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S. H. BASHA
Department of Geology and Mineralogy, University of Jordan

OSTRACODA FROM THE JURASSIC SYSTEM OF JORDAN
Including a Stratigraphical Outline

This study describes the general stratigraphical and environmental situation of the Jurassic exposed sequences northwest and west of Amman and their ostracoda contents. The sequence is generally composed of thick, massive, sandstones, carbonates, and overlain by gypsiferous marls. It is unconformably underlain by the Triassic system and overlain by the Lower Cretaceous sandstone. The strata have been subdivided into Dogger and Malm on the basis of their ostracoda contents. The ostracoda assemblages which have been encountered in certain horizons are identified and described for the first time in Jordan. The type sediments and the ostracoda indicate deposition on a shallow and marginal shelf environment interrupted by lagoons of arid, humid and tropical conditions.

El presente estudio considera la situación estratigráfica y ambiental de los afloramientos jurásicos al noroeste y oeste de Amman y la correspondiente fauna de Ostrácodos. La sucesión está formada por areniscas y carbonatos gruesos, masivos, recubiertos por margas yesíferas. Yace transgresivamente sobre el Triásico y encima tiene areniscas del Cretácico inferior. Los Ostrácodos permiten reconocer al Dogger y al Malm; algunos de ellos se describen por primera vez en Jordania. Las evidencias sedimentológicas y paleontológicas indican un ambiente de deposición de plataforma marginal de aguas someras, con episodios lagunares, en condiciones áridas, húmedas y tropicales.

INTRODUCTION

After the termination of the Triassic system, the land uplifted, subjected to deep weathering and thick sandy facies were deposited over extensive areas in levant. Subsidence, shallow, and marginal shelf environments interrupted by lagoons followed the weathered surface, resulted in the deposition of thick Jurassic sandstones partly calcareous, overlain by thick carbonates, marl, sandy marl, partly gypsiferous.

Jurassic rocks are exposed northwest and west of Amman, along the Zerqa River course, from Old Zerqa River Bridge (OZRB) to the Dier-alla, passing by the Ain-Khuneizier area, and terminates southwards near Shuna village. The thickness of the Jurassic rocks increases to the north of the working area (S—90 well= =400 m., Bender, 1968a), and tremendously to the west (R—1 well=3000 m., Druckman, Givertzman, and Kashai, 1975) as indicated in fig. 1. On the other hand, the exposed sequence does not exceed 250 m.

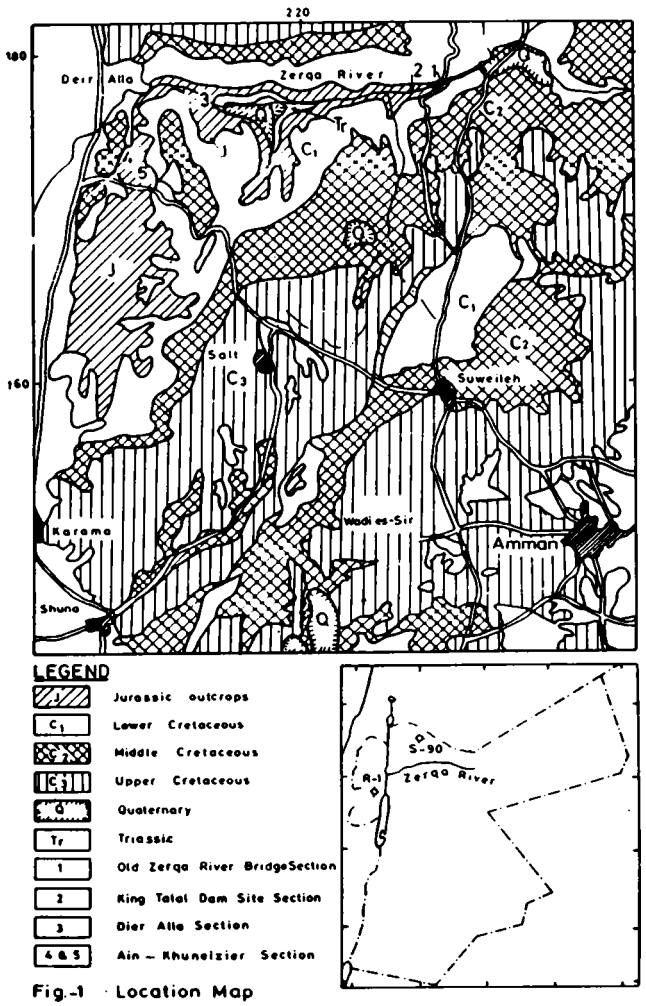


Fig.-1 Location Map

The Zerqa River outcrops with their macrofossils were studied by Wetzstein (1859), Libbey and Hoskins (1905), Blanckenhorn (1914), Cox (1952), Muir-Wood (1925), Ionides and Blake (1939), Avnimelech (1945), Arkel (1952), Burdon (1958), Wetzel and Morton (1958), Boom and Lahloub (1962), Jordan (in Bender, 1968a), and [illegible] signed by Cox, Muir-Wood, and Ionides and Blake as Bajocian-Bathonian; by Douglas (in Ionides and Blake, 1939) as Bajocian-Bathonian-Callovian; by Wetzel and Morton as Rhetic-Bajocian-Bathonian-Callovian; and by Jordan as Aalenian-Bajocian-Lower Bathonian.

Therefore, the author has sampled and analysed the sections of OZRB, King Talal Dam Site (KTDS) near the spillway, which consists of a composite section of ZT1-ZT12 portion, boreholes P. 226 and P. 274, and Z1-Z5 portion; Wadi huni, and Dier-alla along the Zerqa River course, and the Ain-Khuneizier areas for their ostracoda content, lithostratigraphy and paleoenvironments (figs. 1, 2, 3). Accordingly, the Wadi huni is considered as the type section in this study. It is subdivided into five formations relevant to those recognised in Israel (Goldberg and Friedman, 1974) and (Maync, 1965), from base to top as follows:

1. Huni sandstone Formation (=Inmar Formation)

This formation is differentiated into:

Basal sandstone Member. Yellowish, reddish, quartzitic, fine to coarse grained, rounded to subrounded, loose to partly cemented, crossbedded, fining upward, with channels, carbonized material, and a few pisolitic iron components; while it is partly marly and interbedded with thin streaks of gypsum in the KTDS.

Clay Member. Whitish brown, thinly laminated, soft (Kaolinitic), intermixed with fine sand grains.

Dolomitic sandstone Member. Reddish, finely grained, rounded, cemented with dolomite, thick, massive, partly ferruginous and with whitish spots. It changes to limy sandstone in the Dier-alla, and to argillaceous sandy dolomite in the KTDS.

[illegible] quartzitic, fine to medium grained, rounded to subangular, crossbedded, with ripple marks, plant remains, hematitic pisolitic structures at the top; but partly marly in the KTDS.

It is suggested that this formation deposited on a marginal shelf, partly interrupted by certain types of swamps and partly intermixed with shallow marine conditions.

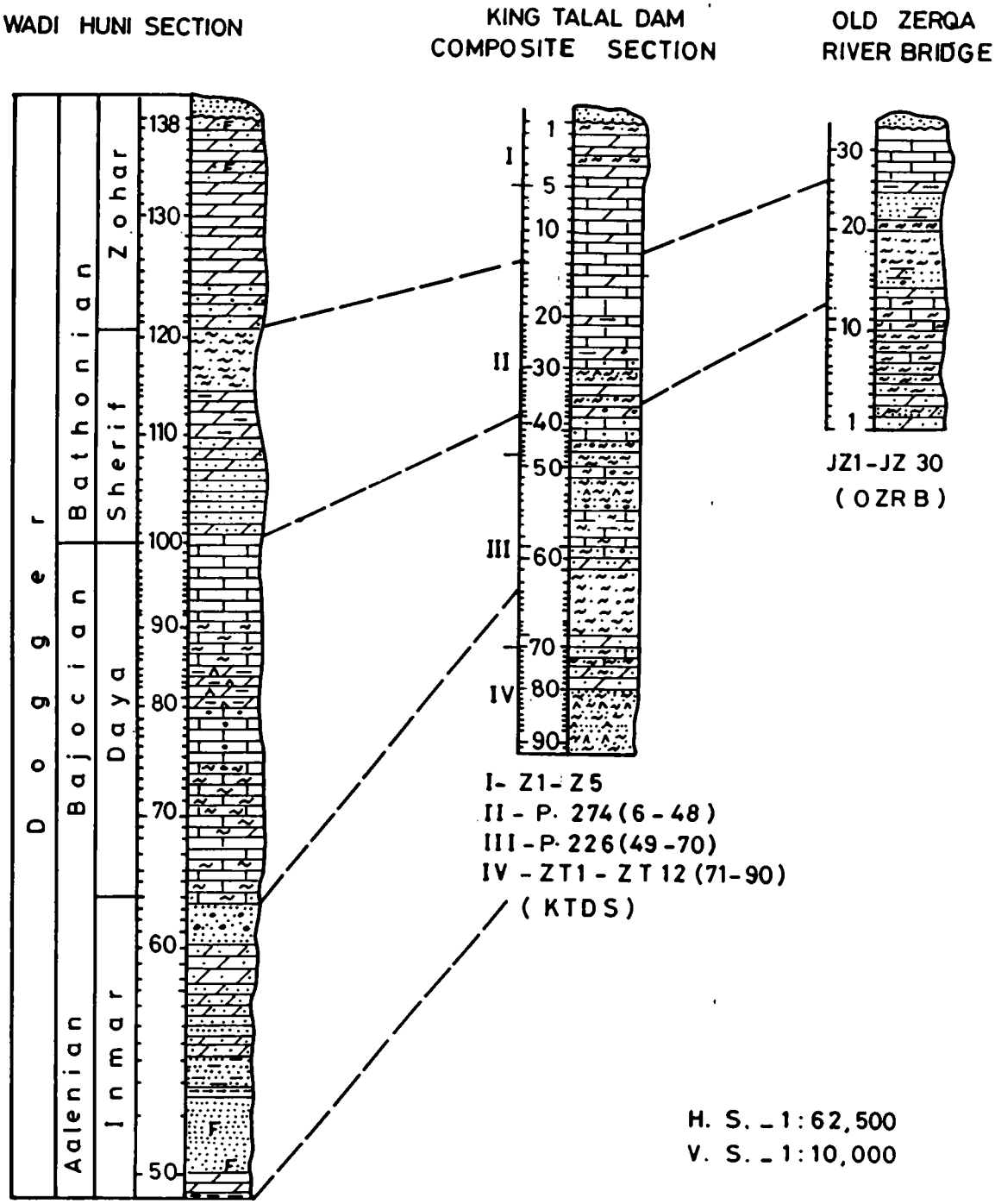


Fig. - 2

2. Huni limestone Formation (=Daya Formation)

It is composed of:

Lower limestone Member. Creamish, buff, biomicritic, thick, massive, with black spots, skeletal remains, pellets, ooides and argillaceous. Same member is reorded in the Dier-

aala area, while it becomes thinner, more argillaceous, Sandy, and pyritic in the KTDS.

Marly limestone Member. Grey, biomicritic, calcitic, partly finely sugar grained like crystalline, spotted black, dolomitic, argillaceous and anhydritic. In the Dier-alla, it is marl, partly anhydritic; and in the KTDS and the OZRB alternates with thin leyers of sandy marls, slightly pyritic.

Upper limestone Member. Cream, buff, micritic, hard, massive, fractured, and thick. In the Dier-alla, it is composed of thick dolomites; whereas in the KTDS and the OZRB sandy limestone, interbedded with sandy marl intervals, spotted black, with plant remains, amber fragments, and with hematitic pisolite in the OZRB.

The type facies of this formation and faunal association implies deposition on a shallow shelf extending from supratidal to subtidal environments interrupted with intervals of shallow lagoons.

3. Huni dolomite Formation (=Sherif Formation)

This formation is differentiated into:

Dolomitic sandstone Member. Reddish, yellowish, quartzitic, fine to coarse grained, rounded to subrounded, thick, massive, crossbedded, thinely laminated, mottled, slightly pyritic, with carbonized plant remains. It is thin in the KTDS, composed of sandy anhydritic marl, overlain by sandy dolomite; while thick, interbedded with marl, and partly pisolitic in the OZRB.

Dolomite Member. Yellowish, buff, sugar grained like crystalline, compacted, partly argillaceous, limonitic, massive, fractured, associated, with calcite veins and bituminous remains filling hair like fractures. The facies in the Dier-alla becomes thick bedded limestone, marly in the middle; sandy and dolomitic in the Ain-Khuneizier area, both rich with faunal elements; thin, slightly argillaceous, pseudo-oolitic, fossiliferous in the KTDS; and slightly dolomitic, and biomicritic in the OZRB.

Marl Member. Yellowish, thinly bedded, intermixed with fine to medium grained sands, quartzitic, rounded, limonitic, slightly anhydritic, with plant remains and pisolite. Same member is recorded in the Dier-alla area, but it is thick, massive, creamish marly limestone alternating with marl in the Ain-Khuneizier area, richly fossiliferous, biomicritic and compacted.

This formation shows cyclic sedimentation which implies deposition in a disturbed environment on a marginal shelf, between supratidal to subtidal limits; occasionally associated with swamps and lagoonal deposits through some certain deltiac conditions.

4. Huni dolomite-limestone Formation (=Zohar formation)

Grey, pinkish, yellowish, thick, massive, fractured, biomicritic, partly mottled, sandy, with pellets, skeletal fragments, algal and reef remain. It is reported from all studied areas.

The sedimentary facies of this formation suggests deposition on a shallow shelf, under tidal conditions, without cyclic aspects.

5. Huni marl Formation (=Kiddod Formation)

Grey, greenish yellow, thinly bedded, in parts gypsiferous, pyritic, sandy and fissile.

It is suggested that this facies was deposited under lagoonal conditions of a shallow shelf, and only reported from Ain-Khuniezier area.

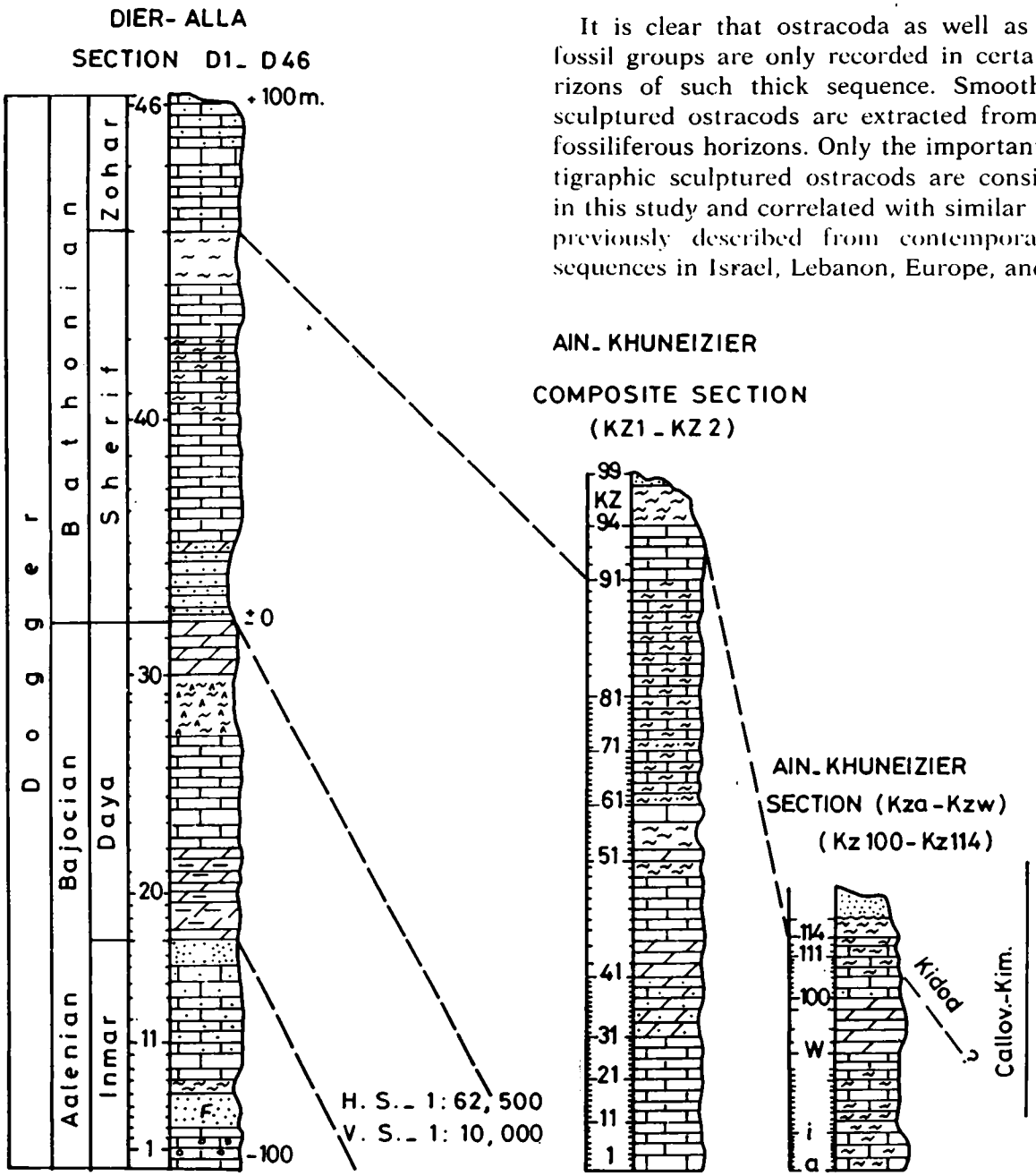
Consequently, Aalenian stage is assigned to formation 1; Bajocian to the formation 2 and Bathonian to the formations 3 & 4; and Callovian to Kimmeridgian to the formation 5 as indicated in table 1 and 2.

The Jurassic sequence of the OZRB and KTDS is unconformably overlain by the massi-

ve, white yellowish sandstone unit, and by the varicolored sandstone unit of the Lower Cretaceous stage in the other localities; and underlain by the Triassic sequences from the OZRB to the southern Shuna village where the Lower Cretaceous is unconformably overlain the Triassic formations. However, the equivalence of the «Beer-Sheba and Halutsa Formation» of Israel are not yet recorded in Jordan.

STRATIGRAPHICAL SITUATION OF THE OSTRACODS

It is clear that ostracoda as well as other fossil groups are only recorded in certain horizons of such thick sequence. Smooth and sculptured ostracods are extracted from such fossiliferous horizons. Only the important stratigraphic sculptured ostracods are considered in this study and correlated with similar forms previously described from contemporaneous sequences in Israel, Lebanon, Europe, and Uni-



(Fig. 3)

ted States of America. It appears; after comparing the identified specimens with other deposited material of same age in the Senckenberg Museum, Frankfurt, West Germany, with Dr. H. Malz; that some genera and most species are new, and therefore, described herein for the first time. Consequently, a tentative comparison is established and suggested upon considering the Jurassic stages and the lineages of the recognised ostracoda in Israel (Maync, 1965) and in Lebanon (Bischoff, 1964). Accordingly, it is suggested to arrange the identified ostracods from the Jurassic of Jordan with respect to the considered stages (table 1 and 2) as follows:

1. Only *Micropneumatocythere cf. M. convexa* Bate is indicative for the Aalenian stage due to the type sediments.

2. A quite few ostracoda species are recognised from the Bajocian which might be equivalent to the *Procytheridea sp. YZ zone* (Maync, 1965). The indicative ostracods are: *Leiria striata* Helmdach, *Monoceratina sp., Terquemula sp., Pleurocythere sp., Ektyphocythere dierallaensis* n.sp., *E. zerqaensis* n.sp.

3. The ostracoda species of the Bathonian are indicative and diversified, and possibly equivalent to the *Procytheridea sp. 4 zone* (Maync, 1965). They are composed of: *Cytherella oertlii* n. sp., *Acanthocythere aardaensisn* n.sp., *A. bakeri* n.sp., *Glyptocythere huniensis* n.sp., *Glyptogatocythere malzi* n.gn.n.sp., *Ektyphocythere oblonga* n.sp., *Zerqacythere subiehiensis* n.gn.n.sp., *Z. huniesis* n.sp.

4. The Callovian to Kimmeridgian stages are substantiated by the occurrence of *Cytherelloidea aazourensis* Bischoff and *C. besrineensis* Bischoff in the Ain-Khuneizier section only.

ACKNOWLEDGEMENTS

My thanks are expressed to the Research and graduate studies committe, University of Jor-

AGE	SUGGESTED STAGE	FORMATION	LEBANON (BISCHOFF,1964)	ISRAEL (MAYNC,1965)			PRESENT STUDY
M A L M	KIMMERIDGIAN	HUNI MARL (KIDOD)	Cytherelloidea besrineensis Cytherelloidea aazourensis				Cytherelloidea besrineensis
	UPPER OXFORDIAN LOWER			Oligocytheris ? decemsexc (SUBZONE)			Cytherelloidea aazourensis
	CALLOVIAN				Acanthocythere n sp		
D O G G E R	BATHONIAN	HUNI DOLOMITE —LIMESTONE (ZOHAR) HUNI DOLOMITE (SHERIF)		Procytheridea sp.(Zone)	Praeschuleridea aff. sp	Virgulacytheridea Sherifensis n. sp. Cytherella Certissima n. sp.	Zerqacythere huniensis Zerqacythere subiehiensis Ektyphocythere oblonga Acanthocythere bakeri Acanthocythere aardaensis Glyptogatocythere malzi Glyptocythere huniensis Cytherella oertlii
	BAJOCIAN	HUNI LIMESTONE (DAYA)		Procytheridea ? sp. YZ (Zone)	Procytheridea ? aff. crassa ?		Ektyphocythere zerqaensis Ektyphocythere dierallaensis Terquemula sp. Monoceratina sp. Leiria sp. Pleurocythere sp.
	AALENIAN	HUNI SANDSTONE (INMAR)		Procytheridea ? aff. magnycourtensis (Zone)			Micropneumatocythere cf. M. convexa

Table - 1

dan, for supporting and financing this study. I wish also acknowledge Dr. H. Malz (Senckenberg Museum, Frankfurt am Main) for assistance in the nomination of the identified genera and species, and Mr. J. Tochtenhagen (Geol.-Paleontol. Inst. Univ. Frankfurt am Main) for SEM photograph. Thanks to Dr. I. Yassini (NIOC, Tehran, Iran) and Dr. Oertli (PAU, France) for their advice and coorporation.

SYSTEMATIC DESCRIPTION

Subclass OSTRACODA Latreille, 1806
Order PODOCOPIDA Muller, 1894
Suborder PLATYCOPINA Sars, 1866
Family CYTHERELLIDAE Sars, 1866
Genus **Cytherella** Jones, 1849

Cytherella oertlii n .sp.
Plate 1, Figs. 1-2

Derivation of name. Dedicated to Dr. H. Oertli.

Holotype. One female carapace.

Paratype. A few carapaces and valves.

Type locality. Ain-Khuneizier, 30 km. west of Amman.

Stratotype. Base Bathonian.

Diagnosis. Carapace subquadrate to ovate in side view, dorsal margin slightly convex, ventral nearly straight, both ends broadly rounded, compressed anteriorly, triangularly inflated

DOGGER			MALM	OSTRACODA SPECIES
Aalenian	Bajocian	Bathonian	Callov. – Kim.	
		—		Cytherella oertlii n.sp.
			—	Cytherelloidea aazourensis Bischoff
			—	Cytherelloidea besrineensis Bischoff
	—	—	—	Cytherelloidea sp.
	—			Leiria striata Helmdach
	—			Monoceratina sp.
	—			Schuleridea triangularis Swartz and Swain
		—		Acanthocythere aardaensis n.sp.
		—		Acanthocythere bakeri n.sp.
		—		Glyptocythere huniensis n.sp.
		—		Glyptogatocythere malzi n.gn. n.sp.
—				Micropneumatocythere cf. M. convexa Bate
	—			Terquemula sp.
	—			Pleurocythere sp.
	—			Ektyphocythere dierallaensis n.sp.
		—		Ektyphocythere oblonga n.sp.
	—	—		Ektyphocythere triangula (Brand)
	—			Ektyphocythere zerqaensis n.sp.
		—		Zerqacythere subiehiensis n.gn. n.sp.
		—		Zerqacythere huniensis n.sp.

TABLE 2

posteriorly, with a shallow dorsocentral depression on each valve, right valve larger than left.

Description. Outline subquadrate to ovate in side view, dorsal margin slightly convex, ventral nearly straight, both ends broadly rounded. In dorsal view, the carapace is compressed anteriorly and the posterior is clearly raised and creating a triangular aspect. Surface smooth and with a centrodorsal depression on each valve. Right valve is larger than left. Females wider posteriorly and with a prominant raised posterior ridge, while males longer and narrower. All other internal characters of the genus are those of the genus Cytherella.

Dimensions

	Length	*Height*	*Width*
Holotype	0.62 mm.	0.35 mm.	0.38 mm.
Paratype	0.66 mm.	0.32 mm.	

Remarks. The described species was previously called *Cytherella certissima* n. sp. by Oertli (in Mayne, 1965) nomen nodum. It is suggested herein, to be dedicated to Dr. Oertli who has accepted this (Personal communication) since it has not yet been described.

Occurrence. It is recorded from the base Bathonian of the Ain-Khuneizier area.

Genus **Cytherelloidea** Alexander, 1929

Cytherelloidea aazourensis Bischoff

Plate 1, fig. 3

1964 *Cytherelloidea aazourensis* Bischoff, p. 9, pl. 1, figs. 4-6.

Remarks. This species differs from *Cytherelloidea paraweberi* Oertli, 1957, in possessing a centrally curved longitudinal ridge bifurcating from the posterodorsal area and extends toward central and anterocentral area.

Dimensions Length, 0.51 mm.; height, 0.29 mm.

Occurrence. The species is recorded fro the upper portion of the Ain-Khuneizier se tion, possibly of Callovian - Kimmeridgia stages.

Cytherelloidea besrineensis Bischoff

Plate 1, figs. 4-5

Remarks. The described specimens by Bi: choff, 1963 are very close to those recorde from Jordan.

Dimensions. Length, 0.62 mm.; height 0.31 mm.; width, 0.20 mm.

Occurrence. It is recorded from the Kim meridgian of the upper most portion of th Ain-Khuneizier section.

Cytherelloidea sp.

Plate 1, figs. 6-7-8

Description. Elongate to subquadrate; dorsa and ventral margins nearly parallel; anterior broadly rounded, posterior inflated giving rise to a triangular aspect in side view; surface finely punctate; inner lamellar elements and muscle scars are indistinct; right valve larger than left and overlaps it. A narrow prominant fine ridge encirles the peripheral margin is broken posteriorly and branched centrally creating two constrictions.

Dimensions

	Length	*Height*	*Width*
Holotype	0.57 mm.	0.30 mm.	0.23 mm.
Paratype	0.55 mm.	0.28 mm.	
	0.57 mm.	0.28 mm.	

Remarks. This species differs from *C. jucosa* (Jones 1884), *C. eastfieldensis* Bate 1963, and *C. paraweberi* Oertli 1957 in the nature, mode of the peripheral margin and its central distribution and in the presence of two lateral constrictions.

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Occurrence. The species is recorded from the upper portion of the Ain-Khuneizier section, possibly of Callovian - Kimmeridgian stages.

Cytherelloidea besrineensis Bischoff

Plate 1, figs. 4-5

Remarks. The described specimens by Bischoff, 1963 are very close to those recorded from Jordan.

Dimensions. Length, 0.62 mm.; height, 0.31 mm.; width, 0.20 mm.

Occurrence. It is recorded from the Kimmeridgian of the upper most portion of the Ain-Khuneizier section.

Cytherelloidea sp.

Plate 1, figs. 6-7-8

Description. Elongate to subquadrate; dorsal and ventral margins nearly parallel; anterior broadly rounded, posterior inflated giving rise to a triangular aspect in side view; surface finely punctate; inner lamellar elements and muscle scars are indistinct; right valve larger than left and overlaps it. A narrow prominant fine ridge encirles the peripheral margin is broken posteriorly and branched centrally creating two constrictions.

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Occurrence. The species is recorded from the upper portion of the Ain-Khuneizier section, possibly of Callovian - Kimmeridgian stages.

Cytherelloidea besrineensis Bischoff

Plate 1, figs. 4-5

Remarks. The described specimens by Bischoff, 1963 are very close to those recorded from Jordan.

Dimensions. Length, 0.62 mm.; height, 0.31 mm.; width, 0.20 mm.

Occurrence. It is recorded from the Kimmeridgian of the upper most portion of the Ain-Khuneizier section.

Cytherelloidea sp.

Plate 1, figs. 6-7-8

Description. Elongate to subquadrate; dorsal and ventral margins nearly parallel; anterior broadly rounded, posterior inflated giving rise to a triangular aspect in side view; surface finely punctate; inner lamellar elements and muscle scars are indistinct; right valve larger than left and overlaps it. A narrow prominant fine ridge encirles the peripheral margin is broken posteriorly and branched centrally creating two constrictions.

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	Length	*Height*	*Width*
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Paratype	0.55 mm.	0.28 mm.	
	0.57 mm.	0.28 mm.	

Remarks. This species differs from *C. jucosa* (Jones 1884), *C. eastfieldensis* Bate 1963, and *C. paraweberi* Oertli 1957 in the nature, mode of the peripheral margin and its central distribution and in the presence of two lateral constrictions.

Occurrence. Cytherelloidea sp. is recorded from the Dogger of boreholes p. 226 and p 274 of KTDS and Ain-Khuneizier area.

Family CYPRIDIDAE Baird, 1850
Subfamily CYPRIDINAE Baird, 1850
Genus **Leiria** Helmdach, 1971
Leiria striata Helmdach
Plate 1, fig. 9

1971 *Leiria striata* Helmdach, 1971, p. 59, pl. 11, figs. 1-2.

Remarks. The species is very closed to *Leiria striata* Helmdach, 1971, but differs in possessing a rather ovate, rounded, triangular outline; a concave posteroventral margin; prominant fine normal pore canals distributed over the surface; and of lesser dimensions. It also differs from *Timiriasevia mackerrowi* Bate, 1965, in having a surface with regularly running unbranched fine longitudinal ribs.

Dimensions. Length, 0.40 mm.; height, 0.26 mm.

Occurrence. It is found in the Bajocian of borehole P. 226 of KTDS.

Superfamily CYTHERACEA Baird, 1850
Family BYTHOCYTHERIDAE Sars, 1926
Genus **Monoceratina** Roth, 1928
Monoceratina sp.
Plate 1, fig. 10

Description. Outline elongate, subrectangular; dorsal margin straight and parallel to the ventral; anterior narrowly rounded, posterior tapers, triangular; posterodorsal slope meets with a straight posteroventral margin. In side view, a median sulcus extends toward ventrocentral portion, surrounded by prominant inflation, front and behind; posterior one strongly projects posteroventrally creating a rudimentary wing. A «V» shaped flattened area is present on the ventral area which is delimited laterally by the posteroventral projections. Inner lamellar characters indistinct. Normal pore canals distributed over the surface. Left valve larger than right and overlaps it, and forming a compressed margin at both ends.

Dimensions. Length, 0.46 mm.; height, 0.20 mm.; width, 0.17 mm.

Remarks. The described species bears some resemblance to *Monoceratina sp. cf. M. scorbiculata* Trieble and Bartenstein, Bate, 1963a; but it differs in possessing a slight convex posterodorsal slope in left valve, undivided carapace into two lobes as a result of the presence of the median sulcus, and the presence of pore canals. It also differs from *M. scorbiculata* Trieble and Bartenstein in the abscence of the protruded posteroventral wings and of lesser dimensions.

Occurrence. The described species from the Bajocian of P. 226 of the KTDS.

Family SCHULERIDEIDAE Mandelstam, 1959
Subfamily SCHULERIDEINAE Mandelstam, 1959
Genus **Schuleridea** Swartz and Swain, 1946
Schuleridea triangularis Swartz and Swain
Plate 1, figs. 11-12

1946 *Schuleridèa triangularis* Swartz and Swain, p. 369, pl. 53, figs. 12-14.

Remarks. The recorded specimens are closely similar to *Schuleridea triangularis* Swarts and Swain, 1946, except for possessing a prominant triangular posterior end; a slightly concaved posterodorsal and posteroventral margins; and lesser dimensions.

Dimensions.

Length	*Height*
0.49 mm.	0.38 mm.
0.59 mm.	0.43 mm.

Occurrence. The species are recorded from the Bajocian of the borehole P. 226 and samples ZT-7 and 8, of KTDS.

Family Progonocytheridae
Sylvester-Bradley, 1948
Subfamily Progonocytherinae
Sylvester-Bradley, 1948
Genus **Acanthocythere** (Sylvester Bradley, 1956), emended Bate, 1963.

Acanthocythere aardaensis n.sp.
Plate 1, figs. 13-14-15

Derivation of name. After the locality.

Holotype. Female carapace.

Paratype. More than 10 specimens.

Type locality. Ain-Khuneizier Aarda area, 30 km. west of Amman.

Stratotype. Bathonian.

Diagnosis. Carapace oblong to subquadrate, tumide in side view, ornamented with triangular coarse ridges. Hinge lobodont.

Description. Outline subquadrate, oblong, tumide in side view; dorsal margin slightly curved, ventral nearly straight; anterior end broadly rounded, posterior obtusely rounded. Ornamentation consists of three triangular coarse ridges, radiate from centrodorsal margin obliquely towards anterodorsal and posterodorsal portions and continue ventrolaterally as three curved longitudinal ridges creating a central triangle and irregular reticulation. Inner margin and line of concrescence visible, marginal zone narrow, selvage and flange distinct at both ends. Hinge lobodont. Normal pore canals visible over the surface. A possible eye spot is situated at the anterodorsal part. Left valve larger than right, overlaps it except for the centrodorsal and centroventral portions. A distinct, narrow, compressed marginal keel is developed around the anterior and posterior ends, partly reaches the anteroventral and posteroventral areas. Ventrolateral margins extend below the ventral area. Males narrower and longer than females.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.71 mm.	0.43 mm.	0.40 mm.
Paratype	0.74 mm.	0.38 mm.	0.40 mm.
	0.66 mm.	0.41 mm.	0.40 mm.

Remarks. The described specimens are similar to *Acanthocythere spiniscutulata* Sylvester-Bradley, 1956, in the outline, the triangular reticulated ridges, and hinge elements; but they differ in possessing coarse triangular ridges (not spinos), lesser reticulation, keel, larger dimensions, and sexual dimorphism.

Occurrence. The species is recorded from the Bathonian of Ain-Khuneizier and Dier-alla sites.

Acanthocythere bakeri n.sp.
Plate 2, figs. 1-2-3-4

Derivation of name. Dedicated to my son.

Holotype. One carapace.

Paratype. A few specimens.

Type locality. Ain-Khuneizier, 30 km. west of Amman.

Stratotype. Bathonian.

Diagnosis. Carapece ovate, tumid; obtusely tapering towards posterior; marginal keel like element encircles anterior and posterior ends; surface ornamented with complex reticulation. Hinge lobodont.

Description. Outline ovate, tumid in side view; dorsal margin of left valve concave mid dorsally, nearly straight ventrally; dorsal margin of right valve slightly curved and nearly straight ventrally; anterior broadly rounded, sloping obliquely anterodorsally; posterior bluntly obtuse. Surface ornamented with two to three triangular ridges, radiate from centrodorsal margin obliquely towards anterodorsal and posterodorsal, continue ventrally as longi-

tudinal thin ridges, centrally broken up into complex reticulation. Inner margin and line of concrescence coinsided; marginal zone wide, crossed by few straight marginal canals; selvage and flange distinct around the margin. Hinge lobodont same as the genus. Normal pore canals distinct and distributed over the surface. A shiny eye spot is situated below the anterodorsal area. Left valve larger than right and overlaps it except for the ventral margin, where ventrolateral portions of each valve extends below the ventral margin. Sexual dimorphism is not observed.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.67 mm.	0.40 mm.	0.40 mm.
Paratype	0.67 mm.	0.41 mm.	0.39 mm.
	0.67 mm.	—	0.39 mm.

Occurrence. The species *A. bakery* n. sp. is recorded from the Bathonian of the Ain-Khuneizier area.

Genus **Glyptocythere** Brand and Malz, 1962

Glyptocythere huniensis n.sp.

Plate 2, figs. 5-6-7-8-9

Derivation of name. After the Wadi Huni area.

Holotype. Female carapace.

Paratype. A few specimens.

Type locality. Wadi Huni, 35 km. northwest of Amman.

Stratotype. Bathonian.

Diagnosis. Carapace subtriangular, ovate; posterior acutly rounded; surface ornamented with three thick, wrinkled, discontinued ridges; a few normal pore canals are present. Hinge entomodont.

Description. Outline subtriangular, ovate in side view; dorsal margin either strongly convex as in case of females or curved as in males, ventral margin nearly straight; anterior rounded, posterior acutly rounded in the left valve and obtuse in the right valve. Ornamentation is composed of three prominant, thick, raised, wrinkled ridges; the acute centrodorsal is linked with median and ventral ones in females, while they are short, discontinued, wrinkled, in males, sometines connected and arranged in a triangular form. This complex pattern creats two depressions in the central area. Inner margin and line of concrescence obscure, selvage and outer margin narrow and crossed by a few pore canals. Hinge entomodont. Normal, rounded, small, pore canals are present over the surface. An eye spot is found in the anterodorsal portion. Left valve is larger than the right and overlaps it all around except for the ventral area, where ventrolateral margins extend ventrally. The overlapping creats a small, narrow, rim around both ends. Females shorter and higher than males.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.46 mm.	0.33 mm.	0.28 mm.
Paratype	0.49 mm.	0.28 mm.	
	0.47 mm.	0.28 mm.	0.27 mm.

Remarks. The described specimens bears some resemblance to *Glypotocythere rudimenta* Brand and Malz, 1966, in possessing rudiment central ridges and entomodont hinge elements; but they differ in having three thick, raised, ridges, two central depressions or more, a few normal pore canals, and lesser dimensions.

Occurrence. The specimens are recorded from the Bathonian of the Wadi Huni.

Type species **Glyptogatocythere** malzi n.gn.n.sp.

Glyptogatocythere n.gn.

Derivation of name. In alluding to Glyptocythere and Fastigatocythere.

Diagnosis. Carapace subquadrate, ovate, triangularly plumped centrally, encircled by a compressed, thick, broad, marginal keel, except for the centroventral area; ornamented with subtriangular ridges, differentiated into three parallel, thick, short ones extending from posterior end towards centre. Hinge intermediate between Glyptocythere and Fastigatocythere; normal pore canals distributed over the surface.

Glyptogatocythere malzi n.sp.

Plate 2, figs. 10-11-12-13

Plate 3, figs. 1-2

Derivation of name. Dedicated to Dr. Heinz Malz.

Holotype. One female carapace.

Paratype. Few specimens.

Type locality. KTDS, 45 km. northwest of Amman.

Stratotype. Bathonian.

Diagnosis. Same as for the genus which is monospecific.

Description. Outline subquadrate, ovate, plumped centrally in a triangular form; dorsal margin curved, ventrally straight; anterior broadly rounded, posterior obtuse triangular. Surfase ornamented with three triangular ridges, radiate from centrodorsal margin obliquely towards both ends, continue ventrolaterally as longitudinal curved ridges that extend below the ventral margin of each valve, occasionally become raised, thick, short, crossing the central plumped area from posterior end. Inner margin and line of concrescence coinsided, marginal pore canals cross the broad marginal zone, selvage prominant around the margin surrounded by the flange at both ends. Hinge intermediate between *Glyptocythere* and *Fastigatocythere*, consists of a curved dentate anterior and posterior grooves with a prominant anteromedian lobate boss, followed by a lon posteromedian ridge partly denticulated in th left valve, right valve with the correspondin elements. Normal pore canals, rounded an distributed all over the plumped area. Muscl scars invisible. Left valve larger than right an overlaps it except for the centroventral margir Male longer and narrower than females.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.62 mm.	0.37 mm.	0.40 mm.
Paratype	0.65 mm.	0.40 mm.	0.35 mm.
	0.75 mm.	0.41 mm.	

Occurrence. This species is recorded fror the Bathonian beds.

Genus **Micropneumatocythere** Bate, 1963

Micropneumatocythere cf. **M. convexa** Bate

Plate 3, figs. 3-4-5-6

1963 *Micropneumatocythere convexa* Bat p. 29, pl. 2, figs. 12-13, pl. 3, figs. 1-5.

Remarks. Although the recorded specimen bear fundemental affinities to *Micropneum tocythere convex*, Bate, 1963b, but they diffe in possessing mostly regular rectangular ret culations distributed all over the carapace.

Dimensions.

Length	*Height*	*Width*
0.42 mm.	0.26 mm.	0.27 mm.
0.48 mm.	0.25 mm.	0.25 mm.
0.50 mm	0.25 mm.	0.24 mm.

Occurence. The recorded specimens ar found in the Aalenian of the borehole P. 22 and in samples ZT-7 and 8, of KTDS.

Diagnosis. Carapace subquadrate, ovate, triangularly plumped centrally, encircled by a compressed, thick, broad, marginal keel, except for the centroventral area; ornamented with subtriangular ridges, differentiated into three parallel, thick, short ones extending from posterior end towards centre. Hinge intermediate between Glyptocythere and Fastigatocythere; normal pore canals distributed over the surface.

Glyptogatocythere malzi n.sp.

Plate 2, figs. 10-11-12-13

Plate 3, figs. 1-2

Derivation of name. Dedicated to Dr. Heinz Malz.

Holotype. One female carapace.

Paratype. Few specimens.

Type locality. KTDS, 45 km. northwest of Amman.

Stratotype. Bathonian.

Diagnosis. Same as for the genus which is monospecific.

Description. Outline subquadrate, ovate, plumped centrally in a triangular form; dorsal margin curved, ventrally straight; anterior broadly rounded, posterior obtuse triangular. Surfase ornamented with three triangular ridges, radiate from centrodorsal margin obliquely towards both ends, continue ventrolaterally as longitudinal curved ridges that extend below the ventral margin of each valve, occasionally become raised, thick, short, crossing the central plumped area from posterior end. Inner margin and line of concrescence coinsided, marginal pore canals cross the broad marginal zone, selvage prominant around the margin surrounded by the flange at both ends. Hinge intermediate between *Glyptocythere* and *Fastigatocythere*, consists of a curved dentate anterior and posterior grooves with a prominant anteromedian lobate boss, followed by a long posteromedian ridge partly denticulated in the left valve, right valve with the corresponding elements. Normal pore canals, rounded and distributed all over the plumped area. Muscle scars invisible. Left valve larger than right and overlaps it except for the centroventral margin. Male longer and narrower than females.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.62 mm.	0.37 mm.	0.40 mm.
Paratype	0.65 mm.	0.40 mm.	0.35 mm.
	0.75 mm.	0.41 mm.	

Occurrence. This species is recorded from the Bathonian beds.

Genus **Micropneumatocythere** Bate, 1963

Micropneumatocythere cf. **M. convexa** Bate

Plate 3, figs. 3-4-5-6

1963 *Micropneumatocythere convexa* Bate, p. 29, pl. 2, figs. 12-13, pl. 3, figs. 1-5.

Remarks. Although the recorded specimens bear fundemental affinities to *Micropneumatocythere convex*, Bate, 1963b, but they differ in possessing mostly regular rectangular reticulations distributed all over the carapace.

Dimensions.

Length	*Height*	*Width*
0.42 mm.	0.26 mm.	0.27 mm.
0.48 mm.	0.25 mm.	0.25 mm.
0.50 mm	0.25 mm.	0.24 mm.

Occurence. The recorded specimens are found in the Aalenian of the borehole P. 226 and in samples ZT-7 and 8, of KTDS.

Genus **Terquemula** Blaszyk and Malz, 1965

Terquemula sp.

Plate 3, fig. 7

Description. Outline elongate to subrectangular; dorsal and ventral margins straight and parallel; anterior and posterior ends narrow, rounded, with distinct, narrow, slightly raised marginal rim.

Ornamentation consists of pentagonal to hexagonal reticulation distributed over the surface. Marginal zone wide but other inner lamellar details are obscure. Hinge entomodont.

Dimensions. Length, 0.61 mm; height 0.23 mm.

Remarks. The described specimen differs from *Terquemula blakeana* (Jones), Bate, 1969; *T. parallela* Blaszyk and Malz, 1965; and *T. bradiana* (Jones), 1884, in the mode of the anterior and posterior ends, in the type of reticulation and in the absence of normal pore canals. It also bears some resemblance to *T. blakeana* (Jones), Bate, 1969 in possessing a narrow posterior and anterior ends.

Ocurrence. This species is found in the Bajocian of the Ain-Khuneizier area.

Subfamily Pleurocytherinae Mandelstam, 1960

Genus **Pleurocythere** Trieble, 1951

Pleurocythere sp.

Plate 3, figure 8

Remarks. The species is characterised by an elongate outline; dorsal and ventral margins suightly concave towards the anterior third; anterior broadly rounded, posterior triangular and blunt. Surface is pitted and ornamented with a median sigmoidal ridge, two anterodorsal ones disconnected with the median, and two ventral ones running parallel to the ventral margin. Marginal zone wide, with a thin flange developed ouside selvage on both ends. Hinge merodont. Although it resembles *Pleurocythere kirtonensis* Bate, 1963a, but differs in possessing a blunt, triangular posterior; concaved dorsal and ventral margins; different ridge arrangements and numbers; and lesser dimensions.

Dimensions. Length, 0.34 mm.; height, 0.20 mm.

Ocurrence. It is found in the Bajocian of borehole P. 226, of KTDS.

Family Protocytheridae Ljubimova, 1955

Subfamily Kirtonellinae Bate, 1963

Genus **Ektyphocythere** Bate, 1963

Ektyphocythere dierallaensis n.sp.

Plate 3, figs. 9-10-11-12

Derivation of name. After the Dier-alla, 50 km. west of Amman.

Holotype. One female carapace.

Paratype. More than 10 specimens.

Type locality. Wadi Huni, 30 km. northwest of Amman.

Stratotype. Bajocian.

Diagnosis. Carapace subtriangular to subquadrate, tumid; posterior end obtuse; lateral ventral boarders extend below the ventral margin; ornamented with trianular ridges. Hinge antimerodont. Normal pore canals numerous, distributed over the surface.

Description. Carapace subtriangular to subquadrate, tumid; dorsal margin convex, ventral nearly straight; anterior broadly rounded, posterior obtusely rounded. Ornamentation composed of three triangular ridges project from centrodorsal area obliquely towards both ends, continue ventrolaterally as three to four longitudinal curved ones which are broken up centrally into irregular coarse reticulation. Inner margin, line of concrescence, and marginal pore canals indistinct; flange is developed around the selvage at both ends. Hinge antimerodont, consists of terminal loculate grooves and a strong dentated median ridge above which is an elongate shelf like groove in the left valve, right with the corresponding other hinge elements. Numerous, rounded, nor-

mal pore canals distributed over the serface. An eye spot is suggested in the anterodorsal area. Left valve larger than right, creating a narrow, thick, rim on both ends. Ventrolateral boarders extend below the ventral margin. Males longer and less higher than females.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.47 mm.	0.32 mm.	0.34 mm.
Paratype	0.53 mm.	0.30 mm.	
	0.58 mm.	0.30 mm.	0.32 mm.

Remarks. The described species resemble *Ektyphocythere triangulata* Bate, 1963, but it differs in loosing the anteromedian bulge of the right valve; and in possessing three triangular ridges, three to four longitudinal ventral ridges, a strongly median dentated ridge over which is an elongate shelf like groove, and of lesser dimensions.

Occurrence. The species is recorded from the Bajocian of borehole P. 226 of KTDS, Wadi Huni, Dier-alla, and Ain-Khuneizier areas.

Ektyphocythere oblonga n.sp.

Plate 3, figs. 13-14-15

Plate 4, fig. 1

Derivation of name. After the shape of the species.

Holotype. One female carapace.

PLATE 1

All magnifications × 100

Figs. 1-2. *Cytherella oertlii* n. sp.
1. Dorsal view of female holotype carapace.
2. External view of right side, female holotype carapace.

Fig. 3. *Cytherelloidea aazourensis* Bischoff,
External view of right valve.

Figs. 4-5. *Cytherelloidea besrineensis* Bischoff,
4. External view of right side.
5. Dorsal view.

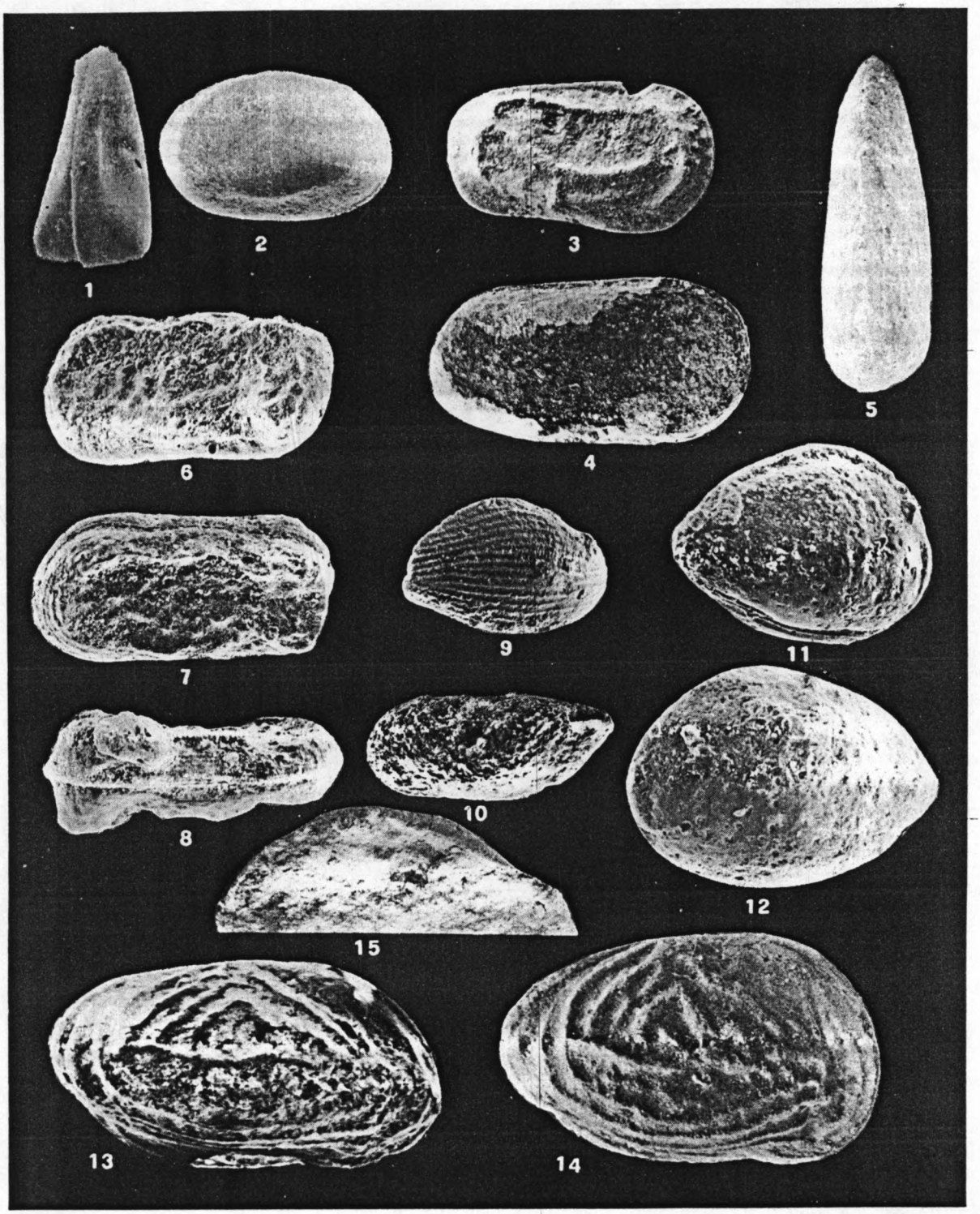
Figs. 6-8. *Cytherelloidea* sp.
6. External view of left side, holotype carapace.
7. External view of left side, showing the overlapping of right valve, holotype carapace.
8. Dorsal view of holotype carapace.

Fig. 9. *Leiria striata* Helmdach,
External view of right valve.

Fig. 10. *Monoceratina* sp.
External view of left valve.

Figs. 11-12. *Schuleridae triangularis* Swartz and Swain,
11. External view of right side, female carapace.
12. External view of left side, male carapace.

Figs. 13-15. *Acanthocythere aardaensis* n. sp.
13. External view of left side, male holotype carapace.
14. External view of left side, female paratype carapace.
15. Internal view of the hinge line of right valve, paratype.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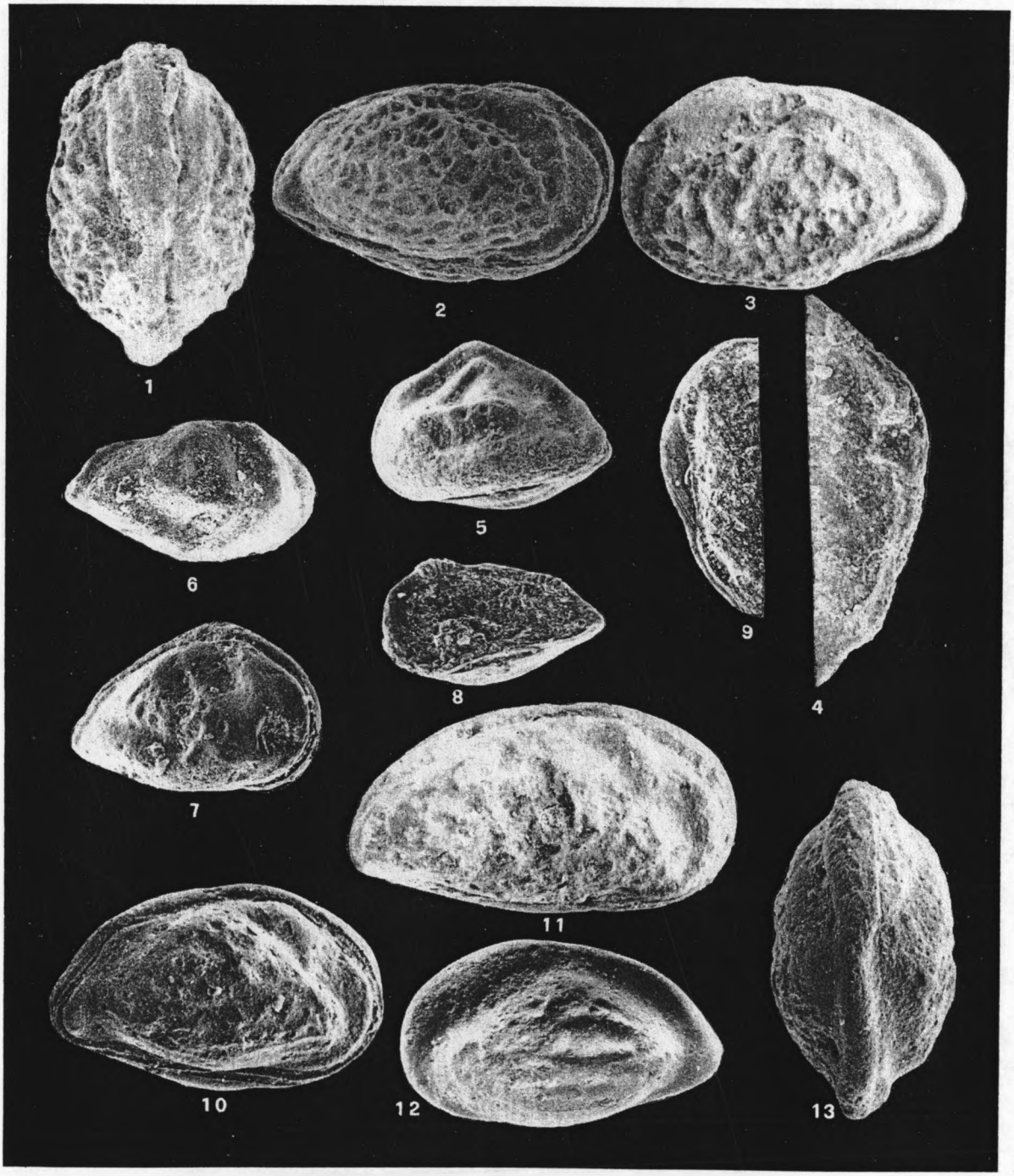
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Paratype. A few specimens.

Type locality. Borehole P. 274 of KTDS, 45 Km. northwest of Amman.

Stratotype. Bathonian.

Diagnosis. Carapace elongate, ovate to subtriangular; anterior rounded, posterior obtuse, drawnout; ornamented with three to four triangular ridges; with two anterodorsal depressions on each valve; and with a narrow, thick, rim like on both ends. Hinge antimerodont.

Description. Outline elongate, ovate to subtriangular; dorsal margin curved, ventral slightly straight; anterior rounded, posterior obtuse or acutly drawnout. Surface ornamented with three to four triangular ridges, project from centrodorsal portion obliquely towards anterodorsal and posterodorsal parts, continue ventrally as three longitudinal curved ridges, where they are broken centrally into complex reticulation. Inner margin and line of concrescence fused, marginal zone broad, marginal pore canals a few and straight, selvage encircled the margin and with a flange developed at both ends. Hinge antimerodont. Normal pore canals numerous and distributed all over the carapace. Eye spot possibly situated at the anterodorsal area. Left valve larger than right and overlaps it except for the centroventral part creating a narrow rim like thickining at both ends. Two anterodorsal depressions are seen from dorsal view and ventrolateral margins, extend below the ventral area of each valve. Females shorter and higher than the males.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.42 mm.	0.20 mm.	0.16 mm.
Paratype	0.61 mm.	0.35 mm.	0.25 mm.
	0.35 mm.	0.23 mm.	0.18 mm.

Occurrence. This species is found in the Bathonian of the borehole P. 274 of KTDS.

PLATE 2

All magnifications × 100

Figs. 1-4. *Acanthocythere bakeri* n. sp.
1. Dorsal view of holotype carapace.
2. External view of right side, holotype carapace.
3. External view of left side, paratype carapace.
4. Internal view of the hinge line, right valve paratype.

Figs. 5-9 *Glyptocythere huniensis* n. sp.
5. External view of left side, female holotype carapace.
6. External view of right valve, male paratype.
7. External view of right side, female paratype carapace.
8. Internal view of the hinge line of right valve, juvenile.
9. Internal view of the hinge line of left valve, female paratype.

Figs. 10-13. *Glyptogatocythere malzi* n. gn. n. sp.
10. External view of right side, female, holotype carapace.
11. External view of right side, male paratype carapace.
12. External view of left valve, female paratype.
13. Dorsal view of female holotype carapace.

Ektyphocythere triangula (Brand)

Plate 4, figs. 2-3-4

1961 Procytheridea triangula Brand, p. 161, pl. 1, figs. 11, 12, 13, 14.

1963 Ektyphocythere triangula (Brand), Bate, pp. 214-215, pl. 14, figs. 5, 6, 7, 8.

Remarks. The recorded species possess same characteristic elements of *Ektyphocythere triangula* (Brand), Bate, 1963, except for minor modifications such as the disappearance of the centrodorsal bulge and the smaller dimensions.

Dimensions.

Length	*Height*
0.47 mm	0.28 mm.
0.47 mm.	0.23 mm.
0.41 mm.	0.27 mm.

Occurrence. It is recorded from the Bajocian-Bathonian of all studied areas.

Ektyphocythere zerqaensis n.sp.

Derivation of name. After the Zerqa River, 35 km. northwest of Amman.

Holotype. One female carapace.

Paratype. A few specimens.

Type locality. Borehole P. 226 of KTDS, 45 km. northwest of Amman.

Stratotype. Bajocian.

Diagnosis. Carapace subtriangular, tumid; two anterodorsal depressions are seen in dorsal view; ornamented with triangular ridges all over the surface; hinge antimerodont.

Description. Outline subtriangular, tumid; dorsally convex, ventrally nearly straight, anterior broadly rounded in females, narrowly

PLATE 3

All magnifications × 100 except where it is specified

Figs. 1-2 *Glyptogatocythere malzi* n. gn. n. sp.
1. Internal view of the hinge of left valve, female paratype.
2. Side view of median ridge of left valve, female paratype.

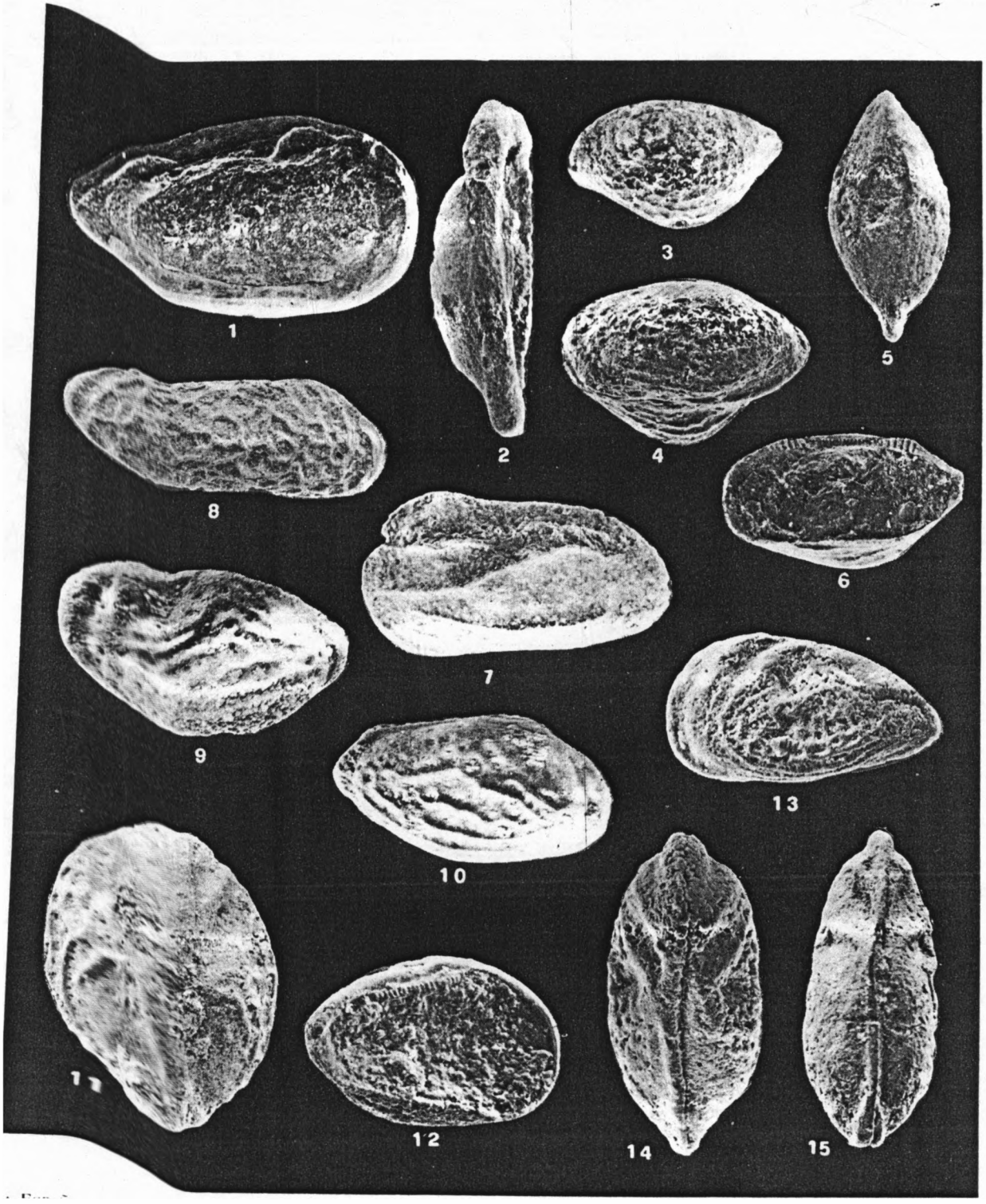
Figs. 3.6. *Micropneumatocythere* cf. *M. convexa* Bate,
3.4. External views of left side, female and male carapaces.
5. Dorsal view of male carapace.
6. Internal view of the hinge line of male right valve.

Fig 7. *Terquemula* sp.
External view of right valve, × 200.

Fig. 8. *Pleurocythere* sp.
External view of left valve.

Figs. 9-12. *Ektyphocythere dierallaensis* n. sp.
9. External view of left valve, female holotype.
10. External view of right valve, male paratype.
11. Dorsal view of female paratype carapace.
12. Internal view of the hinge line of left valve, female paratype.

Figs. 13-15. *Ektyphocythere oblonga* n. sp.
13. External view of left side, female holotype carapace.
14-15. Dorsal views of male paratype carapaces.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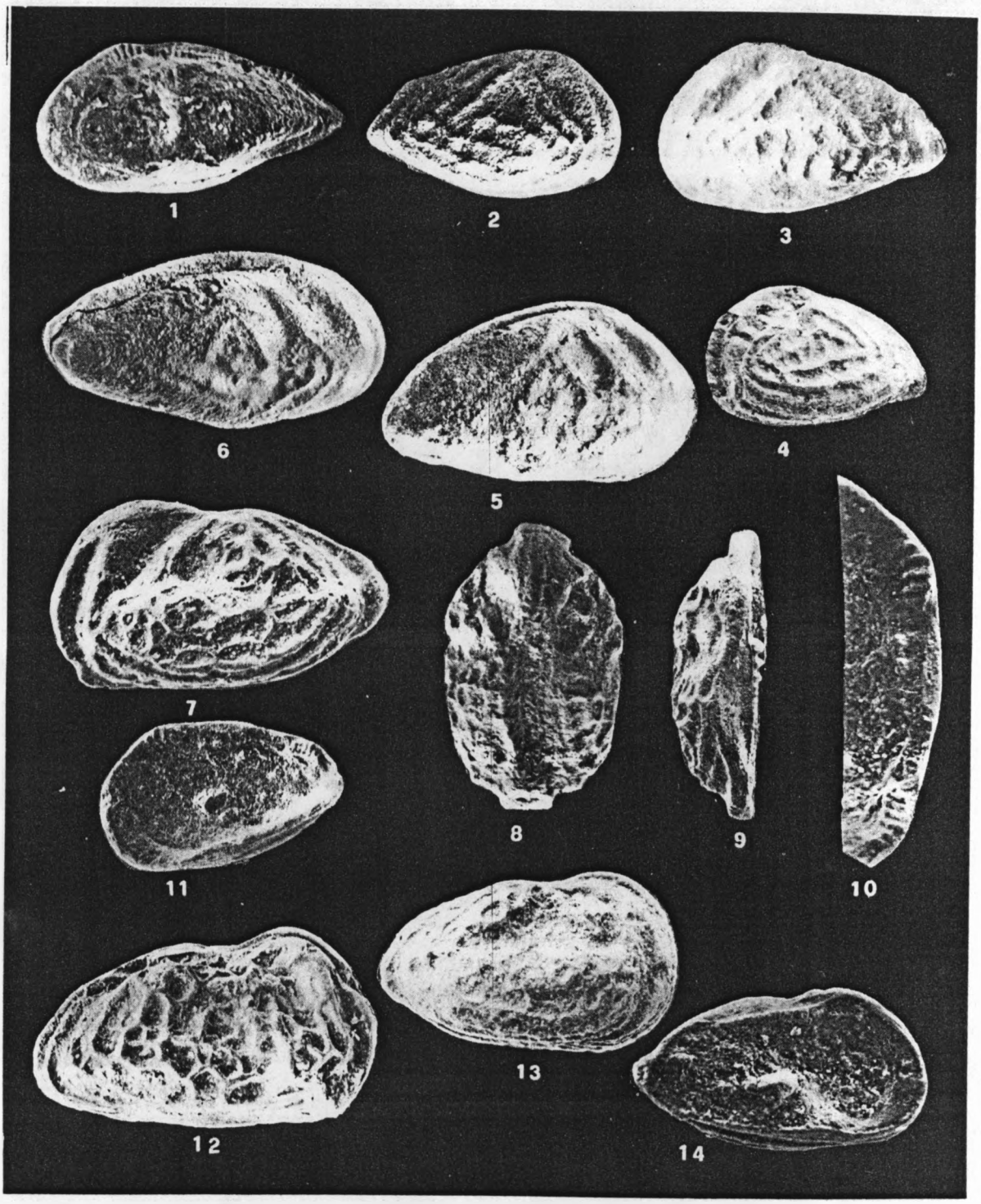
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rounded in males ,posterior obtuse, triangular. Ornamentation is composed of triangular ridges radiate from centrodorsal margin, running obliquely towards anterodorsal, posterodorsal, continue ventrally, and over the surface. Inner lamella and marginal pore canals indistinct due to preservation. Hinge antimerodont. A few normal pore canals distributed over surface while central ones large and rounded, Left valve larger than right, overlapping it, showing two anterodorsal depressions in side view and the lateral margins extend below the ventral area. Females shorter and higher than males.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.55 mm.	0.32 mm.	0.25 mm.
Paratype	0.58 mm.	0.33 mm.	0.26 mm.
	0.53 mm.	0.31 mm.	
	0.62 mm.	0.30 mm.	0.27 mm.

Remarks. The described species is mainly characterised by the triangular ridge pattern over the surface, and by the few large, rounded, normal pore canals. Maync, 1965, demonstrated a similar form as *Procytheridea n. sp. YZ* nomen nodum from Israel; but recently, smooth valved specimens can be related to the genus *Procytheridea*, so that sculptued are excluded.

Occurrence. This species is recorded from the Bajocian of borehole P. 226 of KTDS.

Zerqacythere n.gen.

Type species. Zerqacythere subiehiensis n. sp.

Derivation of name. After the Zerqa River locality and the genus Cythere.

Diagnosis. Carapace subtriangular, ovate to elongate; dorsal margin slightly concave in

PLATE 4

All magnifications × 100

Fig. 1. *Ektyphocythere oblonga* n. sp.
Internal view of the hinge line of right valve, female paratype.

Figs. 2-4. *Ektyphocythere triangula* (Brand),
2. External view of female right valve.
3. External view of male left valve.
4. External view of juvenile left valve.

Figs. 5-6. *Ektyphocythere zerqaensis* n. sp.
5. External view of right valve, female holotype carapace.
6. External view of right side, male paratype carapace.

Figs. 7-11. *Zerqacythere subiehiensis* n. gn. n. sp.
7. External view of left valve, male holotype.
8. Dorsal view of female paratype carapace.
9. Side view of the denticulated bar of left valve, female paratype.
10-11. Internal views of the hinge line of right valve, female paratype.

Figs. 12-14. *Zerqacythere huniensis* n. sp.
12. External view of right side, male holotype carapace.
13. External view of right valve, female paratype.
14. Internal view of the hinge line of left valve, female paratype.

the left valve, right valve convex, ventrally nearly straight; anterior broadly rounded, posterior blunt, obtuse triangular. Surface ornamented with triangular ridges developing into complicated reticulation supported by two to three prominant, raised tubercules; hinge modified from lobodont, with three, large, prominant teeth in the anteromedian groove in the left valve. Left valve larger than right.

Zerqacythere subiehiensis n.sp.

Plate 4, figs. 7-8-9-10-11

Derivation of name. After the subiehi locality.

Holotype. One male valve.

Paratype. A few carapaces and valves.

Type locality. Zerqa River, 35 km. northwest of Amman.

Stratotype. Bathonian.

Diagnosis. The type species retains most characters of the genus which are monospecific.

Description. Outline subtriangular, ovate to elongate; dorsal margin of left valve slightly concave, right valve convex, ventrally nearly straight; anterior end broadly rounded, posterior blunt, obtuse triangular. Each valve possesses a small dorsomedian bulge projects slightly above the dorsal margin, from which emenating three, thick, triangular ridges, running obliquely anterodorsally, posterodorsally, and ventrally as longitudinal ridges. These ridges are broken up centrally into coarse reticulation and creating three prominant tubercules distributed in the anterodorsal, anteroventral, and the posterodorsal parts interrupted by depressions on each valve. Inner margin coinsided with the line of concrescence, marginal zone is broad and crossed by marginal pore canals, selvage and outer margin enclosed by a flange at both ends. Hinge developed from lobodont type, consists of terminal dentated ridges (5-6 teeth), anteromedian loculate pit, and posteromedian locellate groove in right valve; left valve terminal grooves loculated, followed by three prominant teeth in the anteromedian part, decreasing in size as added posteriorwards, and denticulated bar. Large, rounded, normal pore canals distributed over the surface. An eye swelling is situated in the anterodorsal area. Left valve larger than right, overlapping it, creating broad rim at both ends except for mid dorsal margin; ventrolateral portion extend below ventral margin. Males longer and higher than females.

Dimensions.

	Length	*Height*	*Width*
Holotype	0.63 mm.	0.36 mm.	
Paratype	0.55 mm.	0.31 mm.	0.33 mm.
	0.46 mm.		0.30 mm.

Remarks. The described species is characterised by its pattern of ornamentation, the thick broad marginal rim at both ends, the hinge arrangements, and the sexual dimorphism.

Occurrence. It is recorded from the Bathonian of Ain-Khneizier area.

Zerqacythere huniensis n.sp.

Plate 4, figs. 12-13-14

Derivation of name. After the Wadi Huni.

Holotype. One male right valve.

Paratype. A few specimens.

Type locality. Borehole P. 226 of KTDS., [illegible]

Stratotype. Bathonian.

Diagnosis. Carapace ovate; dorsal margin concave in the centrodorsal area; obtusely tapering towards posterior; ornamented with prominant triangular ridge, broken up into quadrate to hexagonal reticulation; a dorsomedian depression and a prominant anterocen-

tral tubercle are present on each valve. Hinge same as for the genus.

Remarks. This species resembles the type species in possessing a straight ventral margin, a wide rounded anterior; similar inner lammellar aspects, hinge elements, shiny eye spot, and a dorsomedian depression. It differs by having a centrodorsal margin for both males and females, quadrate to hexagonal reticulations, a narrower marginal rim, and a lonely anterocentral tubercle.

Dimensions.

	Length	*Height*
Holotype	0.66 mm.	0.32 mm.
Paratype	0.55 mm.	0.30 mm.

Occurrence. The species is found in the Bathonian of borehole P. 226 of KTDS.

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