

The Ostracode Genus *Cytheropteron* From Jaddala Formation of NW Iraq

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Abstract

Four ostracoda species have been described From the Lower part of Jaddala Formation (Late Early Eocene) of north western Iraq, of which three are new: *Cytheropteron sinjarensis* sp.nov , *Cytheropteron iraqensis* sp.nov., *Cytheropteron zerwensis* sp.nov. and one is left in open nomenclature due to the lack of material : *Cytheropteron* sp.

Keywords : Ostracode *Cytheropteron* Jaddala Formation NW Iraq.

Material

This study has been conducted in the current research on the surface samples from the northern limb of the Sinjar anticline near Zerwa village north western Iraq which (Latitude 36° 25' 2.44" E - Longitude 41° 59' 6.98" N). (Fig.1)

Stratigraphy

Lithologically of the lower part Jaddala Formation consists of well bedded marl and marly limestone with abundant chert nodules, the lower contact of the Formation is unconformable with Aaliji Formation, the upper contact is unconformable with the early Miocene Serikagni Formation which marked by conglomeratic and some glauconitization. [1] (Fig.2), the present work is part of a project investigating, the (L.U. Eocene) ostracoda from Zerwa section, northern limb of Sinjar anticline NW. Iraq, at Geology Dept., Mosul University, All the Figured specimens are deposited at Mosul university with prefix

Mo. =Mosul university ,

T. = Tertiary collection ,

J. =Jaddala Formation.

Systematic description

Class: Ostracoda Latreille, 1806.

Order:Podocopida Muller,1894.

Super Family:Cytheracea Baird, 1850.

Family:Cytheruridae G.W. Muller,1894.

Subfamily: Cytheropterinae Hanai, 1957b.

Genus:*Cytheropteron* Sars,1866.

Type spcies:*Cythere latissima* Norman, 1865. p.19, p 1.6,figs.5-8

Cytheropteron sinjarensis sp. nov.

Pl.1, Figs. (1-4)

Derivation of name : From the type locality, the Sinjar anticline ,NW. Iraq.

Diagnosis :A species of the ostracode genus *Cytheropteron* of sub ovate carapace in lateral outline, inflated ventrally with ventrolateral swelling, which parallel to ventral margin, short caudal process at the middle .

Holotype: Carapace, Mo.T.J.3.1(Pl.1,figs1)

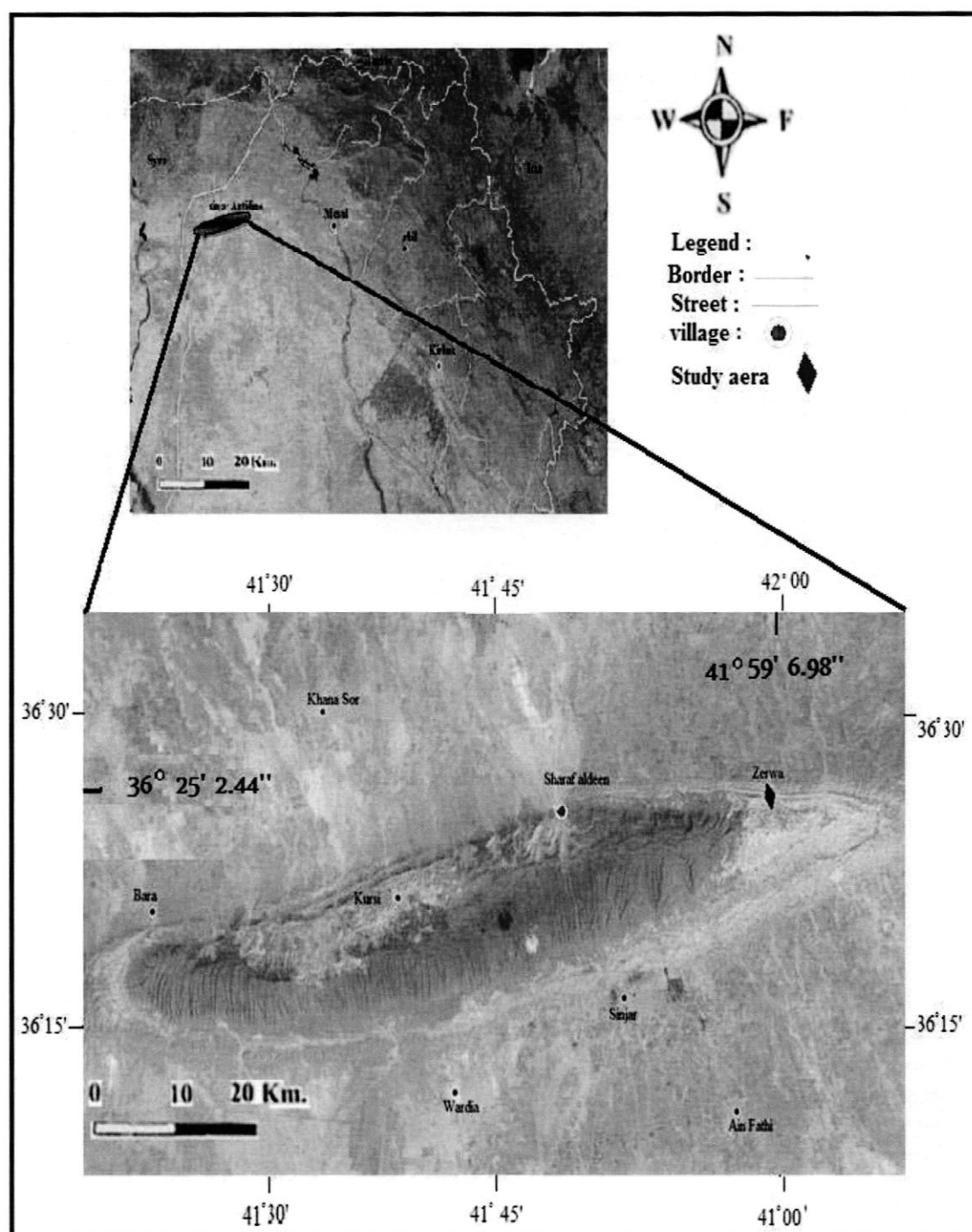
Paratype:Carapaces,Mo.T.J.4(1-3) (Pl.1,fig.2-4).

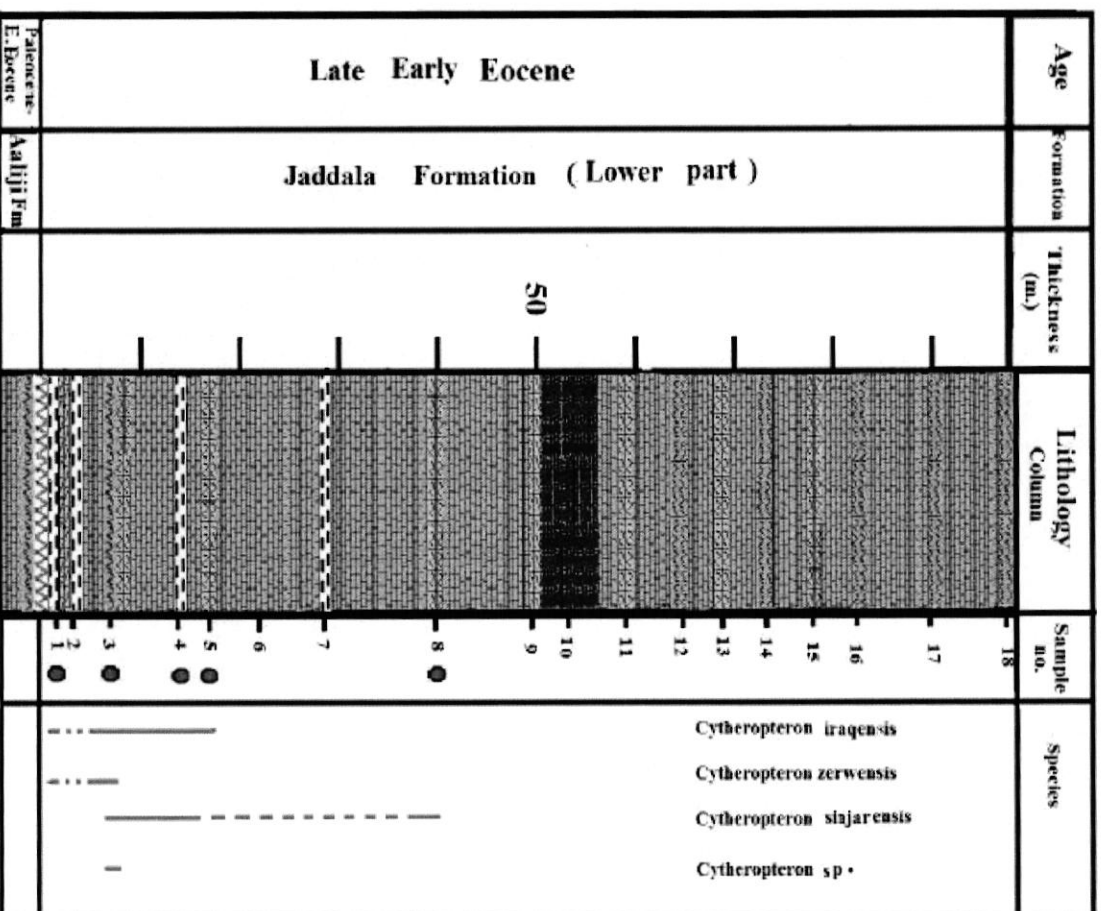
Type locality & Horizon : Jaddala Formation sample no.1,Sinjar anticline , northern limb, Zerwa village , NW. Iraq.

Materials : (9) Carapaces

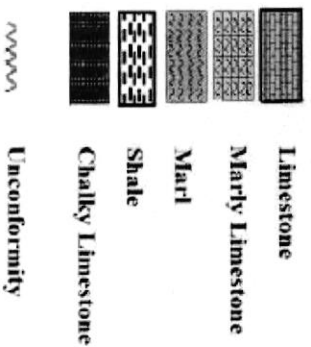
Dimensions(mm):	L.	H.	W.
Carapace(RV)Mo.T.J.3.1,Pl.1,Fig.1	0.36	0.20	-
Carapace(LV)Mo.T.J.4.1,Pl.1,Fig.2	0.35	0.21	-
Dorsal view Mo.T.J.4.2,Pl.1,Fig.3	-	-	0.20

Description : Carapace sub ovate in lateral outline inflated ventrally .Dorsal margin arched at greatest height in the middle. Ventral margin sinuate obscured with ventrolateral swelling. Posterior end angular with a short caudal process in the middle, Anterior end obliquely rounded directed ventrally. Lateral surface striated with rows of small pits-faint.





Legend:



reticulate in the middle with ventral small ridge, carapace in dorsal view Biconvex with compressed anterior and posterior ends, Greatest width slightly posterior to the middle, left valve overlaps right valve clearly for the dorsal margin.

Remarks : The present species is fairly similar to *Cytheropteron renzi* [2] from Oligocene – Miocene of Trinidad, but former differs in having more arched dorsal margin, arrow shaped in dorsal view and well developed pointed caudal process, also it shows some similarity to *C. dimlingtonensis* Neale & Howe which described by [3] from recent of Hornsund area in Arctic near Greenland sea, but the latter differs in having strong reticulate surface, and well developed pointed caudal process which up word turned. *Cytheropteron* sp. [4], from Paleocene of Tunisia, also shows similar to Iraq specimens but the former differs in having slightly more elongate caudal process, more compressed anterior and posterior ends, and having short postero-dorsal ridge on posterior cardinal angle. *C. lekefense* [5] from Tunisia in Danian differs in having three spines, three longitudinal ridge, sulcus extended out toward the margin and finely punctuate anteriorly, coarsely punctuate to reticulate centrally and posteriorly. It is easy separated Form C.sp2[6] by pointed posterior end, more convex dorsal margin and it's pointed alae and the surface of carapace is smooth.

Cytheropteron iraqensis sp. nov.

Pl.1, Figs.(5-8)

Derivation of name : From first occurrence in the Eocene of Iraq.

Diagnosis : A species of *Cytheropteron* with fish-like carapace in lateral outline, with well developed, pointed ventrolateral alae which running downward.

Holotype : Carapace, Mo.T.J.3.2 (Pl.1, fig.5).

Paratype : 3Carapaces Mo.T.J.5(1-3) (Pl.1, figs.6-8).

Type locality & Horizon : Jaddala Formation, sample no.3 Sinjar anticline, northern limb, Zerwa village, NW. Iraq.

Materials : (7) carapaces, 3 valve.

Dimensions(mm):	L.	H.	W.
Carapace(RV)Mo.T.J.3.2,Pl.1,Fig.5	0.45	0.25	-
Carapace(LV)Mo.T.J.5.1,Pl.1,Fig.6	0.46	0.26	-
Dorsal view Mo.T.J.5.3,Pl.1,Fig.8	-	-	0.35

Description : A species of *Cytheropteron* with a carapace fish-like shape in lateral view, with well developed pointed ventro-lateral alae which running downward. Anterior end evenly rounded. Posterior end with caudal process which dorso-caudal slope concave, ventro-caudal slope straight. Dorsal margin convex gently to the anterior. Ventral margin straight inclined up ward posteriorly. Lateral surface smooth, with pointed ventrolateral alae. Carapace sagittal in dorsal view, left valve overlaps right valve, maximum width behind the middle.

Remarks: The present species shows some similarities to *Cytheropteron aff. antaretica* Chapman which recorded by [7] from Quaternary & Recent of

south Indian ocean, but the latter differs in having more elongate blunt caudal process, and strongly punctate carapace. *Cytheropteron alatensis* [8] from recent deposits of California shows some similarities with present species, but the former differs having elongate and middle caudal process, and dorsal margin convex, sloping rather sharply down to an evenly rounded anterior end. The present species also shows some similarities to *Cytheropteron* sp.37[9] from Pleistocene deposits of Guyots in the western Pacific, but the latter differs in having some variation in the shape of the alae which directed posteriorly and strong pitted lateral surface. *Cytheropteron* sp.[10] from Eocene of Caribbean and North Atlantic, shows some affinities with the present species, the former differs in having middle elongate caudal process, and less convex dorsal margin. This species differs from *C. sinjarensis* sp.nov in having fish-like shape in lateral view and well developed ventro-lateral alae which is pointed. The present species show some affinities with *Cytheropteron jaddalense* [11] which is the latter more elongate, convexity dorsal margin, alae extension directed posteriorly. C.sp.2 [6] shows considerable variation in the shape of the alae which is less developed and running posteriorly.

Cytheropteron zerwensis sp. nov.

Pl.2, Figs.(1-4)

Derivation of name: Form the type locality in Zerwa village, NW. Iraq.

Diagnosis: A species of *Cytheropteron* with subrhomboidal shape in lateral outline, surface with pitted and tumid carapace

Holotype: Carapace Mo.T.J.3.3 (Pl.2, Fig.1).

Paratype: 3Carapace Mo.T.J.1(1-3) (Pl.2, figs.2-4).

Type locality & Horizon: Jaddala Formation, sample no.3 Sinjar anticline, northern limb, Zerwa village, NW. Iraq.

Material : (12) Carapaces and (2) valves

Dimensions(mm):	L.	H.	W.
Carapace(RV)Mo.T.J.3.3,Pl.2,Fig.1	0.35	0.22	-
Carapace(LV)Mo.T.J.1.2,Pl.2,Fig.2	0.36	0.23	-
Dorsal view Mo.T.J.1.3,Pl.2,Fig.3	-	-	0.24

Description : Carapace tumid Sub rhomboidal in lateral view. Dorsal margin convex at the greatest height, which slopping toward rounded anterior end. Ventral margin sinuate and upward produced posteriorly with narrow and rounded caudal process sub-dorsally greatest length through the mid-height. Maximum width behind the middle. Lateral surface strongly pitted. In dorsal view the carapace is an arrow-shaped.

Remarks: The present species shows some similarities to *Cytheropteron lapterensis* Stepanova which recorded by [3] from recent of Horsund (Greenland sea), but the later differs in having more tumid ventrolateral alae extension and reticulated ornamentation. *C. boukhary* [12] from Lower Eocene of Egypt, shows some similarities to the present species, but the former differs in having more broad anterior end. It's more rounded and higher posterior

margin. *C. lakefensis* [13] from (Maastrichtian – Danian) of Tunisia , shows some similarities to the present species, but the former differs in having, blunt short , more rounded caudal process and alae rounded end. *Cytheropteron* sp1[6] shows some affinities with present species but the former differs in having caudal process pointed end and the smooth lateral view. *C. iraqensis* sp . nov differs with *C. zewansis* but the former differs in having also well developed ventrolateral alae but directed posteriorly and pitted lateral surface.

Cytheropteron sp.

Pl.2,Figs.5,6

Material : one carapace.

Horizon: Jaddala Formation , Sinjar antic-line, Zerwa village sample no.J.3(4).

Dimensions(mm):

	L.	H.	W.
Carapace(RV)Mo.T.J.3.4,Pl.2, Fig.5	0.35	0.26	0.30

Description: Circular-subovate, thick, tumid carapace and inflated species of *Cytheropteron* with broad and strongly developed alae. Greatest length above the middle, maximum height behind the middle. Anterior end rounded ,ventral margin concave anteriorly and convex up turned posteriorly. Lateral surface smooth and marked with strong developed ventrolateral alae.

Remarks : The present species left under open name due to the lack of material but it easily distinguish by having distinct shape, ventrolateral alae which it's strong and well developed.

PLATE .1

Fig.1 External carapace right valve.X80
(Mo.T.J.3.1)

Fig.2 External carapace left valve.X80 (Mo.T.J.4.1)

Fig.3 Dorsal view.X80 (Mo.T.J.4.2)

Fig.4 ventral view.X80 (Mo.T.J.4.3)

Cytheropteron iraqensis sp.nov.

Fig.5 External carapace right valve.X80
(Mo.T.J.3.2)

Fig.6 External carapace left valve.X80
(Mo,T.J.5.1)

Fig.7 Ventral view.X80 (Mo.T.J.5.2)

Fig.8 Dorsal view.X80 (Mo.T.J.5.3).

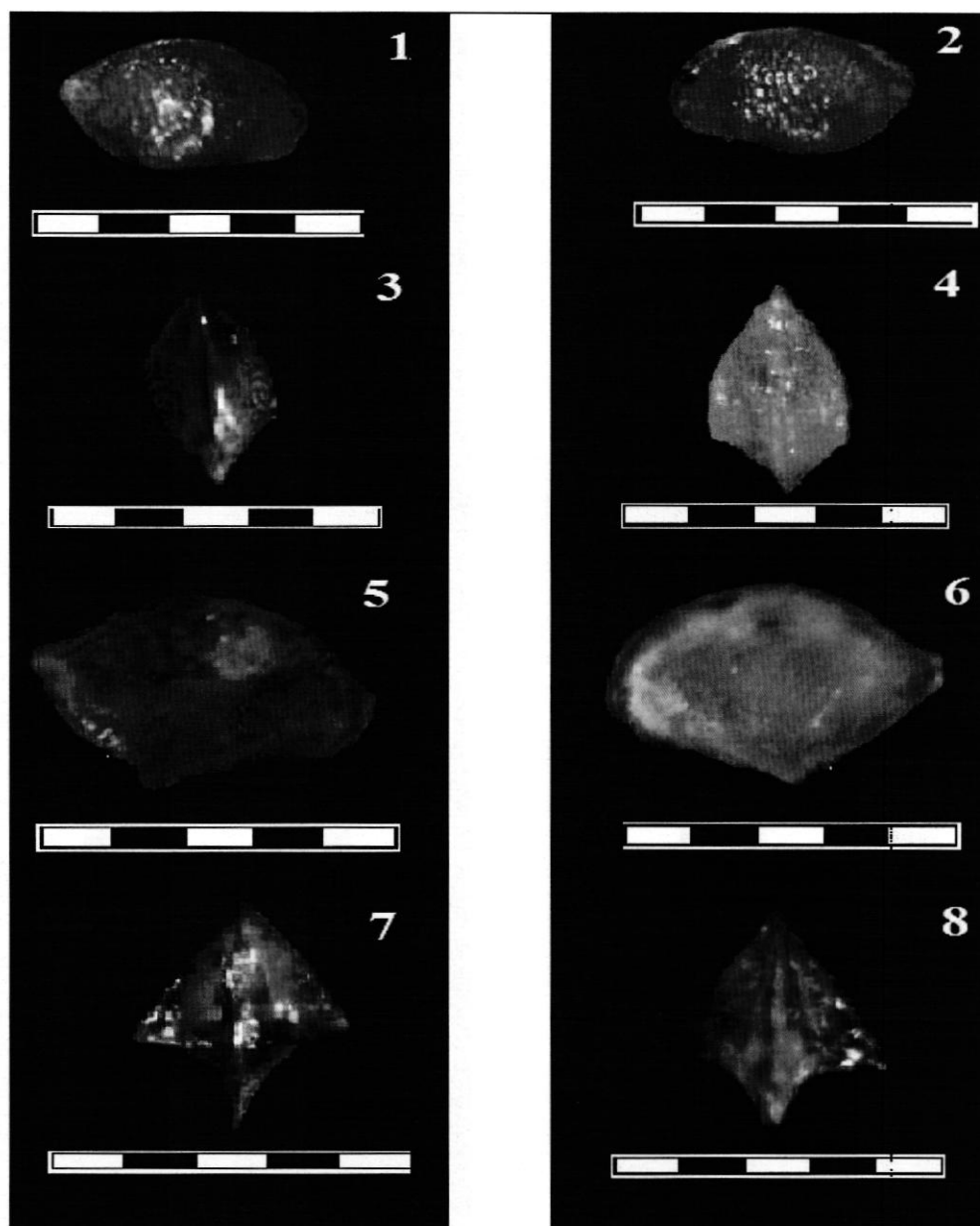


PLATE .2

Cytheropteron zerwensis sp. nov.

Fig.1 External carapace right valve. X80 (Mo.T.J.3.3).

Fig.2 External carapace left valve.X80 (Mo.T.J.1.2).

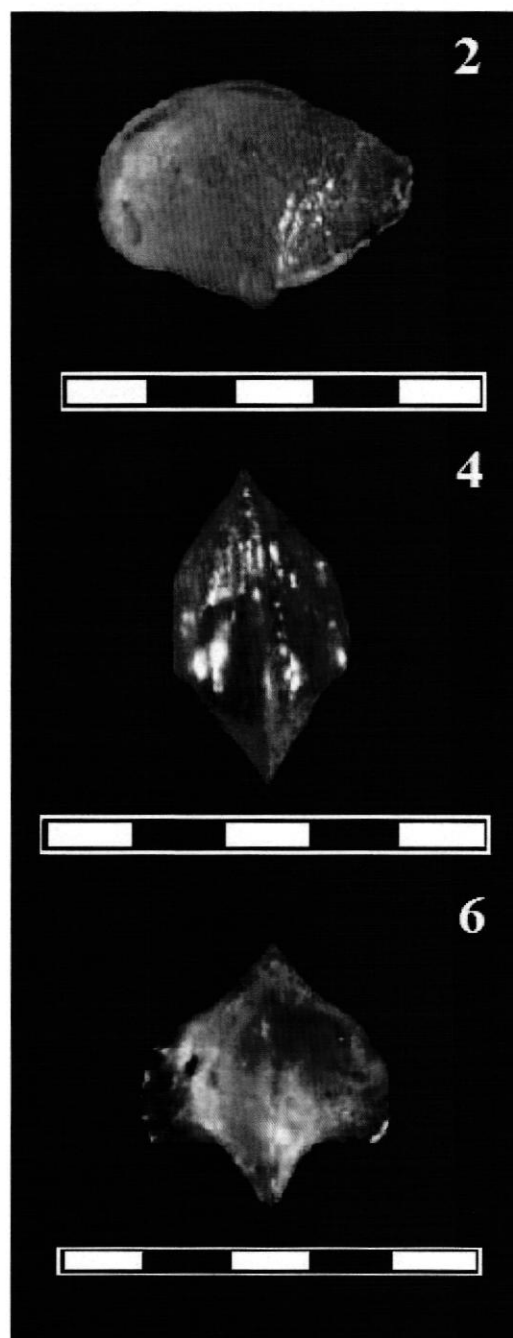
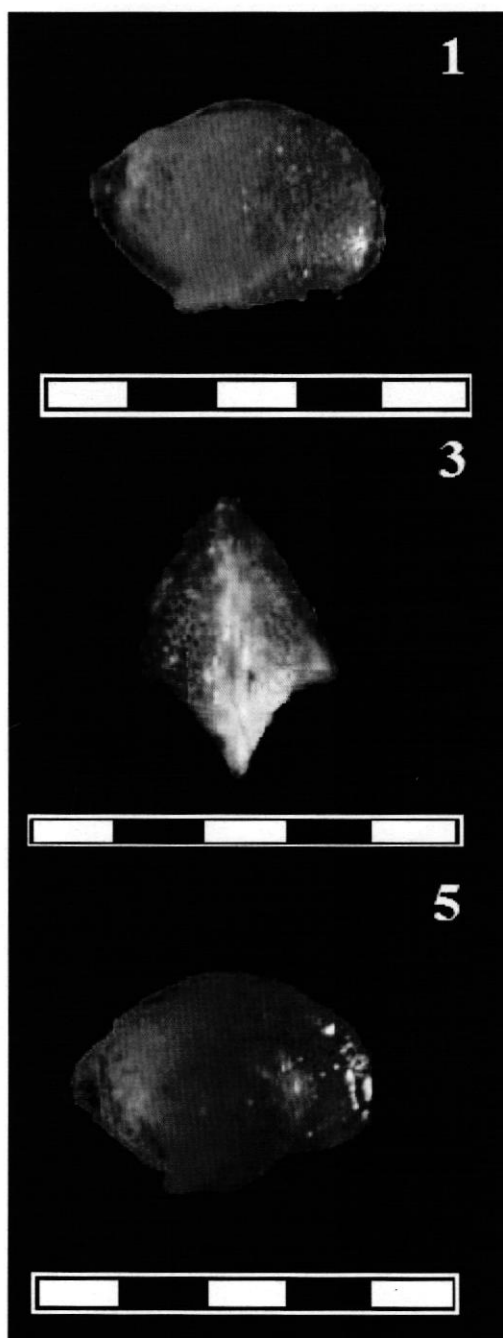
Fig.3 Dorsal view.X80 (Mo.T.J.1.3) .

Fig.4 Ventral view.X80 (Mo.T.J.1.4)

Cytheropteron sp.

Fig.5 External carapace right valve. X80 (Mo.T.J.3.4).

Fig.6 Dorsal view.X80 (Mo.T.J.3.4).



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اوستراكودا الجنس *Cytheropteron* من تكوين جدالة ، شمال غرب العراق

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الملخص

تم وصف اربعة انواع جديدة من الاوستراكودا التي تعود الى الجنس *Cytheropteron* من تكوين جدالة (الجزء الاسفل) ، شمال غرب العراق ، ثلاث منها تم تسميتها:

Cytheropteron sinjarensis sp.nov. *Cytheropteron iraqensis* sp.nov., *Cytheropteron zerwensis* sp.nov والنوع الاخر

ترك للتسمية المفتوحة لقلة النماذج .*Cytheropteron* sp.