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FAMILY HIPPURITIDAE GRAY IN ALBANIA

The family Hippuritidae Gray is represented by the following 5 genera in Albania: Hippurites Lamarck with 9 species, Hippuritella Douvillé with 2 species, Vaccinites Fischer with 12 species as well as Batolites Montfort and Tetracionitès Astre with 1 species.

The representatives of the family Hippuritidae Gray are widespread in the Turonian and Senonian deposits of the Sazani, Kruja, Albanian Alps (Malës Madhe subzone) and Mirdita tectonic zones.

The first data on the finding in Albania of the representatives of the family Hippuritidae Gray came from F. Nopcsa (1928) and E. Nowack (1929). A numerous new data on this family have been generated by intensification of investigations after the 2nd World War. The overwhelming majority of the species belonging to this family have been found and studied these last years and some of them are still unpublished.

The Upper Cretaceous shallow sea deposits are relatively more spread in Albania with respect to the deep sea and flyshoidal ones. Such shallow sea deposits, where the representatives of the family Hippuritidae Gray have been recorded, are widespread in the following zones: Sazani zone (equivalent of the Apulian or Paxos zone), Kruja zone (equivalent of the Dalmate or Gavrovo zone) as well as Malës Madhe subzone (equivalent of the Subpelagoniane zone).

The representatives of the following genera of the family Hippuritidae Gray have been recorded up to now the territory of Albania.

1. Genus Hippurites Lamarck, 1801 with the following 9 species:
   H. requieni Matheron;
   H. carezi Douvillé;
   H. collicatus Woodward;
   H. heberti Munier-Chalmas;
   H. nabresinensis Futterer;
   H. socialis var. irregularis (Toucas);
   H. toucasi d’Orbigny;
   H. cornucopiae Defrance;
   H. castroi Vidal.

2. Genus Batolites de Montfort, 1908, represented only by B. organisans de Montfort.

3. Only two species are known from the genus Hippuritella Douvillé, 1908: H. variabilis Munier-Chalmas and H. microstyla (Douvillé).

4. The rare genus Tetracionitès Astre, 1931 is represented by Tetracionitès sp. only.

5. The following 12 species are known from the genus Vaccinites Fischer 1887:
   V. cornuvcinnum Bronn;
   V. athenienis (Ktenas);
   V. inferus (Douvillé);
   V. sulcatus Defrance;
   V. chaperi Douvillé;
   V. oppeli Douvillé;
   V. gosaviensis (Douvillé);
   V. taburni (Guiscardi);
   V. boehmi Douvillé;
   V. inaequicostatus (Münster);
   V. aff. corbaricus Douvillé;
   V. giganteus D’Hombre-Firmas.

The spreading of different species of the above mentioned genera, according to the tectonic zones and different regions and sectors, is as follows.

In the Sazani zone, (Fig. 1) which occupies a small territory at the southwestern margin of Albania, (in the south of Vlora towa) Vaccinites inferus

Fig. 1 — Location of rudist bearing outcrops in Albania.
— Localizzazione degli affioramenti a rudiste in Albania.

GEOLOGICA ROM., 28: 87-89, 1 fig. Roma (1992)
(Douville) has been found and studied. It speaks for the Turonian age of the limestones (Peza, 1987). Rudists are frequently in the Upper Cretaceous limestones too.

The Turonian deposits of this zone consist of limestones. The limestone deposits ranging from Barremian to Senonian, without any break, occur in this zone.

The various Hippurites together with the Batolites organisans de Montfort have been recorded in the hundreds of metres thick Senonian limestones.

In the Kruja zone, the outcropping Senonian and Maastrichtian deposits, are developed in the shallow sea facies. The various rudists are often found in this facies. The Hippuritella variabilis Munier-Chalmas, Hippurites heberti Munier-Chalmas and Vaccinites cf. oppeli (Douville) are recorded from the Senonian limestones of the Lezha region (Renzi and Kakariqi mountains), south of Shkodra city.

The Vaccinites cornucavoidum Bronn and Hippurites sp., have been found in the limestones of the Dajt-Makaresh region in the middle of Albania (northeast of Tirana) together with the other rudists. These species show the Senonian-Lower Campanian age of the deposits.

Near the Çorovoda town, southern Albania, the Vaccinites ex. gr. taburni Guiscardi is recorded together with the other rudists in the thick Senonian limestones. This Senonian species together with the Vaccinites giganteus d’Hombre-Firmas is also found in the Tomori mountain (Peza et al., 1971).

The rudists of the family Hippuritidae Gray are much developed in the Albanian Alps zone (North Albania). In Malësi Madhe subzone (north of the Shkodra city), the rudists have been recorded in the Jurassic and Cretaceous deposits. Hippurites requieni Matheron, belonging to Turonian age, has been found in the Thethi mountainous region (Peza, 1981), whereas the Senonian form Hippuritella variabilis Munier-Chalmas has been recorded in the Gruda region near the state border (Nopcsa, 1928). Vaccinites cornucavium Bronn, V. cf. taburni Guiscardi and Tetracionites sp. have been reported from the Senonian deposits of the Cemi valley, north of Albania (Geology of Albania, 1970; Peza, 1981), V. taburni Guiscardi is reported from the Senonian limestones of the Veleçiku mountain (north of the Shkodra city).

The Upper Cretaceous deposits of the Mirdita zone are very rich in rudists including the representatives of the family Hippuritidae Gray.

Hippurites requieni Matheron is reported from the Turonian limestones of Arën region (south of the Kukësi town). These limestones lie transgressively on the intensively folded Middle Triassic - Upper Triassic limestones with red bauxite bodies. Hippurites socialis var. irregularis (Toucas), Vaccinites sulcatus Defrance, V. inaequicostatus (Münster), V. gosaviensis (Douville) etc. have been found in the uppermost part of the limestones belonging to Senonian age (Peza, 1985; 1989).

In the Zeba mountain, a few km in the west, is found Vaccinites aff. corbaricus Douville in the same limestones (Nowack, 1929).

A rich rudists complex has been recorded in the old Guri Pishkasht mine, west of the Ohrid Lake. The limestones are here transgressively set on the ultramafic through the iron-nichel mineral horizon. The Santonian - Lower Campanian rudists such as Hippuritella microstyla (Douville), Hippurites collicius Woodward, H. castroi Vidal, H. nabresinensis Futterer, H. sp. and other have been recorded in these limestones (Peza 1985; 1989; 1990).

More in the south of the Polisё mountainous region, the Vaccinites cornucavium Bronn, V. chaperi Douville and Hippuritella variabilis Munier-Chalmas, belonging to the Santonian - Lower Campanian, have been reported (Çili et al. 1962).

The other erosional remnants of the Santonian - Campanian deposits are also encountered in the Mali Thatë, at Albanian - Yugoslavian border south - east of the Ohrid Lake.

The conglomeratic limestones are here transgressively set on the intensively folded red bauxite bodies — bearing Middle Triassic — Upper Triassic carbonates. Vaccinites cornucavium Bronn has been recorded in the conglomeratic limestones.

In the Zemblaku region (west of the Korça city), the Santonian - Campanian deposits are transgressively set on the ultramafics and large Triassic limestones, olistoliths in it. Hippurites toucai d’Orbigny, Vaccinites taburni Guiscardi, V. boehmi Douville occurred in the upper part of the limestones show the Santonian - Campanian age.

Therefore, the representatives of the family Hippuritidae Gray in Albania are up to now recorded in the Turonian and Senonian deposits. An only information on the record of rudists in the Maastrichtian deposits comes from Nopcsa (1928), which notes on the presence of the Hippuritidae cornucopiae in the limestones block situated within the Tertiary schists near the Mali Merturit (north eastern Albania).

Otherwise, the study of rudists of Albania shows that they have a close affinity to the complexes of other Balkanic countries and have been developed into the same marine environment.
RIASSUNTO

I primi dati sul ritrovamento di rappresentanti della famiglia Hippuritidae Gray in Albania sono di F. Nopsha (1928) e di E. Nowack (1929). Numerosi nuovi dati su questa famiglia sono stati prodotti dall'intensificarsi delle ricerche dopo la seconda guerra mondiale. Molte specie appartenenti a questa famiglia sono state ritrovate e studiate negli ultimi anni e alcune di esse sono tuttora non pubblicate.

I depositi di acque basse del Cretaceo superiore, in Albania, sono relativamente più diffusi di quelli di acque profonde e floscoidi. Tali depositi marini, dove i rappresentanti della famiglia Hippuritidae Gray sono stati rinvenuti, sono diffusi nelle seguenti zone: zona di Sazani (equivalente alla zona Apula o di Paxos), zona di Kruja (equivalente alla zona Dalmata o di Gavrovo) così come la subzona di Malësi Madhe (equivalente alla zona subpelagonica).

La famiglia Hippuritidae Gray è rappresentata in Albania dai seguenti 5 generi: Hippurites Lamarck con 9 specie, Hippuritella Douville con 2 specie, Vaccinites Fisher con 12 specie, Batolites Montfort e Tetracomites Astre con 1 specie.

I rappresentanti di questa famiglia sono diffusi nei depositi turomani e senoniani delle zone tettomiche di Sazani, Kruja, Alpi Albanesi (subzobna di Malësi Madhe) e di Mirdita.

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