

A NEW SPECIES OF THE GENUS BRANISLAIVIA FROM TURKEY

Sacit ÖZER

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TU J. Eng. and Environ. Vol. 12 Num. 3 1988

A NEW SPECIES OF THE GENUS *BRANISLAVIA* FROM TURKEY

Sacit ÖZER

Department of Geology Engineering, Faculty of Engineering and Architecture,
Dokuz Eylül University, İzmir—Turkey

Received 5/10/1987

SUMMARY: *The genus Branislavia has been first recognized amongst the Rudist samples collected from the Maastrichtian sandy limestones of the Hekimhan area (Malatya, eastern Turkey). It is here introduced as Branislavia orientalis n. sp.*

Lower valve of the new species is conical. The siphonal bands S and E are in the form of deep grooves. The band S is twice wider than band E. Interband is rather bulge and it is always wider than other siphonal bands. Upper valve is convex, the apex is located at the center of valve. The new species differs from Branislavia bacevicensis, which is the only known species of this genus, by different widths of the siphonal bands and the apex position of the upper valve.

The Hekimhan area is the place where the genus Branislavia found the first time out of its type locality (East Serbia—Yugoslavia). This has an important biogeographic implication.

TÜRKİYE'DE BULUNAN *BRANISLAVIA* CİNSİNİN YENİ BİR TÜRÜ

ÖZET: *Hekimhan alanındaki (Malatya, Doğu Türkiye) Mestrihtiyen kumlu kireçtaşlarından derlenen Rudist örnekleri arasında Türkiye'de ilk kez olarak Branislavia cinsi bulunmuş ve bu yayında yeni bir türü (Branislavia orientalis n. sp.) tanımlanmıştır.*

Yeni türün alt kavkısı koniktir. S ve E sifonal bandları derin oyuklar şeklindedir. S bandı, E bandından iki kez daha geniştir. İnterband oldukça çıkıntılıdır ve diğer bandlardan daima daha geniştir. Üst kavkı konvektir ve tepe noktası kavkının ortasına yerleşmiştir. Yeni tür, cinsin bugüne dek tanımlanmış tek türü olan Branislavia bacevicensis'ten sifonal bandların farklı genişlikte olması ve üst kavkı tepesinin konumu ile ayrılır.

Hekimhan alanı Branislavia cinsinin tip lokalitesi dışında ilk bulunduğu yerdir. Bu önemli bir biyocografik veridir.

INTRODUCTION

The Hekimhan (Malatya) area is characterized by its abundant Maastrichtian Rudists such as hippuritids, radiolitids, caprinids, chiapasellids and several new genera and species (1—5). In this area (Figure 1), the Upper Senonian sequence, which divisible into three units: in ascending order, Hekimhan Conglomerate, Tohma Limestone, Ulupınar Formation (Figure 2). This sequence overlies transgressively the ophiolitic rocks. The Late Campanian (?) — Maastrichtian Hekimhan Con-

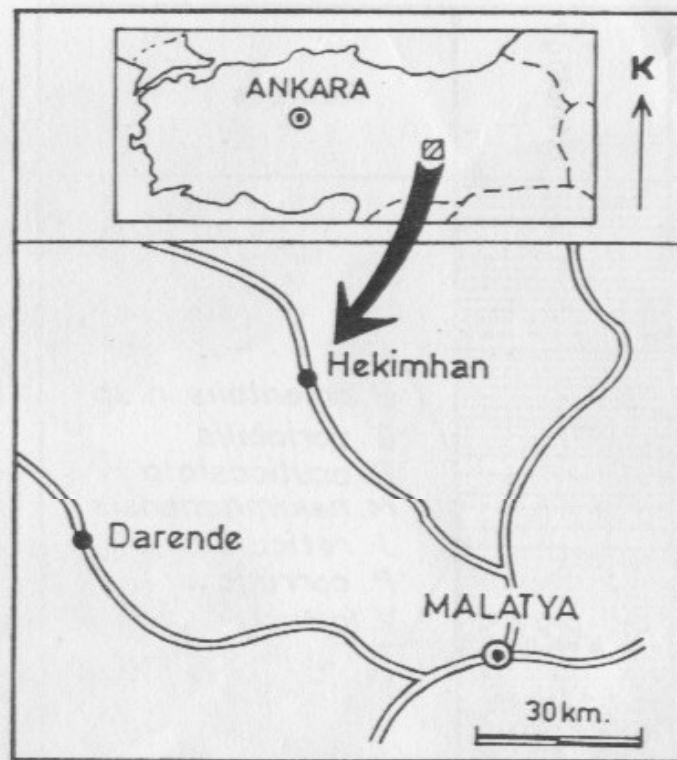


Figure 1. Location map.

glomerate consists of reddish-green conglomerates and sandstones. The Maastrichtian Tohma Limestone consists primarily of yellowish-gray sandy limestones with abundant reefs of Rudists. The Maastrichtian Ulupınar Formation consists of greenish-gray mudstones, sandstones and conglomerates. The mudstones contain pelagic microfauna of Globotruncanidae. The contacts between these units are conformable and gradational.

In the Rudist fauna of the Tohma Limestone the genus *Branislavia* Sladic—Trifunovic has been recognized for the first time in Turkey. The type locality of the genus *Branislavia* is in the East Serbia—Yugoslavia (6). Its second occurrence, out of its type locality, is in the eastern part of Anatolia.

The objective of this paper is to give the detailed descriptions of the related new species *Branislavia orientalis* n. sp.

SYSTEMATIC PALEONTOLOGY

Classis: LAMELLIBRANCHIATA

Ordo: Hippuritoida Newell, 1965

Familia: Chiapasellidae Alencaster, 1971.

Genus: *Branislavia* Sladic — Trifunovic, 1981

Branislavia orientalis n. sp.

Figure 3 a—f

Derivatio nominis: After the orient of Anatolia, where the new species was discovered.

Material: The holotype and five paratype samples, each with lower and upper valves.

Holotypus: Figure 3 a—c, with well preserved both valves is deposited at the Dokuz Eylül Üniversitesi, Jeoloji Mühendisliği Bölümü—İzmir, with No. H1506.

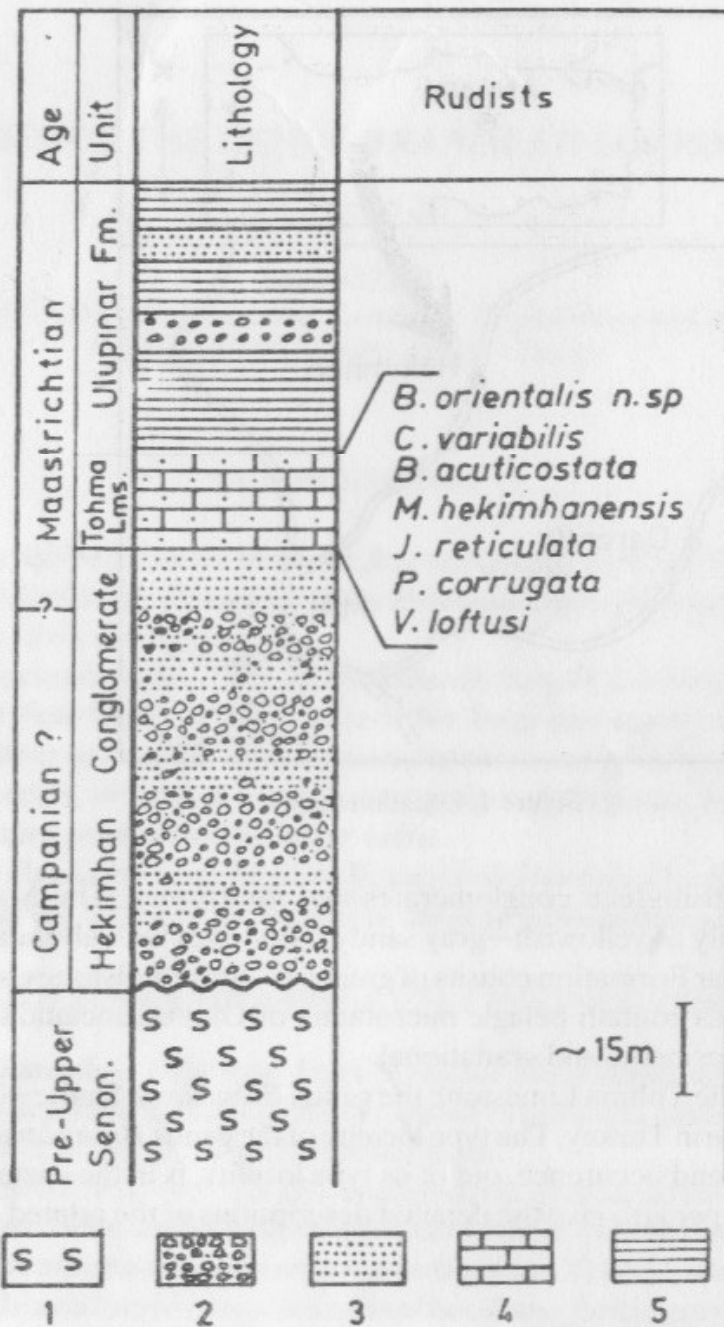


Figure 2. Columnar stratigraphic section of the Hekimhan area. 1: ophiolite, 2: conglomerate, 3: sandstone, 4: sandy limestone, 5: mudstone.

Diagnosis: Lower valve conical, siphonal bands S and E groove. The posterior band S twice wide than anterior band E. Interband rather bulge and always wider the other bands. Upper valve convex, the apex at the center of the valve.

Description: Lower valve is conical. The height of the valve is 30—60 mm. In the commissure, the diameter is 40—65 mm. The surface is ornamented with longitudinal costae and grooves both are transversed by growth lamellae. The siphonal bands S and E are in the forms of deep grooves (Figure 3 a). The posterior band S is 4—5 mm in width, the anterior band E has 2—3 mm width. Each band has one costae. The interband is rather bulge and it is always wider (9—11 mm) than other siphonal

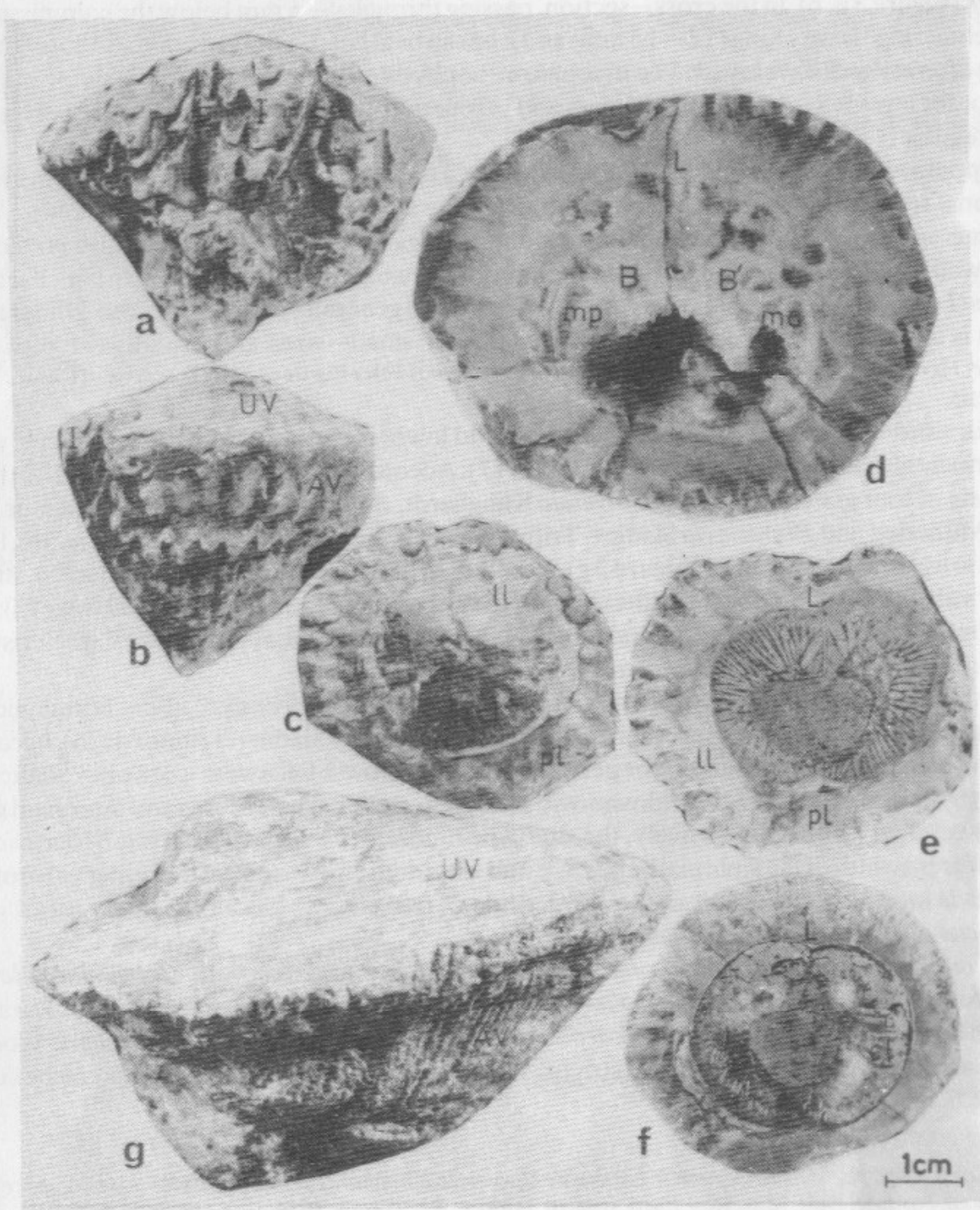


Figure 3. a—f: *Branislavia orientalis* n. sp., Hekimhan, Maastrichtian, a: siphonal region of the lower valve, holotype, b: lower and upper valves, posterior side, holotype, c: upper valve, holotype, d: lower valve, cross-section, paratype, No H1512, e—f: upper valves, cross-sections approximately at commissure level, paratypes, No H1508, 1510. g: *Colveraia variabilis* Klinghardt, Hekimhan, Maastrichtian, lower and upper valves, posterior side, No. H1509.

Explanation of symbols is in the figure 3 UV: upper valve, LV: lower valve, S and E: posterior and anterior siphonal bands, I: interband, L: ligamental ridge, B and B: posterior and anterior cardinal teeth, mp and ma: posterior and anterior myophore apophysis, ll: lamellar layer, cl: canal layer, pl: prismatic layer.

bands (Figure 3 a, b). In the cross-section, passing through 4—5 mm below the commissure, the ligamental ridge is very long (12—18 mm) and it has an oval head. The posterior and anterior cardinal teeth are very well developed. The myophore apophysis can be observed in the shape of thin trace. The outer layer is 7—14 mm in thickness and prismatic in structure. The prisms are polygonal, little and regular (Figure 3 d).

Upper valve is convex and 8—10 mm in height. The apex is located at the center of the valve. The siphonal region has two costae corresponding to the siphonal bands (S, E) of the lower valve. The commissure makes an upward folding at siphonal region. The surface of the valve is smooth. The shell wall is composed, from exterior to the interior, of two layers which are in turn lamellar and canal layers (Figure 3 c). Lamellar layer is thin (1—2 mm) and generally partly preserved. Under this layer, there is an internal layer with canals. The canals are small-sized and broadly exhibit a fusiform shape. However, near the ligamental ridge area, a few thick elliptical canal sections (Figure 3 e, f) are present.

Discussion: The studied samples have radiolitid lower valve and caprinid upper valve, which are the principal features of Chiapasellidae family (7). According to Sladic—Trifunovic (6), this family consists of four genera including *Colveraia* Klinghardt, *Balabania* Karacabey—Öztemür, *Chiapasella* Mülleried and *Branislavia* Sladic—Trifunovic. Our samples differ from *Colveraia* by the shape of the lower and upper valves (Figure 3 g), structure of the siphonal region and ornamentation of the lower valve (1, 8, 9); *Balabania* by the shape of the upper valve and also ligamental ridge (3); *Chiapasella* by the presence of the ligamental ridge (7). The studied material shows the characteristic upper valve shape of the genus *Branislavia* (6).

Until today, the only known species of this genus is *B. bacevicensis* Sladic—Trifunovic. The siphonal region of this species has been not clearly described by Sladic—Trifunovic (6), because "this portion of lower valve was missing or peripheral parts of growth lines were worn out". Sladic—Trifunovic (6), however, referred to Milovanovic's (10) descriptions that sinuses and interband would be nearly equal in width. Conclusively, the studied *Branislavia* species differ from *B. bacevicensis* by the different width of the siphonal bands S, E and I. In addition, the apex of the upper valve of the new species is located at the center of the valve, while *B. bacevicensis* has an excentric apex.

Locus typicus: Hekimhan (Malatya).

Stratum typicum: *Branislavia orientalis* n. sp. is found together with *Colveraia variabilis* Klinghardt, *Balabania acuticostata* Karacabey—Öztemür, *Miseia hekimhanensis* Karacabey—Öztemür, *Joufia reticulata* Boehm, *Vaccinites loftusi* Woodward, *Pironaea corrugata* Woodward, which are the diagnostic for the Maastrichtian age. Therefore, a Maastrichtian age can be suggested for the *B. orientalis* n. sp.

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