fact of this misidentification, though it was not put unambiquously owing to a misinterpretation during the printing (place of questionmark!).

The Umbrian and the Bakony material do not contain such markedly ornamented specimens which are figured by WENDT (1968) in Pl. 110: figs 9–12. A possible explanation: Wendt's material cosists of Aalenian and Bajocian elements (condensed fauna); the mentioned forms might be the earlier (Aalenian) ones which are not only temporarily but also morphologically nearer to the possible ancestor, the Toarcian, more markedly sculptured D. *dyctiota* WENDT, 1968 than the Bajocian specimens.

The embryonal spiral lineation is not visible in the Umbrian specimens of *D. cooki* but its lack certainly originates from the poor state of preservation. Such fine ornamental details might have easily disappeared during fossilization.

Distribution — W Sicily, Condensed Aalenian-Lower Bajocian; Bakony Mts., Humphriesianum-Parkinsoni Zone; Case Canepine, Humphriesianum Zone; "Bivio Macerino" ?Aalenian-Bajocian (? Condensed Murchisonae to Humphriesianum-Humphriesianum Zone).

Family **Phymatopleuridae** BATTEN, 1956

GENUS *TROCHOTOMARIA* CONTI et FISCHER, 1981

Type species: *Trochotomaria somhegyensis* (SZABÓ, 1980) — see below.

Original diagnosis: "Shell trochiform. Selenizone at midwhorl, slightly depressed below surface, limited by two spiral cords and denticulated by transversal costellae. Ornament collabral and spiral element, collabral dominant. Periphery angular; base flattened, with deep and narrow umbilicus which is abruptly delimited and costulated inside. Aperture quadrate, with thin and right columellar lip".

Remarks — *Trochotomaria* was originally defined after some Umbrian juvenile specimens, on which the position of selenizone was at the midwhorl. In the adult Bakony specimens, however, it was below the midwhorl. This shifting of the selenizone between this two stages is characteristic tor *Trochotomaria* (Fig. 1A).

It is necessary to emphasize that this genus has a somewhat different embryonal-juvenile shell than the other members of the family, having depressed or planispiral initial whorls. In *Trochoto-*

maria, only the nucleus and the first whorl are slightly depressed. In spite of this fact, the genus belongs to ***Phymatopleuridae*** without any doubt because all the other features correspond to the definition of the family. The diagnostic ones are: selenizone is concave and delimited by two spiral cords; ornament of retiform cords.

The type species of *Trochotomaria* was originally ranged into *Pleurotomariidae* with some remarks on the main differences between "*Leptomaria*" *somhegyensis* and the typical *Leptomaria* (SZABÓ, 1980, p. 59). Its belonging to *Pleurotomariidae* seemed more possible because there was no trace of evolutionary connections with the other members of *Phymatopleuridae* and by the definition of this family, an important character was lacking in "*L.*" *somhegyensis* namely the planispiral initial whorls. Disregarding this point, *Trochotomaria* fits well in *Phymatopleuridae* just like the Liassic *Anodomaria* SZABÓ, 1980, which was originally defined as a subgenus of *Pleurotomaria*.

Trochotomaria somhegyensis (SZABÓ, 1980)

1980: *Leptomaria somhegyensis* SZABÓ, p. 59, Pl. III: figs 1–3.
1981: *Trochotomaria tricarinata* CONTI et FISCHER, p. 140, Pl. I: 1–3.
1984: *Trochotomaria tricarinata* CONTI et FISCHER — CONTI et FISCHER, p. 134, fig. 6, Pl. I: 14a–e, 15a–d.

Remarks — Subsequent collections at the type locality resulted in some additional specimens of this species. These show shell parts which are transitional between the earliest ontogenetic stage,

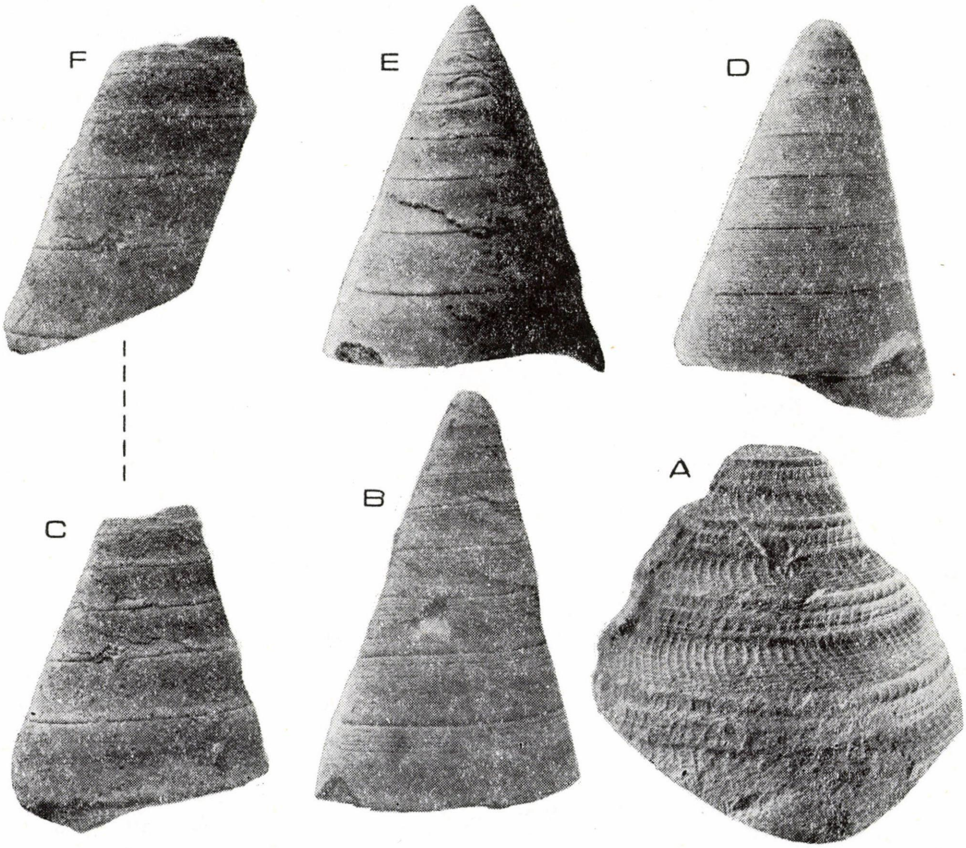

Fig. 1. A = Shifting of selenizone from midwhorl below midwhorl in *Trochotomaria somhegyensis*, B—F = Ornamental variations in *Proconulus epuliformis* from the Somhegy locality

served as basis for description of *T. "tricarinata"*, and the adult stage, represented in the type specimen. The new finds show that the selenizone gradually shifts from the juvenile midwhorl position under the midwhorl in adult stage. It is important to comment on a character which was not mentioned in the earlier decriptions: a definite parietal callosity is present on the specimens which covers the basal lineation.

Distribution — Somhegy, Humphriesianum and condensed Subfurcatum to Garantiana Zone; Case Canepine, Humphriesianum Zone.

Family **Pleurotomariidae** SWAINSON, 1840

Laevitomaria gen. n.

Type species: *Laevitomaria problematica* (SZABÓ, 1980) (= *Pyrgotrochus*? *problematicus*),

Diagnosis — Conical shell with slightly convex whorls, having nearly trapezoidal cross-section and outer face nearly parallel to axis in adult stage. Selenizone below midwhorl, its width about a sixth of distance between two neighbouring sutures; selenizone may be from hardly concave to rather convex. Base flat and phaneromphalous; umbilicus rather wide. Ornament of spiral threads and grooves. Growth-lines prosocline above selenizone, opisthocline below it and opisthocyrt (falciform) on base. Basal ornament of spiral threads.

Remarks — The conical shell is comparable with some similar forms of *Pleurotomariidae*. The juvenile shell and the position of selenizone is similar to that of *Pyrgotrochus*, but the convexity of the whorls in this new genus gives a possibility to separate them. The position of the selenizone can serve as a basis for distinction between *Conotomaria* and *Entemnotrochus* versus *Laevitomaria*, respectively. *Micadotrochus* has a trochiform shape while *Laevitomaria* is conical; the longitudinal ornament of the previous one consists of obscurely nodosed cords but in the latter one thin, simple spiral lines and grooves are present. The most similar form is *Leptomaria* which differs in its juvenile shell and in the midwhorl position of the selenizone. The suture in *Leptomaria* runs above the periphery of the former whorl while they coincide in *Laevitomaria*. The shape of *Laevitomaria* is very near to that of *Trochotomaria* but the shape of the selenizone and the ornament of the adult shells separate these two genera. Namely: selenizone is bordered by two definite spiral cords only in *Trochotomaria;* the ornament is retiform in *Trochotomaria* but only spiral in *Laevitomaria;* the juvenile whorls of *Trochotomaria* are flat but those of *Laevitomaria* are somewhat convex.

The assignement of *Laevitomaria* to *Pleurotomariidae* is temporary. In our opinion, *Pleurotomariacea* is badly in need of a revision; it is necessary to form a systematics which will reflect the evolutionary relationships better than the existing, rather artificial families. This revision is suggested by some Tethyan finds which are transitional between some elements of *Pleurotomariidae* and *Phymatopleuridae;* e. g.: *Trochotomaria* and *Laevitomaria* seem to belong to the same natural group (family), consisting of some genera from different actual families.

Three species belong to this new genus: *Laevitomaria problematica* (SZABÓ, 1980), *L. peripherialis* (SZABÓ, 1980) (originally *Pyrgotrochus*) and *L.* cf. *problematica* (= *Trochotomaria* ? cf. *problematica* in CONTI et MONARI, 1987 which is certainly a new species but the preservation of the specimens are not sufficient for a designation).

Distribution — Umbria, Bajocian; Bakony, Pliensbachian and Bajocian.

Family **Acmaeidae** CARPENTER, 1857

Scurriopsis (Scurriopsis) sp.

1987: *Scurriopsis (Scurriopsis)* sp. — CONTI & MONARI, p. 183, Pl. II. fig. 3.

Remarks — The species, mentioned in the synonymy, occurred in the Bakony material, too, but the poor state of preservation prevented its correct description. As it was mentioned by CONTI & MONARI (1987), these forms certainly represent a new species but the apical shell portion is missing from all specimens thus right diagnosis cannot be given.

Distribution — "Bivio Macerino", ? Aalenian-Bajocian (? condensed Murchisonae to Humphriesianum Zones — Humphriesianum Zone); Somhegy, Humphriesianum Zone.

Fig. 2. Variations in shape of *Proconulus baldensis* among specimens from the Somhegy excavation

Family **Trochidae** RAFINESQUE, 1815

Proconulus baldensis (PARONA, 1894)

1894: *Trochus (Zyziphinus) baldensis* PARONA, p. 389, fig. 35.
1981: *Proconulus rimosus* SZABÓ, p. 57, Pl. I: figs 9–13.
1983: *Proconulus baldensis* (PARONA) — CONTI & FISCHER, p. 493, fig. 2, Pl. I: 6–8.
1984: *Proconulus baldensis* (PARONA) — CONTI & FISCHER, p. 135, Pl. II: figs 1a–b, 2.

Remarks — The figure presented by Parona is rather different from the real shape, enough to regard the Bakony specimens as a new species. After the comparison with the Umbrian material, identified using Parona's originals by CONTI & FISCHER (1984), the name *P. baldensis* might be applicable to the Bakony material, too. The shape of this species is rather variable (Fig. 2.): the spire and the whorls of Parona's specimen are flattened, the suture is similar to the grooves between, the spiral lines. The Umbrian and the major part of the Bakony specimens have a slightly sigmoidal whorl-surface. The suture of the Bakony specimens runs in a rather deep furrow, except on a few stratigphically younger specimens. The latter ones have flat whorls and spire, and a strongly rounded periphery.

Distribution — Aque Fredde, Subfurcatum Zone; Case Canapine, Humphriesianum Zone; Somhegy, Humphriesianum to Parkinsoni Zone

Proconulus epuliformis SZABÓ, 1981

1981: *Proconulus epuliformis* SZABÓ, p. 56, Pl. I: figs 6–8.
1984: *Proconulus (Laeviconulus) acutispira* CONTI et FISCHER, p. 135, Pl. II: figs 3a–c, 4.
1987: *Proconulus (Laeviconulus) acutispira* CONTI et FISCHER — CONTI et MONARI, p. 000.

Remarks — The species was described after the Bakony material, showing a great variability in the ornament. Conti & Fischer established *P. (Laeviconulus) acutispira* as type species for its subgenus. There is no spiral ornament in the Umbrian material, but there are similar specimens in the more variable Bakony material, too. The comparison of the faunas justified that the finds. named as they are in the synonymy, belong to the same species.

Later, CONTI & MONARI (1987) described another Umbrian species, assigned also to "*Laeviconulus*" subgenus because it has no spiral ornament, as well.

The mentioned comparison between the populations of different ages and localities showed that the lack or presence as well as the extent of the spiral lineation came into being randomly. The Umbrian material contains only one variety while the Bakony collection presents the entire range (Fig. 1): no lineation, slight linaetion, covered by rare or dense lines, and there are some specimens with only juvenile or only adult lineation. There is no trend observable either temporarily or spatially. Regarding these circumstances, the independence of the subgenus "*Laeviconulus*" is uncertain.

Distribution — Somhegy, Humphriesianum to Parkinsoni Zone; Case Canepine, Humphriesianum Zone; "Bivio Macerino" ? condensed Murchisonae to Humphriesianum Zones — Humriphesianum Zone.

Proconulus ibbetsoni (MORRIS et LYCETT, 1851)

1851: *Trochus Ibbetsoni* MORRIS et LYCETT, p. 61, Pl. X: figs 4–4a.
1868: *Trochus Ibbetsoni* MORR. et LYC. — LAUBE, p. 12, Pl. III: fig. 1.
1950: *Proconulus ibbetsoni* (MORR. et LYC.) — COX & ARKELL, p. 58.
1983: *Proconulus ibbetsoni* (MORR. et LYC.) — SZABÓ, p. 28, Pl. I: figs 11–12.

Remarks — A specimen in bad state of preservation from Case Canepine became identifiable with the comparison of the two materials. That means a new datum about the distribution of this species.

Distribution — England, Great Oolite; Poland (Balin), Upper Bathonian-Lower Callovian; Somhegy, Humphriesianum to Parkinsoni Zones; Case Canepine, Humphriesianum.

Family **Ataphridae** COSSMANN, 1918

Genus *ZIRCIA* SZABÓ, 1981

Remarks — Two species belong to this genus, both of them have a characteristic ornament: an opisthocline lineation, crossing the prosocline growth-lines. The strength of the different line types are nearly the same. The appearance of this ornament is rather rare among the gastropods but it is unique in *Ataphridae*. It seems to be result of a Tethyan evolutionary line.

Family **Neritidae** RAFINESQUE, 1815

Neritoma (Neridomus) riettii CONTI et MONARI, 1987

1982: *Neritoma (Neridomus)* sp. — SZABÓ, p. 20, Pl. II: figs 2–3.
1987: *Neritoma (Neridomus) riettii* CONTI et MONARI, p. 188, figs 10b, e, Pl. V: figs 4–5.

Remarks — The preservation of the Bakony specimens did not make a specific identification or description possible but the comparison of the Italian and Hungarian faunas justified the presence of *N. (N.) riettii* in the Somhegy locality.

Distribution — Bakony, Humphriesianum Zone; "Bivio Macerino", ? condensed Murchisonae to Humphriesianum Zones.

Family **Crossostomatidae** COX, 1960

Paleocollonia angeli (PARONA, 1894)

1894: *Crossostoma angeli* PARONA, p. 39, Pl. I: fig. 38.
1982: *Crossostoma* sp. — SZABÓ, p. 21, Pl. II: figs 4–5.
1983: *Paleocollonia angeli* (PARONA) — CONTI & FISCHER, p. 504, fig. 9, Pl. II: figs 11–14.
1984: *Palaecollonia angeli* (PARONA) — CONTI & FISCHER, p. 142, Pl. III: fig. 6.
1987: *Paleocollonia angeli* (PARONA) — CONTI et MONARI, p. 189, Pl. IV: figs 7–8.

Remarks — The umbilical part of the only Bakony specimen was covered by a piece of matrix so both the generic and specific identification became exact only after the comparison. In accordance with the general systematic remarks, we do not change the generic name befor clearing up the real taxomical significance of the presence of an umbilicus.

Distribution — Aque Fredde, Subfurcatum Zone; Case Canepine, Humphriesianum Zone; "Bivio Macerino", ? condensed Murchisonae to Humphriesianum Zone; Somhegy condensed Subfurcatum to Garantiana Zone.

Genus *MARIOTTIA* CONTI et FISCHER, 1981

Type species: *Mariottia gibbosa* CONTI et FISCHER, 1981 (see below).

Original diagnosis — "Shellturbiniform, anomphalous, with convex smooth whorls. Last whorl expanded before the labrum in the shape of a carinate boss. Aperture circular with uninterrupted, thickened and expanded peristome; labrum little inclined in profil view, without reflected lip. Columellar callus extending from inner lip over the base, encrusting the umbilical area".

Remarks — The synonym of the type species was ranged into *Adeorbisina* GRECO, 1899

(*A. procera* SZABÓ, 1981). *Adeorbisina* is very similar to *Mariottia*, the only difference is the possible presence of an umbilicus in the former one. It would be necessary to see the original of *Adeorbisina* to decide about this problem. If *Adeorbisina* had an umbilicus really, *Mariottia* would remain an independent genus in accordance with the principles, mentioned in the general systematic remarks (see above). In the opposite case, it would be a synonym for *Adeorbisina*.

Some of the numerous Bakony and Carpathian species have definite spiral angulation of different length on the last whorl. In the type species this angulation is present only on the expansion of the last whorl but in *M. lateumbilicata* (UHLIG), for example, the angulation is visible along the whole last whorl. The length of this morphological element is a specific character.

Mariottia gibbosa CONTI et FISCHER, 1981

1981 (July): *Mariottia gibbosa* CONTI et FISCHER, p. 142, Pl. I: figs 11–14.
1981 (December): *Adeorbisina procera* SZABÓ, p. 63, Pl. II: figs 12–13.
1984: *Mariottia gibbosa* CONTI et FISCHER — CONTI et FISCHER, p. 143, Pl. III: figs 7a–d, 8a–b.

Remarks — Though there are some difference between the spiral angles of the specimens from the two localities, the "gibbosa" and the "procera" names denote the same species. The somewhat smaller spiral angle of the Bakony specimens means only a slight variability of the species.

Distribution — Case Canepine, Humphriesianum Zone; Somhegy (Hungary), condensed Subfurcatum to Garantiana Zone.

Family **Amberleyidae** WENZ, 1938

Genus *EUCYCLOIDEA* HUDLESTON, 1888

Remarks — One of the species assigned to this genus (*Eucycloidea galaczi*, see below), occurring both in Somhegy and Case Canepine, suggests close evolutionary relationship to *Eucyclomphalus*. Its shape is very similar: the spire is pagodiform, too, and the umbilicus, uniquely in *Eucycloidea*, is as broadly open as in *Eucyclomphalus*. But in *E. galaczi*, the characteristic *Eucycloidea* ornament appeared: spiral lines are present between the upper suture and the angulation of the whorls; marked collabral riblets are visible on the whole shell. The umbilicus is usually narrower in other *Eucycloidea* species and the anomphalous stage is also imaginable in some uncertain cases.

The morphological similarity between *Eucycloidea* and some amberleyid forms were mentioned by HUDLESTON (1888) as well in the discussion of this genus. *Eucycloidea galaczi* is regarded as a link in an evolutionary chain near the *Eucyclomphalus* stage. Owing to this opinion, it is necessary to place *Eucycloidea* within *Amberleyidae*.

This new systematic position for *Eucycloidea* may seem too bold because originally it has belonged to a caenogastropod family (*Purpurinidae*). The main reason for this previous classification was the presence of a rudimentary siphonal outlet. In the new family, this morphological element is also frequent, its occurrence is one of the reasons why *Amberleyidae* is in a doubtful ordinal position within *Archaeogastropoda*.

Eucycloidea galaczi SZABÓ, 1983

1983: *Eucycloidea galaczi* SZABÓ, p. 42, Pl. III: figs 5–8.
1984: *Eucyclomphalus granulatus* CONTI et FISCHER, p. 145, fig. 9, Pl. IV: figs 1a–c.

Remarks — The above mentioned names concern the oldest species in this genus. *E. galaczi* shows the closest relationships with the most likely ancestor of *Eucycloidea* (see above). All the other species have narrower umbilicus.

Distribution — Somhegy, Humphriesianum to Parkinsoni Zone; Case Canepine, Humphriesianum Zone.

Family **Nododelphinulidae** COX, 1960

Amphitrochus retusus CONTI et FISCHER, 1984

1983: *Paraviviana* ? sp. — SZABÓ, p. 27, Pl. I: figs 1–3.
1984: *Amphitrochus retusus* CONTI et FISCHER, p. 146, fig. 10, Pl. III: figs 15a–c, 16.

Remarks — All the available specimens are fragmentary or juvenile ones but, fortunately, they complete each other well. The general shape corresponds to the original designation but the description of the ornament needs some completion: in an adult shell, the periphery is tricarinate; the Bakony specimen (fragment of an adult shell) and a new Case Canepine find show spiral lineation not only on the whorls but also on the base and inside of the umbilicus.

Distribution — Somhegy, condensed Subfurcatum to Garantiana Zone; Case Canepine, Humphriesianum Zone.

Family **Zygopleuridae** WENZ, 1938

Katosira campaniliformis CONTI et FISCHER, 1984

1984: *Katosira campaniliformis* CONTI et FISCHER, p. 148, Pl. IV: figs 6–7.

Remarks — In a new collection from the Somhegy, a specimen belonging to this species occurred. Its shape and ornament does not show any significant difference from those of the Case Canepine specimens. The identification means a new datum for the Somhegy fauna.

Distribution — Case Canepine, Humphriesianum Zone; Somhegy, condensed Subfurcatum to Garantiana Zone.

Anoptychia hastata SZABÓ, 1983

1983: *Anoptychia hastata* SZABÓ, p. 34, Pl. II: figs 5–6.
1984: *Anoptychia canepinensis* CONTI et FISCHER, p. 148, fig. 12, Pl. IV: figs 8–9.

Remarks — Though the Case Canepine specimens are juvenile, the species identity is certain. It is necessary to complete the original description with two elements: the juvenile whorls are hardly convex (while the postjuvenile ones are flattened); the specimens, belonging to three ontogenetic stage, show different spiral angles of decreasing trend during the growth. Thus a complete specimen must have been a higly cyrtoconoid one.

Distribution — Somhegy, condensed Subfurcatum to Garantiana Zone; Case Canepine, Humphriesianum Zone.

Family **Coelostylinidae** COSSMANN, 1909

Genus *TELLERIA* KITTL, 1894

Remarks — In accordance with the general systematic concepts (see above), the writers propose a new familiar position for *Ochetochilus* COSSMANN, 1899 within *Coelosrylinidae* as a subgenus of *Telleria* KITTL, 1894. This is verified by the only difference between the forms: *Telleria* has an umbilicus while *Ochetochilus* has none. The shape and ornament are very similar so they must belong to the same genus.

In this group of similar shape, there is another comparable genus, too: *Bourgetia.* It has differently oriented, sigmoidal growth-lines which are prosocline — slightly opisthocyrt in *Telleria.* The connection between *Telleria* and *Paronaella* is discussed below.

Telleria (Telleria) benacensis (PARONA, 1894)

1894: *Narica benacensis* PARONA, p. 384, Pl. I: fig. 28.
1983: *Telleria benacensis* (PARONA) — CONTI et FISCHER, p. 505, fig. 10, Pl. II: figs 15–21.

Remarks — This species occurred in a new collection from the Somhegy section. Though the two specimens are fragmentary, they agree well with the above mentioned descriptions. Their presence is also a new datum for the Bakony Bajocian fauna. — *Telleria benacensis* is easily distinguishable from *Telleria picea*, by its subglobose shel. The latter one has a greater number of whorls and a higher spire with smaller spiral angle.

Distribution — Aque Fredde, Subfurcatum Zone; Somhegy, Humphriesianum Zone.

Telleria (Telleria) picea SZABÓ, (1983)

1983: *Ochetochilus piceus* SZABÓ, p. 43, Pl. III. figs 1–4.

Remarks — Possessing an umbilicus, this species do not belong to the subgenus *Ochetochilus* but to *Telleria*, in which a comparable species has already been described: *T. (T.) petri* (PARONA 1894). It is necessary to make a distinction between them. *T. petri* has a nearly conical shell with deeper suture, and an acute apex while the spire in *T. picea* is ovate with shallower sutural furrow and blunt apex. The apical angle is wider (~ 20°) in the latter one. The ornament of *Telleria petri* consists of delicate spiral lines equal in strength but *Telleria picea* has strong spiral lathes together with intersecting finer threads between the stronger pairs. A distinction between *T. picea* and *T. benacensis* was given above.

Distribution: Somhegy, condensed Subfurcatum to Garantiana Zone.

Genus *PARONAELLA* CONTI et FISCHER, 1984

Type species: *Paronaella subcylindrica* (PARONA, 1894), [*Ceritella (Fibula) subcyliindrica* PARONA, 1894; p. 381, Pl. I: fig. 22.]

Diagnosis — High subcylindrical-pupiform shell; numerous hardly convex whorls, ornamented by fine spiral threads and slightly opisthocyrt-prosocline growth-lines. Aperture elongated axially, peristome entire; columellar lip sraight. Narrowly phaneromphalous, convex base. Callus of moderate extent, covering the umbilicus partially.

Remarks — *Paronaella* was described originally as a subgenus of *Telleria* but the remarkably different shape supports the independent generic position. The former opinion was suggested on the basis of the peristomial characters.

Genus *DIATRYPESIS* TOMLIN, 1929

Remarks — The presence of spiral ornament on *Diatrypesis angulocostatum* (see below) makes necessary to correct the diagnosis of this genus (given by WENZ 1940). As the example of *Proconulus epuliformis* has shown it, the presence or absence of a spiral lineation has only low taxonomic value. Its importance is questionable even at the species level. So *Diatrypesis* may contain forms with spirally lineated shells, too, if it is the only disagreement with the earlier definitions.

Diatrypesis angulocostatum (SZABÓ, 1983)

1983: *Procerithium (Cosmocerithium) ? angulocostatum* SZABÓ, p. 39, Pl. II: fig. 7.
1984: *Diatrypesis settepassii* CONTI et FISCHER, p. 134, Pl. V: figs 9–15.

Remarks — The Case Canepine specimens complete well the original description because many of them have embryonal shell, too, that did not occurred in the Somhegy material.

Distribution — Somhegy, Humphriesianum? and condensed Subfurcatum to Garantiana Zone; Case Canepine, Humphriesianum.

Family **Lamelliphoridae** KOROBKOV, 1955

Lamelliphorus rhombifer (UHLIG, 1881)

1881: *Trochus (Carinidea) rhombifer* UHLIG, p. 405, Pl. VII: figs 15–16.
1983: *Lamelliphorus rhombifer* (UHLIG, 1881) — SZABÓ, p. 35, Pl. I: figs 14–15.
1984: *Lamelliphorus reticulatus* CONTI et FISCHER, p. 155, Pl. IV: figs 25a–b.

Remarks — On the Case Canepine specimen, the peripherial carina is well visible on the spiral whorls, too, because the suture does not cover it. The orientation of the nearly axial apparent ribs is also somewhat different from that of the other specimens. They are orthocline in the beginning and become prosocline only later. The two apparent rib types are of the same srength in the Case Canepine and Bakony specimens while Uhlig's figures show the dominance of the nearly axial ones. The base of the Case Canepine specimen is covered by fine spiral lines. This lineation is lacking from the others. New, well preserved material is necessary to clear up the real meaning of the described differences.

Distribution — Babierzówka (Western Carpathians), ? Upper Callovian (certainly mixed fauna); Somhegy, ? Parkinsoni Zone (or Lower Bathonian); Case Canepine; Humphriesianum Zone.

Genus *PIETTEIA* COSSMANN, 1904

Subgenus **Trietteia** subgen. n.

Type species — *Pietteia (Trietteia) trispinigera* SZABÓ, 1983 (see below).

Diagnosis — High spire with blunt apex, carinate slightly convex whorls and periphery. Last aperture moderately enlarged and has two protrusions above the columellar canal. Ornament of spiral threads and collabral riblets on juvenile whorls with spine on carina, only spines on later whorls and only spiral lineation on last whorl.

Remarks — The three peristomial protrusions make this subgenus distinguishable from *Pietteia (Pietteia)*. Only two known species have this peristomial character, the type species and *P. (Pietteia) tridactyla* (BUVIGNIER, 1843) occurring in the NW-European Upper Jurassic.

Pietteia (Trietteia) trispinigera SZABÓ, 1983

1983: *Pietteia trispinigera* SZABÓ, p. 40, Pl. III: figs 12–13.
1984: *Pietteia apenninica* CONTI et FISCHER, p. 156, fig. 13, Pl. V: fig. 23.
1987: *Pietteia trispinigera* SZABÓ — CONTI et MONARI, p. 192, fig. 14–15.

Remarks — The specimens, coming from different localities, show a rather great variability in the transverse ornament, more exactly in the formation of the juvenile costellae. They are definite on the Bakony specimens, less expressed in Bivio Macerino and not visible on the Case Canepine specimen. The Bivio Macerino finds seem transitional between the extremities, that is why the Case Canepine "Pietteia apenninica" is regarded as junior synonym of *P. (P.) trispinigera.*

Distribution — Somhegy, condensed Subfurcatum to Garantiana Zone and Parkinsoni Zone; Case Canepine, Humphriesianum Zone; "Bivio Macerino", ? condensed Murchisonae to Humphriesianum Zone — Humphriesianum Zone.

* * *

There are two other forms which may belong to the same species: *Maturifusus densicostatus* SZABÓ and *Brachytrema purpuriniforme* CONTI et FISCHER. Unfortunately, the embryonal shell of the earlier one is not known so a real comparison is not possible because the second one is represented by a very small specimen only. However, it is imaginable that the latter is a juvenile shell of *Maturifusus densicostatus.*

PALAEOECOLOGY

The faunas of Umbria and the Bakony Mountains are similar in many respects, still there are some significant differences also existing. The faunistic differences may be explained by palaeoecologic and palaeobiogeographic factors but the ratio of the two is not evident.

The first comparison between the two faunas is made on the basis of the mode of life. We tried to find the main environmental circumstances favourable for the gastropods found. We collected actualistic data mainly for groups having living relatives. In case of extinct groups, we adopted results of former workers and those of unpublished facies-analysis. Hypothetical elements are used if they have been controllable and have not been in contradiction to certain elements.

Table I. contains the most important information about the mode of life of the species. However, some additional explanation seems necessary. Remarks to depth zones: 1 = $=0\sim50$ meters; strong water movements, caused by storms, is imaginable in this interval. The archaeogastropods must have occurred in this depth zone mainly on hard ground because in soft bottom environment, the suspended sediments mean serious danger for them (possibility for infilling of the respiratory system). They might have occurred on soft bottom near the lower boundary of this interval only in dense vegetation. This colonized substrat type might have occurred in the upper part of the second depth interval, too ("1–2" in Table I.

concern this plant-association). — In the remaining part of the photic zone ($\sim 50 \sim 150$ m), archaeogastropods might have inhabited both the hard and soft bottom types. — The third depth zone ("3") contains the uppermost few hundred meters of the bathyal region.

In Umbria two different faunal types are known but they will be treated here as one unit to reach a general picture. The ecological composition of the faunas from the two regions are quite different. In Umbria, more than a half of the specimens ($> 62\%$) belongs to the soft bottom dweller species (54%). This group is much smaller in the Bakony fauna: 29% of the specimens and 42% of the species.

Within the group, preferring soft bottom, other important differences are also existing: the forms, living in vegetation, are practically missing from the Bakony fauna. At the same time this means the absence of the "biting" herbivorous gastropods, too. The image of this latter fauna is determined by hard bottom dwellers. Important difference is in the ratio of *Pleurotomariidae*. The family is frequent in the Bakony Mountains (6 species, 25 specimens) but it is just present in Umbria (1 species, 4 specimens). The possible explanation: the Umbria region had not as wide depth series of biotopes as the Somhegy region.

The diversity of the hard bottom elements is higher in Umbria than in the Bakony (Williams' div. indices: Umbria — 8, Bakony — 6). This is the most conspicuous within *Trochidae* (div. indeces: T/Umbria — 4, T/Bakony — 1). The higher diversity suggests a less changeable environment for this group in Umbria than in the Bakony. The low number of patelliform gastropods is a character in common in the two faunas that may be explained by the lack of bottom parts, raising into the tidal zone.

Rarity of in faunal gastropods is observable also in both faunas but the meaning of this fact is somewhat different for the two localities. In Umbria, there were soft bottom areas without vegetations only of reduced oxtent. In the Somhegy, the low number of the infaunal elements, together with the mentioned almost full lack of plant-assotiations, denotes a restricted presence of the soft bottom itself.

Summing up, the most important ecologic features of the two localities are:

- — in the Umbrian region, the soft bottom with vegetation must have been widespread; the characteristic depth interval was the region between the middle of the first and the upper third of the second depth-zone ($\sim 25 \sim 75$ m),
- — in the Somhegy region, the hard bottom was predominant; the characteristic depth interval might have been the lower part of the first and the upper half of the second depth-zone ($\sim 50 \sim 100$ m).

The degree of taxonomical similarity is high in the ecological groups occurring in the two faunas. The significant differences correlate well with the different bottom types and their extent. This correlation exclude an explanation for the divergences which is based on palaeogeography; thus the two regions must have belonged to the same province.

PALAEOBIOGEOGRAPHY

Both localities belong to the classical "Mediterranean Province" (NEUMAYR 1882), based mainly on cephalopod faunas. Theoretically, the benthonic faunas make a more marked distinction and finer palaeogeographical subdivision possible. The Bajocian gastropod faunas seem to support this theory. They show very special evolutionary lines which are independent from those of the the surrounding areas. Naturally, the lowermost taxonomic level shows the greatest differences. In the two faunas, compared here, there are 98 identified species but only 5 of them are known to be present in NW-European faunas, too. Seven additional species, identified by using of the open nomenclature, may increase the group occurring in both faunas. All together, that means 13% of the species as the highest possible value (that contains only 5% of the specimens). Between the faunal pairs within the traditional provinces, the similarities are 2.5–5 times higher at species level than the relevant value between the two provinces (≤ 13%). There is no fauna known with intermediate characters. Consequently, the "Mediterranean" faunas must have lived in an area, isolated from the stable European region.

The few known African gastropods suggest a similar isolation of the "Mediterranean" area, too, there is no species in common in this pair. These two main isolations suggest an inner Tethyan position for the areas with the faunal type, studied here. They lay on a more or less hypothetical continent (later as Intra-Tethyan Region).

The isolation of the Intra-Tethyan Region is demonstrated be the characteristic evolutionary trends, resulting in a high number of genera and subgenera, missing from the surrounding palaeobiogeografic units. Twenty Bajocian genera and two subgenera did not occur in areas out of the Intratethyan Region. This number means 30% of the genera and nearly 30% of the species belongs to them.

Some of the identified genera and species give new data about the evolution of higher taxa, too. One group consists of forms, belonging to disappearing families (= archaic families sensu SZABÓ 1984): *Discohelix*, *Pentagonodiscus*, *Nummotectus*, *Trochotomaria*, *Ventricaria*? *vesicula*, *Mariottia*, *Planicollonia*, *Acanthostrophia*. For these forms, the IntraTethyan Region served as a relict area but some of them had a last bloom before extinction (e. g. *Crossostomatidae*). At the same time, the first appearance of some modern higher taxa was observed: *Colloniinae (Bakonyia)*, *Rissoacea* with two families (*Rissoidae — Trochoturbella; Rissoinidae — Risssocerithium, Zebinostoma*) and *Buccinidae (Maturifusus)*. They became widespread in areas out of the Intratethyan Region only after a long time. This area can be regarded as an evolutionary center for these modern gastropods.

The Intra-Tethyan Region is a so far rather hypothetic palaeogeographic unit, however, we have to suppose this area in a position like that is in the model of VÖRÖS (1977), otherwise we could not explain the great provinciality of the gastropods. The other palaeogeographic model types, connecting the elements of the "Mediterranean Province" to Europe or Africa (by shelves), do not give possibility for an adequate interpretation of the faunistic relationships.

References

CONTI, M. A. & FISCHER, J.—C. (1981): Preliminary notes on the Aalenian gastropods of Case Canepine (Umbria, Italy). — in FARINACCI, A. & ELMI, S. (ed.): Rosso Ammonitico Symposium Proceedings: 137–147, Pl. 1., (Roma, 1980).

CONTI, M. A. & FISCHER, J.—C. (1983): Revisione della fauna mesogiurassica di Aque Fredde (Lago di Grada) descritta da Parona, 1894. — *Boll. Mus. Civ. Storia Nat. Verona* **9:** 489–522, pls. 1–3.

CONTI, M. A. & FISCHER, J.—C. (1984a): La fauna a gasteropodes du Jurassique moyen de Case Canepine (Umbria, Italie). Systematique, Paléobiogéographie, Paléoécologie. — *Geologica Rom.* **21:** 125–183, pls. 1–6.

CONTI, M. A. & FISCHER, J.—C. (1984b): Gasteropodi bajociani: Ecologia e paleobiogeografia. — *Geologica Rom.* **21:** 879–884.

CONTI, M. A. & MONARI, S. (1987): A Middle Jurassic bivalve and gastropod fauna from Umbria (Central Italy). — *Geologia Rom.* 23: 175–197., pls. 1–6.

HUDLESTON, W. H. (1887–1960): A Monograph of the Inferior Oolite Gastropoda. — *Palaeontogr. Soc.* [Monogr.], London pp. 514, pls. 44.

MOORE, R. C. (ed.) 1960): Treatise on Invertebrate Paleontology. Part I, Mollusca 1. — Lawrence, Kansas.

NEUMAYR, M. (1872): Ueber Jura-Provinzen. — *Verhandl. kk. geol. Reichanst.* **3:** 54–57.

SZABÓ J. (1979): Lower and Middle Jurassic gastropods from the Bakony Mountains (Hungary). Part I. Euomphalidae (Archaeogastropoda). — *Annls hist.-natn. Mus. natn. hung.* **71:** 15–31, pls. 1–2.

SZABÓ J. (1980a): Liassic and Dogger gastropod zoogeography in the Western part of the Tethys. — *Földt. Közl.* **110:** 382–294 (in Hungarian with English abstract).

SZABÓ J. (1980): Lower and Middle Jurassic gastropods from the Bakony Mountains (Hungary). Part II. Pleurotomariacea and Fissurellacea (Archaeogastropoda). — *Annls hist.-nat. Mus. natn. hung.* **72:** 49–71, pls. 1–4.

SZABÓ J. (1981): Lower and Middle Jurassic Gastropods from the Bakony Mountains (Hungary). Part III. Patellacea and Trochacea (Archaeogastropoda). — *Annls hist.-nat. Mus. natn. hung.* **73:** 55–67, pls. 1–2.

SZABÓ J. (1982): Lower and Middle Jurassic gastropods from the Bakony Mountains (Hungary). Part IV: Neritacea, Craspedostomatacea and Amberleyacea (Archaeogastropoda). — *Annls hist. nat. natn. hung.* **74:** 17–33, pls. 1–3.

SZABÓ J. (1983): Lower and Middle Jurassic gastropods from the Bakony Mountains. Part V. Supplement to Archaeogastropoda; Caenogastropoda.-*Annls hist.-nat. Mus. natn. hung.* **75:** 27–46, pls. 1–3

SZABÓ J. (1984): Stratigraphical studies on Lower and Middle Jurassic gastropods from the Bakony Mountains, Hungary. — In: MICHELSEN, O. & ZEISS, A. (ed): International Symposium on Jurassic Stratigraphy, Erlangen, September 1–8, 1984. Geol. Surv. Denm., Copenhagen: 848–862.

VÖRÖS, A. (1977): Provinciality of the Lower Jurassic brachiopod fauna: causes and plate-tectonic implications. — *Palaeogeogr., Palaeoclimat., Palaeoecol.* **21:** 1–16.

WENDT, J. (1968): Discohelix (Archaeogastropoda, Euomphalacea) as an index fossil in the Tethyan Jurassic. — *Palaeontology* **11:** 554–575, pls. 107–110.

WENZ, W. (1938–1944): Gastropoda. — In: SCHINDEWOLF, O. H.: Handbuch der Paläozoologie, Bd. 6: pp. XII + 1639, Berlin.

Authors' address: DR. MARIA ALESSANDRA CONTI
Dipartimento di Scienze della Terra
Universitá "La Sapienza"
P. le Aldo Moro 5.
00100 Roma
Italia

DR. JÁNOS SZABÓ
Palaeontological Department
Hungarian Natural History Museum
Múzeum körút 14–16.
Budapest, Pf. 330.
H-1370
Hungary

Table 1. Joint list of the revised Bakony and Umbrian species with the most important data on numeric faunal composition and mode of life. — B = Bakony; U = Umbria; m.l. = mode of life, Depth: 1 = 0 ~ 50 m; 2 = ~50 ~ 150 m; 3 = ~150 ~ uppermost bathyal; 1—2 = around the boundary; + = in total parts.
Bottom: HB = hard or firm; SB = soft; VE = bottom with vegetation, O = on plants, U = under plants
Relation to bottom: E = epifaunal; S = semiinfaunal; Is = shallow infaunal; Id = deep infaunal
Movement: A = active; Se = sedentary
Feeding: H = herbivorous; G = grazer (on plant); B = biting (on plant); R = rasper (on plant and/or animals); D = detritivorous; Dp = plant detritus feeder; C = carnivorous; P = parasitic

	B.	U.	m. l.
EUOMPHALIDAE			
Nummotectus laevibasis Conti et Fischer, 1984		2	1–2/VEO/A/E/?
Dischoelix cooki Conti et Fischer, 1984	19	10	2/SB/A/E/D
Discohelix sp.	1	2	2/SB/A/E/D
Pentagonodiscus angustus (Wendt, 1986)	10	7	1/SB?/A/E/D
Coelodiscus brevispira Conti et Fischer, 1984		11	1–2/VEO/A/E/?
PHYMATOPLEURIDAE			
Trochotomaria somhegyensis (Szabó, 1980)	6	8	1–2/VEU/A?/E/?
PLEUROTOMARIDAE			
Bathrotomaria mandokii Szabó, 1980	5		2/SB?/A/E/R?
Leptomaria cf. tardita (Sieberer, 1907)	1		2/SB?/A/E/R?
Pyrgotrochus solus Szabó, 1980	2		2/SB?/A/E/R?
Pyrgotrochus sp.	1		2/SB?/A/E/R?
Laevitomaria problematica (Szabó, 1980)	16		2/SB?/A/E/R?
Laevitomaria cf. problematica (Szabó, 1980)		4	2/SB?/A/E/R?
ACMAEIDAE			
Pseudorhytidopilus sp.	2		1/HB/Se/E/H
Scurriopsis (Scurriopsis) sp.	1	1	1/HB/Se/E/H
TROCHIDAE			
Proconulus baldensis (Parona, 1984)	45	14	1 +2?/HB/A/E/H–Dp
Proconulus epuliformis Szabó, 1981	40	10	1 +2?/HB/A/E/H–Dp
Proconulus ibbetsoni (Morris et Lycett, 1850)	3	1	1 +2?/HB/A/E/H–Dp
Proconulus keratomorphus Conti et Monari, 1987		3	1 +2?/HB/A/E/H–Dp
Serratotrochus biornatus Conti et Fischer, 1984		1	1 +2?/HB/A/E/H–Dp
Muricotrochus subluciensis (Hudleston, 1894)		3	1 +2?/HB/A/E/H–Dp
Muricotrochus aff. subluciensis (Hudleston, 1894)	5	3	1 +2?/HB/A/E/H–Dp
Dimorphotectus unicarinatus Szabó, 1981	6	1	1 +2?/HB/A/E/H–Dp
Dimorphotectus bicarinatus Szabó, 1981	2		1 +2?/HB/A/E/H–Dp
Trochotectus cardinatus Conti et Fischer, 1984		3	1 +2?/HB/A/E/H–Dp
Aaleniella umbriensis Conti et Fischer, 1981		2	1–2/VEO?/A/E/H–Dp
Aaleniella variata Conti et Fischer, 1984		5	1–2/VEO?/A/E/H–Dp
Aaleniella zigrinata Conti et Fischer, 1984		2	1–2/VEO?/A/E/H–Dp
Cochleochilus cf. bellona (d'Orbigny, 1853)		2	1–2/VEO?/A/E/H–Dp
ATAPHRIDAE			
Ataphrus acis (d'Orbigny, 1850)		5	1/HB/A/E/H–Dp
Zircia zircensis Szabó, 1981	7	24	1/HB/A/E/H–Dp
Trochopsidea kondai Szabó, 1981	30		1/HB/A/E/H–Dp

Table 1 (continuation—1)

	B.	U.	m. l.
TURBINIDAE			
Helicocryptus praecursus Conti et Fischer, 1984		2	1/HB/A/E/H–Dp
Eucycloscala acanthicum (Uhlig, 1881)	15		1/HB/A/E/H–Dp
Bakonyia planapex Szabó, 1981	10		1/HB/A/E/H–Dp
Fischeriella umbra Conti et Monari, 1987		48	1?/SB/A/E/H?–Dp?
Odoardia prosornata Conti et Monari, 1987		12	1?/HB?/A/E/H–Dp
? CYCLOSTREMATIDAE			
Ataphropsis pygmaeus Conti et Fischer, 1984		2	1/?/A/E/H
NERITOPSIDAE			
Naticopsis (Marmolatella) esui Conti et Monari, 1987		11	1/HB?/A/E/?
Neritopsis spinigera Szabó, 1982	31	7	1/HB/A/E/H?
NERITIDAE			
Neritoma (Neridomus) modestissima Conti et Fischer, 1984		4	1/?/A/E/G
Neritoma (Neridomus) paronai Conti et Fischer, 1983		2	1/?/A/E/G
Neritoma (Neridomus) riettii Conti et Monari, 1987	2	6	1/?/A/E/G
CODONOCHELIDAE			
Ventricaria? vesicula Szabó, 1983	5		2/SB/A/E/D?
CROSSOSTOMATIDAE			
Paleocollonia angeli (Parona, 1894)	1	6	1/HB?/A/E/H?–D?
Crossostoma expansum Conti et Fischer, 1984		2	1/HB?/A/E/H?–D?
Crossostoma parvilabiosum Conti et Fischer, 1984		1	1/HB?/A/E/H?–D?
Crossostoma cf. perampla (Uhlig, 1881)	2		1/HB?/A/E/H?–D?
Crossostoma macerinoi Conti et Monari, 1987		4	1/HB?/A/E/H?–D?
Mariottia lateumbilicata (Uhlig, 1881)	5		1/HB?/A/E/H?–D?
Mariottia gibbosa Conti et Fischer, 1981	3	4	1/HB?/A/E/H?–D?
Mariottia sp. 1	2		1/HB?/A/E/H?–D?
Mariottia sp. 2	5		1/HB?/A/E/H?–D?
Planicollonia macrostoma Conti et Monari, 1987		5	1/HB?/A/E/H?–D?
PARATURBINIDAE			
Boeckia boecki Szabó, 1982	1		1/HB?/A/E/H?
PLATYACRIDAE			
Nicosiaella apertocontorta Conti et Fischer, 1984		1	1?/SB/A/E/H?
Lepidotrochus sp.		1	?
AMBERLEYIDAE			
Amberleya simplicostata Conti et Fischer, 1984		1	2+3?/SB/A/E/D
Amberleya (Eucyclus) aff. carpathica Uhlig, 1878	2		2+3/SB/A/E/D
Riselloidea martaniensis Conti et Fischer, 1984		5	2/SB/A/E/D
Riselloidea subreticularis Conti et Fischer, 1984		2	2/SB/A/E/D
Eucycloidea galaczi Szabó, 1983	11	3	2/SB/A/E/D?
NODODELPHINULIDAE			
Amphitrochus retusus Conti et Fischer, 1984	1	3	1?/?/A/E/H
Trochacanthus? disputabilis (Uhlig, 1881)	2		1?/?/A/E/H

Table 1. (continuation — 2)

	B.	U.	m. l.
PSEUDOMELANIIDAE			
Pseudomelania (Rabdoconcha) decemstriata Conti et Fischer, 1984		1	1/SB/A/Is/D
Pseudomelania? sp.	1		1/SB/A/Is/D
ZYGOPLEURIDAE			
Zygopleura aff. semicostata (Eudes—Deslongch., 1842)		1	1+2/SB/A/S/D
Acanthostrophia acanthica Conti et Fischer, 1984		8	2/SB/A/S/D
Katosira campaniliformis Conti et Fischer, 1984	1	2	2+3?/SB/A/E/D
Anoptychia hastata Szabó, 1983	2	2	2/SB/A/S/D
Allocosmia geometrica Conti et Monari, 1987		3	2?/SB/A/E/D?
COELOSTYLINIIDAE			
Coelostylina acuta Conti et Fischer, 1984		3	1–2/VE/A/E/C?
Coelostylina lehmani Conti et Fischer, 1984		1	1–2/VE/A/E/C?
Coelostylina perugiensis Contii et Fischer, 1984		2	1–2/VE/A/E/C?
Canepina farinacii Conti et Fischer, 1981		2	1–2/VEU/A/E/C?
Telleria benaciensis (Parona, 1894)	2		1+2?/HB/A/E/C?
Telleria picea (Szabó, 1983)	6		1+2?/HB/A/E/C?
RISSOIDAE			
Trochoturbella (Proturbella) tethysiana Conti et Fischer, 1984		1	1–2/VEO/A/E/H
RISSOINIDAE			
Rissocerithium nicosiai Conti et Fischer, 1981		53	1–2/VEO/A/E/H–B?
Zebinostoma nicolisi (Parona, 1894)		7	1–2/VEU/A/E/B
Zebinostoma turrita (Parona, 1894)		2	1–2/VEU/A/E/B
Zebinostoma sp.		1	1–2/VEU/A/E/B
BRACHYTREMATIDAE			
Brachytrema purpuriniformae Conti et Fischer, 1984		1	1–2/VEO/A/E/H?
PROCERITHIDAE			
Procerithium (Rabdocerithium) cf. scalariforme (Deshayes, 1830)		1	1–2/VEO/A/E/H–B?
Cryptaulax heptagona Conti et Fischer, 1984		4	1–2/VEO/A/E/H–B?
Exelissa normaniana (D'orbigny, 1850)		2	1–2/VEO/A/E/H–B?
Cerithinella rigauxoides Szabó, 1983	1		1–2/SB/A/S/Dp
Diatrypesis angulocostatum (Szabó, 1983)	2		juv. 1–2/VEO/A/E/H
		34	ad. 1+2/?SB/A/E/H
CERITELLIDAE			
Ceritella minutola Conti et Fischer, 1984		3	?1/?SB/A/E/H?
Ceritella (Pseudonerinea) valyi Conti et Fischer, 1984		2	?1/?SB/A/E/H?
Ceritella (Pseudonerinea) baculiformis Conti et Fischer, 1984		1	?1/?SB/A/E/H?
LAMELLIPHORIDAE			
Lamelliphorus rombifer (Uhlig, 1881)	4	1	1+2+3/SB/Se/?S/Dp
Lamelliphorus suessii (Uhlig, 1878)	7		1+2+3/SB/Se/?S/Dp

Table 1. (continuation — 3)

	B.	U.	m. l.
APORRHAIDAE			
Dicroloma cf. lorieri (PIETTE ex D'ORBIGNY, 1864)		2	1 +2/SB/Se/S/Dp
Pietteia (Trietteia) trispinigera SZABÓ, 1983	6	4	1 +2/SB/Se/S/Dp
? BUCCINIDAE			
Maturifusus densicostatus SZABÓ, 1983	2		1 +2/HB/A/E/C
MATHILDIDAE			
Mathilda (Jurilda) concava (WALTER, 1951)		1	?P
Mathilda (Tricarilda?) sp.	1		?P
ACTEONIDAE			
? Acteonina (Ovacteonina) aff. phasianoides (LYCETT, 1863)		5	1–2/VE/A/?

87/2794 Franklin Nyomda — Múzsák