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UPPER LIASSIC DACTYLIOCERATIDS OF URKUT

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UPPER LIASSIC DACTYLIOCERATIDS OF URKUT

By

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Occurring in and around the manganese mine of Urkut, the Lower Toarcian brown and green clayey marl has yielded 10 species of ammonites belonging to the family *Dactylioceratidae*. Of the new species, *Peronoceras hungaricum* n.sp. is characterized by a very wide umbilicus, wide-spaced, partly convergent ribs and alternating, strong tubercles; *Peronoceras baconicum* n.sp. by primary ribs frequently bearing tubercles, single or bifurcating, sometimes convergent in old age, and by secondary ribs convex when seen from behind; *Zugodactylites sapunovi* n.sp. by partly bifurcating ribs and a tapering venter; *Collina noszkyi* n.sp. by a string of tubercles along the keel. Dactylioceratids prove the lower part of the ammonites-bearing marl to belong to the *Harpoceras falciferum* and *Hildoceras bifrons* zones. The *Dactylioceras tenuicostatum* zone of the lowermost Toarcian is not proved by fossil finds. Hence, the age of the manganese carbonate beds underlying the ammonites-bearing marls are either lowermost Toarcian (*tenuicostatum* zone) or uppermost Domerian.

Ammonites-bearing beds have been exposed in 1950 in the haulage tunnel of Shaft No. III, Urkut Manganese Mine, Southern Bakony Mountains. The fossil-bearing horizon directly overlies the manganese carbonate beds. Reaching 3 to 4 m thickness, the lower part of the cca 5 metres thick ammonites marl consists of a brown or greenish-grey ill-consolidated clayey marl enclosing ammonites of small size. The upper 1 metre thick marl layer is light to dark green and contains large ammonites. A recent up-to-date geological description of the area gave the age of the manganese carbonate ore as Upper Liassic, that of the ammonites beds as Lower Dogger (CSEH-NÉMETH, 1958).

In 1961 CSEH-NÉMETH has entrusted the present author with the task of a monographic study of the ammonites of his collection from Urkut. In 1966, the fauna has been completed by further valuable specimens of J. NOSZKY's collection. The author wishes to extend his thanks to the above-named persons for their kind assistance. The *Hammatoceras* and *Erycites* species of the upper bed bearing large ammonites prove an Upper Toarcian rather than lower Dogger age (GÉCZY 1965). In order to narrow down the time interval of the formation of the manganese carbonate ore it has become necessary to study also the ammonites of the lower layers. From this point of view, the Dactylioceratids have a particular importance as in Western Europe they indicate a zone or even a subzone in the Lower Toarcian. As the haulage tunnel was driven by blasting and most of the fossils were collected from the muck pile, the fauna includes a large number of fragmentary speci-

mens, although the fossils enclosed in the deposit are of excellent preservation. In the lack of microstratigraphic collection the only geological purpose of the present work has been the determination of the of age of the beds, with no aim at a finer subdivision into, say, sub-zones or at an analysis of faunal evolution. Overlying the manganese carbonate ore, the brown, ammonites-bearing clayey marl has been proved to be of Lower Toarcian age on the basis of the Dactylioceratids. Taking the Northwest European zoning by DEAN, DONOVAN and HOWARTH (1961) and the revision of the Dactylioceratids by HOWARTH (1962) as a frame of reference, one finds that the Nodicoeloceratids of Urkut prove the zone of *Harpoceras falciferum*. The lower part of the *Hildoceras bifrons* zone (the subzone of *Dactylioceras commune*) is characterized by *Dactylioceras* sp. aff. *curvicosta*, its middle part (the subzone of *Peronoceras fibulatum*) by *Peronoceras hungaricum*, and its upper part (the subzone of *Zugodactylites braunianus*) by the genera *Zugodactylites* and *Collina*. No Dactylioceratids suggesting the lowermost Toarcian (the zone of *Dactylioceras tenuicostatum*) have been encountered so far in this fauna. Hence, the age of the manganese carbonate ore is either lowermost Toarcian (zone of *D. tenuicostatum*) or uppermost Domerian.

In systematizing the Dactylioceratids I have followed HOWARTH's excellent treatise (1962). The Urkut fauna, however, has been insufficient for warranting the distinction of the genera *Peronoceras* and *Porpoceras*. This is why the two genera have been subsumed under the common name *Peronoceras* in ARKELL's (1957) sense. The photos are due to T. DÖMÖK's praiseworthy efforts.

Dactylioceras n. sp. aff. toxophorum (BUCKMAN 1928)

Plate 1, Fig. 4.

D i m e n s i o n s : Impossible to determine owing to poor preservation.

D e s c r i p t i o n : The cast is that of a single, slightly deformed whorl. Umbilicus wide, the slightly swollen sides bear no umbilical or outer edge. The ventral part is tall, convex. The whorl section is oval, slightly tapering towards the venter, with the greatest breadth at the middle of the side. Ornamentation fine. Starting at the umbilical suture and leaning forward, the ribs are slightly bent forward on the dorsal third of the side, back in the middle third and



forward again in the ventral third where they also dichotomize. Before the fork the primary rib is slightly swollen without, however, forming a tubercle.

Plate I

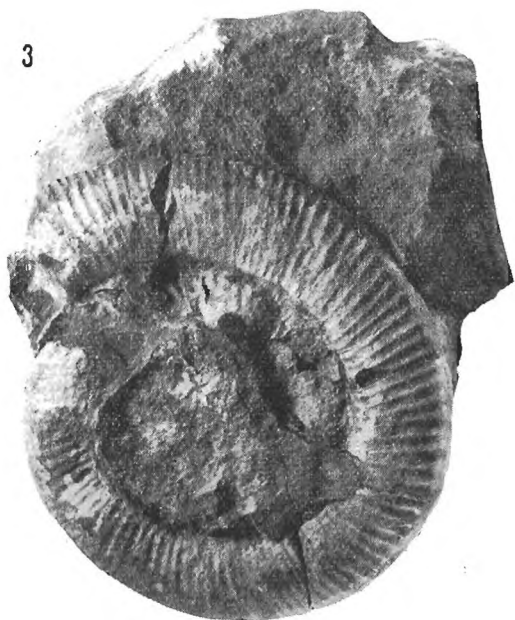
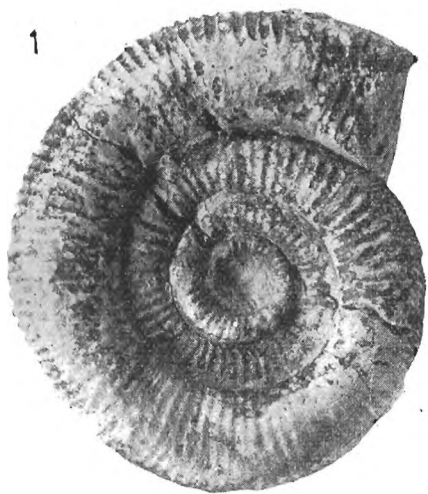


Fig. 1. *Nodicoeloceras* cf. *spicatum* (BUCKMAN, 1928)

Fig. 2. *Peronoceras baconicum* n.sp. Typus

Fig. 3. *Zugodactylites sapunovi* n.sp. Typus

Fig. 4. *Dactylioceras* n.sp. aff. *toxophorum* (BUCKMAN, 1928)

The slightly undulating, sausage-shaped primary ribs are much narrower than the rib spacing. The secondary ribs are much less well-developed than the primary ribs. The number of primary ribs is 10 on one-fourth of one whorl. The body chamber was not preserved.

The suture line is remarkably simple. E and L are hardly distinct from the rest of the suture. L is trilobate.

Remark. On the basis of the undulating and bifurcating primary ribs, the new species belongs to the relationship of *Dactylioceras holandrei* (D'ORBIGNY 1844, p. 330, Pl. 105). The suture line of *holandrei* is, however, much more intricate, with a long L. BUCKMAN (1928, Pl. 776) described a species as *Toxodactylites toxophorus* where the suture line more closely resembles that of the Urkut species. The genus *Toxodactylites* is considered by ARKELL (1957, p. 252) and HOWARTH (1962, p. 408) as a synonym of the genus *Dactylioceras*. *Dactylioceras toxophorum* differs from the Urkut species in its somewhat more intricate suture line.

Distribution. Most closely resembling the new species, the form *toxophorum* belongs according to BUCKMAN to the hemera of *Harpoceras tardum*.

Dactylioceras sp. aff. curvicosta (BUCKMAN 1927)

Plate 2, Fig. 2.

Dimensions: D = 28 mm

H = 10 (35.5 percent)

W = 10.5 (37.5 percent)

U = 12.5 (44.5 percent)

Description. A single small well-preserved cast with the dorsal part of the whorl invisible. The sides are uniformly convex without forming an umbilical or ventral edge. The whorl section is roundish, with the greatest breadth at the middle of the side. The ornamentation is fairly well-developed. Starting at the umbilical suture, the very narrow and sharp ribs bend slightly forward with a slight forward convexity. Some of the ribs bifurcate on the ventral side. At the fork the ribs form an elongate mound resembling a tubercle. All ribs are somewhat more pronouncedly bent forward on the



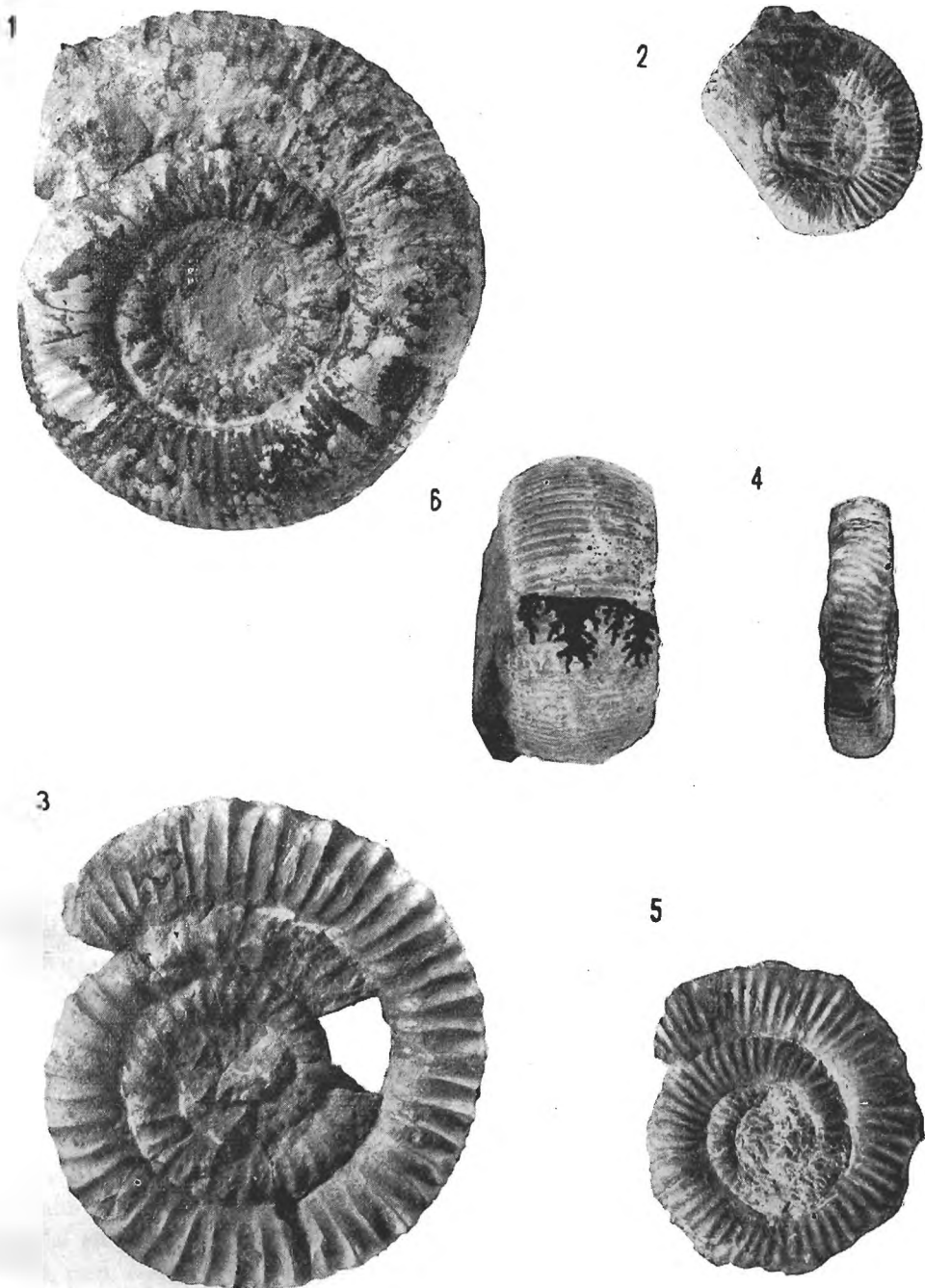


Fig. 1. *Peronoceras desplacei* (D'ORBIGNY, 1844)
 Fig. 2. *Dactylioceras* sp. aff. *curvicosta* (BUCKMAN, 1927)
 Fig. 3. *Peronoceras hungaricum* n.sp. Typus
 Fig. 4. *Peronoceras* sp. (form. path.)
 Fig. 5. *Collina noszkyi* n.sp. Typus
 Fig. 6. *Nodicoeloceras* n.sp. aff. *multum* (BUCKMAN, 1928)

ventral side. 20 primary ribs form a total of 28 secondary ribs on the ventral side. The body chamber occupies more than one-half of a whorl. The peristome is not preserved.

The suture line cannot be studied.

R e m a r k. Arching forward on both the side and the venter, the numerous narrow ribs correspond to the ornamentation of the species described by BUCKMAN (1927, Pl. 708) as *Curvidactylites curvicosta*. The proportions of *curvicosta* are, however, different ($D = 52$, $H = 25$ percent, $W = 26$ percent, $U = 60$ percent). The genus *Curvidactylites* is considered by ARKELL (1957, p. 252) and HOWARTH (1962, p. 408) as a synonym of the genus *Dactylioceras* HYATT, 1867. **D i s t r i b u t i o n.** Most closely resembling the specimen from Urkut, the species *curvicosta* has been described by BUCKMAN from the Whitby area (*Hildoceratan bifrons hemera*) and by MAUBEUGE (1948, p. 2, Pl. 1, Fig. 1 and Pl. 2, Fig. 3) from the Pétange area. According to HOWARTH it belongs to the subzone of *commune*.

Nodicoeloceras cf. spicatum (BUCKMAN, 1928)

Plate 1, Fig. 1.

D i m e n s i o n s : $D = 61$ mm (full $D = 68$ mm)

$H = 17$ (28 percent)

$W = 23$ (37.5 percent)

$U = 32$ (52.5 percent)

D e s c r i p t i o n : A single large cast of mediocre preservation with the inner whorl partially corroded. The umbilicus is wide, progressively deepening. The highly convex sides form no umbilical or ventral edge. The venter is highly convex and very broad. The whorl section recalls a rectangular oblong with rounded apices. Breadth is greatest at the middle of the side. Ornamentation is more pronounced on the inner whorl than on the outer one. On the inner whorl some primary ribs are seen to bifurcate in pronounced tubercles. On the outer whorl, the primary ribs are radial and bear no tubercle at their forks. The



primary ribs are hardly narrower than the rib spacing. Most of the ribs bifurcate near the venter. The secondary ribs bend slightly forward and are narrower than the rib spacing. Half a whorl bears 38 primary and 52 secondary ribs.

The body chamber occupies more than a full whorl. The peristome is unknown. The suture line is richly intricate but cannot be studied in detail.

Remark. The proportions of the Urkut specimen resemble those of the species described by BUCKMAN under the name of *Spinicoeloceras spicatum* (1928, pl. 777), which latter has a $D = 31$, $H = 27.5$ percent, $W = 39$ percent and $U = 48$ percent. On the type specimen, the tubercles of the inner whorls appear to be stronger, but the less pronounced tubercles of the Urkut specimen may be due to its mode of preservation. The genus *Spinicoeloceras* is subsumed by HOWARTH (1962, p. 408) under the genus *Nodicoeloceras*. "*Ammonites (Stephanoceras) Desplacei* D'ORB." illustrated by MENECHINI (1867–1881, p. 75, Pl. 16, Fig. 5) may also belong to the species *spicatum*.

Distribution: The type of *Nodicoeloceras spicatum* comes from Somerset, from the Harpoceratan *falcula* hemera.

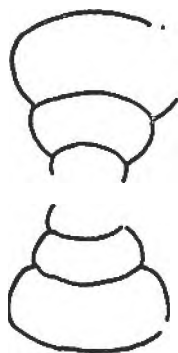
Nodicoeloceras n. sp. aff. **multum** (BUCKMAN, 1928).

Plate 2, Fig. 6.

Dimensions: $D = 44$ mm
 $H = 14.5$ (33 percent)
 $W = 22.5$ (51 percent)
 $U = 22$ (50 percent)

Description: Two small incomplete casts. The fairly wide umbilicus tapers funnel-like towards the centre. The convex sides form no umbilical edge. The whorl section recalls a rectangular oblong with rounded apices. The greatest width occurs at the ventral third of the side. The ornamentation of the inner whorl is pronounced, irregular, that of the outer whorl finer and more regular. Starting at the umbilical suture, most of the short primary ribs on the inner whorl unite into tubercles of varied strength lying along the outer umbilical suture. On the outer whorl, this uniting of the primary ribs ceases and the tubercles are also reduced. On the body chamber, the primary ribs end at the ventral edge in small mounds elongated in the radial sense rather than in tubercles. Some of the ribs are seen to bifurcate at the ventral edge. In a general way, every lone rib is succeeded by a bifurcating one. The secondary ribs are very slightly bent forward, being narrower than the primary ribs. All ribs are somewhat narrower than the rib spacing. Of the body chamber, a part equivalent to one-half of one whorl is preserved. On it, 10 primary ribs correspond to 15 ventral ribs. Peristome unknown.

The suture line is richly intricate. The short E is as long as the three-lobed L. The latter is nearly symmetrical and has a somewhat narrower base. U is recessed far back.



Remark. Incomplete preservation does not permit a specific diagnosis to be made of the Urkut specimens. The fibulate ornamentation of the inner whorls, the well-developed, unequal tubercles and the equal development of E and L render impossible its including into *Catacoeloceras* BUCKMAN, 1923. The unsystematic tuberculation of the inner whorl, the fibulate ornamentation, and the squatness of both E and L suggest the kinship of the form described by BUCKMAN under the name of *Multicoeloceras multum* (1928, Pl. 785), but the type of that species has somewhat different proportions (D = 51 mm, H = 30 percent, W = 55 percent, U = 46 percent) and according to the original diagnosis the ribs are slightly bent backwards on the venter. The umbilicus of *Crassicoeloceras pingue* BUCKMAN, 1927, (Pl. 778) is narrower (D = 58 mm, H = 28.5 percent, W = 58 percent, U = 48 percent) and bears no trace of a fibulate ornamentation. *Spinicoeloceras spicatum* BUCKMAN, 1928 (Pl. 777) is ornamented in a way resembling the Urkut specimens but has different proportions (D = 31 mm, H = 27.5 percent, W = 39 percent, U = 48 percent) and its L is much more developed than its E. *Nodicoeloceras crassoides* SIMPSON (re-illustrated by BUCKMAN, 1913, Pl. 89) has different proportions (D = 76 mm, D = 25 percent, W = 36 percent, U = 52 percent) and pronouncedly forward-arching main ribs. HOWARTH (1962, p. 408) considers the genera *Crassicoeloceras*, *Spinicoeloceras* and *Multicoeloceras*, established by BUCKMAN, to be synonyms of the genus *Nodicoeloceras*.

Distribution: according to HOWARTH, the genus *Nodicoeloceras* is typical of the zone of *Harpoceras falciferum*.

***Peronoceras desplacei* (D'ORBIGNY 1844)**

Plate 2, Fig. 1.

*1844 *Ammonites Desplacei* D'ORBIGNY, 1844 — D'ORBIGNY, p. 334, Pl. 107.

?1856 *Ammonites desplacei* D'ORBIGNY—OPPEL, p. 377.

?1874 *Ammonites Desplacei* (D'ORBIGNY)—DUMORTIER, p. 102, Pl. 27, Fig. 4.

1874 *Coeloceras desplacei* — HYATT, p. 32.

?1876 *Stephanoceras Desplacei* D'ORBIGNY—TATE et BLAKE, p. 300.

- ?1886 *Coeloceras Desplacei* (D'ORB.)—SEGUENZA, p. 1378.
 ?1887 *Coeloceras Desplacei* (D'ORB.)—TUCCIMEI, p. 148.
 ?1900 *Stephanoceras (Coeloceras) Desplacei* D'ORBIGNY—BELLINI, p. 161.
 ?1900 *Coeloceras Desplacei* D'ORB.—DEL CAMPANA, p. 637, Pl. 8, Fig. 54, 55.
 ?1906 *Coeloceras desplacei* D'ORB.—RENZ, p. 275.
 ?1906 *Coeloceras Desplacei* D'ORB.—RENZ, Argolis, p. 224.
 ?1906 *Coeloceras (Peronoceras) Desplacei* D'ORBIGNY—LISSAJOUS, p. 261.
 ?1908 *Coeloceras Desplacei* D'ORB.—PRINCIPI, p. 220.
 ?1912 *Coeloceras Desplacei* D'ORB.—RASMUS, p. 83.
 ?1915 *Coeloceras Desplacei* D'ORB.—PRINCIPI, p. 462, Pl. 16, Fig. 8.
 ?1931 *Coeloceras (Porpoceras) cf. Desplacei* D'ORBIGNY—MONESTIER, p. 47, Pl. 3, Fig. 5.
 ?1933 *Porpoceras desplacei* D'ORBIGNY—CORROY—GERARD, p. 222.
 ?1936 *Coeloceras (Porpoceras) cf. Desplacei* D'ORB.—TERMIER, p. 1309.
 ?1948 *Coeloceras cf. Desplacei* D'ORBIGNY—DELEAU, p. 109, Pl. 2, Fig. 16, 17.
 ?1959 *Coeloceras (Porpoceras) desplacei* D'ORBIGNY—THEOBALD—DUC, p. 24, Pl. 2, Fig. 8.
 non: 1880 *Stephanoceras Desplacei* D'ORBIGNY—TAMARELLI, p. 74, Pl. 3, Fig. 9—12.
 1867—1881 *Ammonites (Stephanoceras) Desplacei* D'ORB.—MENEHINI, p. 75, Pl. 16, Fig. 5—8.
 1940 *Coeloceras Desplacei* D'ORBIGNY—MAVICLIA, p. 10, Fig. in text.

Dimensions: D = 74 ? mm
 H = 21 (28.5 percent)?
 W = 26 (35 percent)?
 U = 40 (54 percent)?

Description: A single, relatively large cast of mediocre preservation whose proportions cannot be established owing to its slight subsequent deformation. The umbilicus is wide and gradually deepening. The very swollen sides, slightly overhanging the umbilical suture, form no umbilical or ventral edge.



The venter is very wide, convex. The whorl section is broadly elliptical; the greatest width is at the middle of the side. On the cast, ornamentation is not very well-developed. Starting at a small distance from the umbilical suture,

the short primary ribs are but slightly narrower than the rib spacing. The primary ribs are radial except for those which unite in low swollen tubercles near the middle of the side. Between two pairs of ribs constituting a tubercle there are two, sometimes three single primary ribs. The tubercles are slightly elongated in a radial direction. Half a whorl bears nine tubercles and some 32 primary ribs. A few of the primary ribs stay single, whereas the rest bifurcate at the tubercles or at the level of the tubercles. The straight secondary ribs are slightly narrower than the rib spacing, and number 54 on half a whorl. The body chamber occupies more than a full whorl. There is a broad restriction behind the obliquely detached, broad funnel-shaped peristome. The suture line cannot be studied.

R e m a r k. Form and ornamentation of the Urkut specimen differs from the type of the species *Peronoceras displacei* in the somewhat wider-spaced ribbing. The proportions of the type are slightly different ($D = 90$ mm, $H = 26$ percent, $W = 42$ percent, $U = 47$ percent), although in judging the difference one has to bear in mind the subsequent deformation of the Urkut specimen. According to JOLY (1905), *displacei* is a synonym of *Ammonites subarmatus* YOUNG et BIRD, 1822, (p. 250, Pl. 13, Fig. 3). HOWARTH (1962, p. 117, Pl. 17, Fig. 6) has re-illustrated the species *subarmatus*: it differs from *displacei* in its coarser and wider-spaced ribs, in the tubercles lying at the venter and in the excessive rarity of primary ribs not uniting in tubercles. MONESTIER subsumed under the species *displacei* also the species *Ammonites vortex* SIMPSON (1855, p. 60). *Peronoceras vortex*, re-illustrated by BUCKMAN (1911, Pl. 29) by the name of *Porpoceras vortex*, is also characterized by a string of tubercles displaced towards the venter and by a less convex venter. Among the forms published under the name *displacei*, that described by TARAMELLI lacks the tubercles, whereas on that described by MENECHINI the tubercles disappear fairly soon. On the small specimen shown by MAVIGLIA the tubercles are hardly visible. The *displacei* described by DUMORTIER, the dubious systematic position of which has been already pointed out by JOLY, differed from the type of *displacei* in its forward-arching primary ribs and ventrally displaced string of tubercles. **Distribution:** *Peronoceras displacei* was originally described by D'ORBIGNY from the region of Wassy, Charmasse, Thouars, Amayé-sur-Orne, Fontaine-Étoupe-Four. Moreover, it certainly occurs also in the environs of Cornus (MONESTIER) and Nancy (THEOBALD—DUC). Closely related to *displacei*, *vortex* is according to HOWARTH's revision typical of the *braunianus* subzone.

***Peronoceras hungaricum* n. sp.**

Plate 2, Fig. 3.

Type: Specimen No. 87.

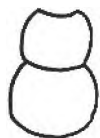
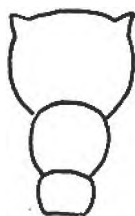
Derivatio nominis: the name refers to its occurrence in Hungary.

Dimensions: D = 70 mm
H = 16 (23 percent)
W = 16 (23 percent)
U = 42 (60 percent)

Diagnosis: very wide umbilicus, wide-spaced, partly convergent ribs, alternating, strong tubercles.

Description: A single, large cast of mediocre preservation. Umbilicus very wide and shallow. The strongly swollen sides form no umbilical edges. The ventral edge is rounded. Venter broad, but slightly convex. The section of the inner whorls resembles a broad rectangular oblong; that of the last whorl is subquadratic. The whorl is widest at the inner third of the side. The ornamentation is very well-developed. The narrow, highly prominent, sharp ribs issuing at the umbilical suture are either radial or slightly undulating, arching backward particularly in the neighbourhood of the ventral edge. The radial ribs end in pronounced tubercles. The undulating rib between the radial ribs does not reach up to the tubercle at the ventral edge. The last whorl is ornamented by 49 ribs and 24 tubercles. Ribs mostly bifurcate, more rarely trifurcate at the ventral edge. It is very rare for a tubercleless rib not to bifurcate. 20 side ribs correspond to some 40 ribs on the venter. Ribs traverse the venter in straight lines. The radial secondary ribs are slightly narrower than the rib spacing. The body chamber occupies more than a full whorl. The peristome is unknown.

The suture line cannot be studied, owing to the poor state of preservation of the inner whorls.



Remark. Closely related to the new species is *Ammonites Andraei* SIMPSON, 1843, (p. 23) re-illustrated by BUCKMAN (1912, Pl. 57), all of whose ribs bear

tubercles and converge less pronouncedly. The ornamentation of the new species recalls rather that of *Collina meneghinii* BONARELLI, 1897 (= *A. Stephanoceras subarmatus* Y. et B. in: MENECHINI, 1867—1881, p. 67, Pl. 16, Fig. 6, non: 4.5) but the venter of *meneghinii* bears a keel-like protuberance and has slightly different proportions ($D = 60$ mm, $D = 25$ percent, $H = 21$ percent, $U = 55$ percent). *Ammonites perarmatus* YOUNG et BIRD, 1882, re-illustrated in BUCKMAN (1912, Pl. 50) has a narrower umbilicus and all primary ribs seem to bear tubercles.

Distribution: *Peronoceras andraei* is known from the Whitby area (from the *fibulatum* zone), the type of *Collina meneghinii* from the Cesi region, *Peronoceras perarmatum* likewise from Whitby and from the *fibulatum* zone.

***Peronoceras baconicum* n. sp.**

Plate 1, Fig. 2.

Type: Specimen No. 60.

Derivatio nominis: the name refers to the locality of its occurrence in the Bakony Mountains.

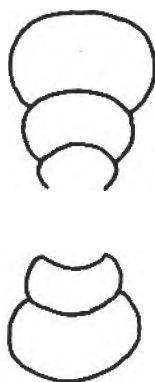
Dimensions: $D = 57$ mm
 $H = 15$ (26.5 percent)
 $W = 19.5$ (34 percent)
 $U = 31$ (54.5 percent)

Diagnosis: single or bifurcating primary ribs, often bearing tubercles, sometimes convergent in old age; secondary ribs convex when seen from behind.

Description: Two well-preserved casts of medium size. Umbilicus broad and shallow. Umbilical side low, oblique, convex; umbilical edge very much rounded. Sides are slightly convex on the inner whorls, to become gradually flatter on the last whorl. The ventral edge is highly rounded, the venter broad, convex. Whorl section recalls a rectangular oblong rounded at the apices. Greatest width is at the ventral edge. Ornamentation highly developed. The narrow, prominent ribs bounded by concave surfaces issue at the umbilical suture. Radial or very slightly arched forward, they are much narrower than rib spacing. At the ventral edge, some of the ribs bear very well-developed tubercles. Some ribs pass the venter singly, some bifurcate at the tubercles or at the level of the tubercles. The secondary ribs which gently arch backwards are somewhat narrower than rib spacing. Uniting of two primary ribs at the tubercles may be observed in two instances on the frontal part of the last whorl. There are in general one single and one bifurcating rib between each two ribs with tubercles. The last whorl is ornamented by 53 primary ribs and about

85 secondary ribs. The preserved part of the body chamber occupies almost a full whorl. The peristome is unknown.

The suture line is richly intricate. E is well-developed, U deeply retracted.



Remark. The new species differs in its "fibulate" old-age ribs from likewise tuberculate *Nodicoeloceras* BUCKMAN, 1926. Within the *Peronoceras* form group, it is easy to distinguish the new species on the basis of its abundant tubercle-less and single primary ribs as well as of the backward arching of its secondary ribs.

Distribution: the related forms are of Lower Toarcian age.

***Peronoceras* sp. (form. path.)**

Plate 2, Fig. 4.

Dimensions cannot be measured owing to poor preservation.

Description: A single small cast. Umbilicus wide and shallow, sides almost parallel, outer edge highly rounded, venter broad, low. Whorl section recalls a square of rounded apices with greatest width at the middle of the side. Up to a diameter of 30 mm there is a regular ornamentation, *Peronoceras*-like, with tubercles at the ventral edge, in which the lateral and ventral ribs join. Once the diameter of 33 mm is exceeded, the course of the ribs becomes irregular on the venter. There follow seven single ribs not bifurcating at the ventral edge and bearing no tubercles. At a diameter of 35 mm the tubercles reappear without, however, joining the lateral ribs which keep on being single. Joining the tubercles there are four ventral ribs crossing the venter obliquely: these ribs join the tubercles, but further along the whorl the ribs remain single also on the venter. There is one more, exceptional pair of ribs on the venter, having a diameter of 38 mm.

Remark: Continued irregularity of the ornamentation of the Urkut specimen suggests a prolonged disease of the pallium which presumably resulted in the premature decease of the animal.

***Zugodactylites sapunovi* n. sp.**

Plate 1, Fig. 3.

Type: Specimen No. 109.

Derivatio nominis: after I. SAPUNOV, monographer of Bulgarian Dactylioceratids.

Dimensions: D = 70 mm
 H = 15 (21.5 percent)
 W = 10 (14.5 percent)
 U = 43 (61.5 percent)

Diagnosis: Partly bifurcating ribs, venter tapering into a keel.

Description: A single, relatively large cast of mediocre preservation. Umbilicus very wide. Umbilical wall almost perpendicular, low, convex, umbilical edge very much rounded. Whorl section lanceolate, greatest width is at the middle of the side. Sides uniformly, gently convex. Ventral edge very much rounded, venter tall, narrow, prominent. Ornamentation very fine. Issuing at the umbilical edge, and much narrower than the rib spacing, the primary ribs are rather sharp, straight and leaning forward. At the ventral edge, the primary ribs end in very small tubercles. Some of the ribs bifurcate at the tubercles; some of the primary ribs stay single, however. Ribs get vague on the venter. The last whorl is ornamented by more than 100 ribs. The body chamber occupies almost a whole whorl.

The suture line is rather intricate. E is about as long as squat, three-tipped L. Ventral U is small.



Remarks: The sharp, frequently bifurcating ribs, narrow whorls and the fine string of ventral tubercles suggest the genus *Zugodactylites* BUCKMAN, 1926. The narrow, tall, keel-like venter recalls, however, the genus *Collina*. *Zugodactylites braunianus* (D'ORBIGNY, 1845, p. 327, Pl. 104, Figs. 1–3) differs from the new species in its regularly bifurcating ribs and rounded venter. Also, the umbilicus of *braunianus* is somewhat narrower (D = 43 mm, H = 24 percent, W = 12 percent, U = 54 percent). BUCKMAN's (1927, Pl. 720) *Zugodactylites*

mutatus also has a narrower umbilicus ($D = 55$ mm, $H = 26$ percent, $W = 23$ percent, $U = 53$ percent), almost radial ribs, and a rounded venter. Of the form group *Collina*, the species *Collina gemma* BONARELLI, 1893 differs from the new species in that it has sparse, radial ribs and a low, keeled venter.

D i s t r i b u t i o n : According to HOWARTH (1962, p. 408), the genus *Zugodactylites* is typical of the upper part of the *Hildoceras bifrons* zone (subzone of *braunianus*).

***Collina noszkyi* n. sp.**

Plate 2, Fig. 5.

T y p e : Specimen No. 108.

D e r i v a t i o n o m i n i s : after the collector, J. NOSZKY, Jr.

D i m e n s i o n s : $D = 44$ mm
 $H = 12$ (27 percent)
 $W = 11$ (25 percent)
 $U = 24$ (54.5 percent)

D i a g n o s i s : string of tubercles along the keel.

D e s c r i p t i o n : A single cast of medium size and mediocre preservation. Umbilicus very wide. The gently convex sides do not form an umbilical wall. The ventral edge is very much rounded, the venter very tall, narrow, locally concave. The broad swollen keel bears several tubercle-like protuberances. These number 9 on the last whorl. Whorl section is oval, with the greatest width



at the inner third of the side. The ornamentation is well-developed. That of the inner whorl is more regular than that of the last whorl. The primary ribs are straight and nearly radial. On the last whorl, some of the ribs unite pairwise in the broad, swollen string of tubercles of the ventral edge. Several pairs of united ribs are usually succeeded by a few single ones. The primary ribs bifurcate

at the ventral edge. The secondary ribs are slightly arched forward in their section traversing the venter. Some 20 secondary ribs correspond to 10 primary ribs on the venter. The primary ribs are slightly broader than the rib spacing. On the last whorl they number 56. More than half a body chamber is preserved. Peristome unknown.

The suture line is richly intricate. A cannot be studied in detail. L is long, bifurcate, narrow-stemmed. Well-developed U is likewise bifurcate.

Remarks: The keel relegates the new species to the genus *Collina* BONARELLI, 1893. The irregular ornamentation of the last whorl resembles *Ammonites mucronatus* D'ORBIGNY, 1845 (p. 328, Pl. 4, 5, 8), especially the specimen described by DUMORTIER, 1874 (p. 97, Pl. 28, Fig. 3—4).

The keel dissolved into a string of tubercles lends, however, a definite individuality to the new species. BUCKMAN (1927, p. 43) based a new genus (*Mucrodactylites*) upon the type of *Ammonites mucronatus*, which is, however, considered by ARKELL (1957, p. 254) and HOWARTH (1962, p. 408) a synonym of *Collina*.

Distribution: The specimen most closely related to the new species has been described by DUMORTIER from the vicinity of La Verpillière, from the zone of *Hildoceras bifrons*.

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ПРЕДСТАВИТЕЛИ DACTYLIOCERATIDAE ИЗ ВЕРХНЕЛЕЙАСОВЫХ ОТЛОЖЕНИЙ УРКУТА

Б. ГЕЦИ

Резюме

В пределах Уркутского марганцового рудника, в буровато-зеленых глинистых мергелях нижнего тоара было найдено 10 видов ammonitов, относящихся к семейству *Dactylioceratidae*. Из числа новых видов *Peronoceras hungaricum* n. sp. характеризуется очень широким пупком, редкими, частично сходящимися ребрами и чередующимися, сильными бугорками; *Peronoceras baconicum* n. sp. — простыми или раздваивающимися, часто бугорчатыми первичными ребрами, в пожилой стадии морфогенеза иногда сходящимися и изгибающимися назад вторичными ребрами; *Zugodactylites sapunovi* n. sp. — частично раздваивающимися ребрами и заостренной наружной частью; *Collina noszkyi* — серией бугорков по краю. Судя по представителям семейства *Dactylioceratidae*, нижняя часть ammonитовых мергелей относится к зоне с *Harpoceras falciferum* и зоне с *Hildoceras bifrons*. Наличие базальных отложений тоарского яруса, образующих зону *Dactylioceras tenuicostatum*, не доказано фауной. Следовательно, подстилающие марганцовые карбонаты датируются либо с базальной зоны тоарского яруса (с *Dactylioceras tenuicostatum*), либо с верхов домерского яруса.

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