

Microbiostratigraphy study of Kazhdumi and Sarvak Formations in north and north- east Shiraz

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Abstract

In this research two stratigraphic sections entitled as Kuh-e Gadvan and Kuh-e Rahmat sections related to Kazhdumi and Sarvak Formations have been selected. The thickness of the sediments in these sections is 1000 m and they have been studied in 600 thin-sections. Considering the identified index Foraminifers in the studied sections such as the following taxons:

Orbitolina sp. O. concave, *Simplorbitolina cf. conolus*, *Mesorbitolina cf. texana*, *Hemicyclammina sigali*, *Ticinella madecassiana*, *Calcisphaerula innominata*, *Stomiosphaera sphaerica*, *Favusella washitensis*, *Rotalipora cf. balernaensis*, *Ticinella cf. raynaudi*, *Rotalipora cushmani*, *Rotalipora cf. greenhorensis*, *Nezzazata simplex*, *Nezzazata conica*, *Dicyclina cf. schlumbrgeri*, *Ticinella cf. primula*, *Ovalveolina cf. ovum*, *Praealveolina simplex*, *Cuneolina cf. pavonia*, *Heterohelix reussi*, *Pithonella perlonga*, *Dictyoconus arabicus*.

The age of studied sediments is lower Albian -upper Cenomanian. Also considering microbiostratigraphic studies, four biozones and one sub-zone have been recognized for identified Foraminifers in the studied sections.

Key words: biozone, Foraminifers, Kazhdumi Formation, Sarvak Formation.

مطالعه‌ی میکروبیواستراتیگرافی سازندهای کژدمی و سروک در شمال و شمال خاوری شیراز

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چکیده

در این تحقیق دو مقطع چینه شناسی تحت عنوان مقاطع کوه گدوان و زکیان از سازندهای کژدمی و سروک انتخاب شده است. ضخامت رسوبات مقاطع مورد مطالعه ۱۰۰۰ متر که همراه با ۶۰۰ مقطع نازک میکروسکوپی مورد مطالعه قرار گرفت. فرامینیفرهای شاخص شناخته شده در این مقاطع عبارتند از:

Orbitolina sp. O. concave, *Simplorbitolina cf. conolus*, *Mesorbitolina cf. texana*, *Hemicyclammina sigali*, *Ticinella madecassiana*, *Calcisphaerula innominata*, *Stomiosphaera sphaerica*, *Favusella washitensis*, *Rotalipora cf. balernaensis*, *Ticinella cf. raynaudi*, *Rotalipora cushmani*, *Rotalipora cf. greenhorensis*, *Nezzazata simplex*, *Nezzazata conica*, *Dicyclina cf. schlumbrgeri*, *Ticinella cf. primula*, *Ovalveolina cf. ovum*, *Praealveolina simplex*, *Cuneolina cf. pavonia*, *Heterohelix reussi*, *Pithonella perlonga*, *Dictyoconus arabicus*

با توجه به فرامینفرهای عنوان شده سن رسوبات مورد مطالعه در این مقاطع آلبین بالایی تا سنومانین بالایی می باشد. بر اساس مطالعات میکروبیواستراتیگرافی چهار بیوزون و یک زیر زون در مقاطع مورد نظر شناسایی شد.

واژه های کلیدی: بیوزون، سازند سروک، سازند کژدومی، فرامینفرها.

1. Geographical situation of the studied stratigraphic sections:

The studied stratigraphic sections are situated in the folded zone (Kuh-e Gadvan section) and high zone (Kuh-e Rahmat section) of Zagros and their geographical limits are as follow:

1. 1) Kuh-e Gaidun stratigraphic section:

This section is located in 30-km, north east of Shiraz city, Fars province (Iran) and we can approach it through the main road of Shiraz- Kharameh. The geographic coordinates of this section is Y: 29, 37 - X: 52, 55 (Fig. 1).

2. 1) Kuh-e Rahmat stratigraphic section:

This section is located in 55 km, north of Shiraz city, Fars province (Iran) and we can approach it through the main road of Shiraz-Marvdasht. The geographic coordinates of this section is Y: 29, 10 - X: 53, 19 (Fig. 1).

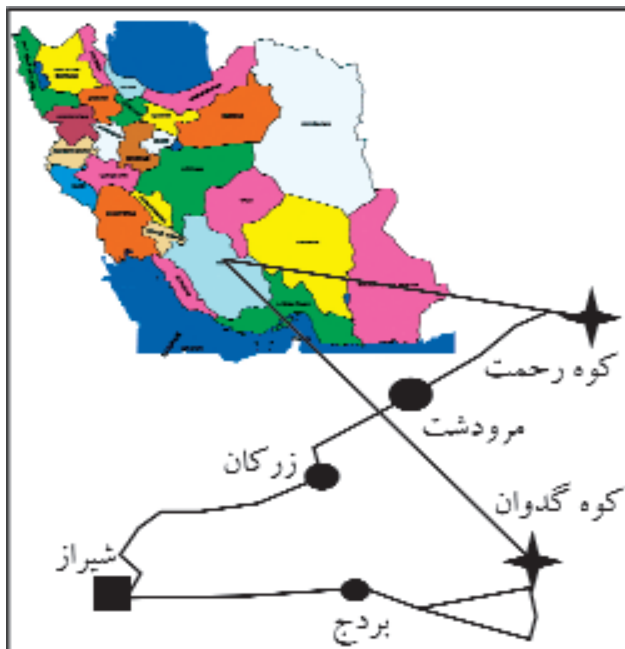


Fig. 1. Outline Map of Iran showing the location of Shiraz and some other major cities. Also the studied area is shown located in a quadrangle near Shiraz

2. Description of mapped stratigraphic sections:

2. 1. Kuh-e Gaidun stratigraphic section:

This stratigraphic section has been mapped from

Gaidun mountain, near Tarbur village. The lower and upper lithostratigraphy limit of this section is erosion surface disconformities with Dariyan and Gurpi Formations (Fig. 2).

Based on the identified Foraminifers of this section such as:

Orbitolina sp. *O. concave*, *Simplorbitolina* cf. *conolus*, *Mesorbitolina* cf. *texana* *Hemicyclammina sigali*, *Ticinella madecassiana*, *Calcisphaerula innominata*, *Stomiosphaera sphaerica*, *Favusella washitensis*, *Rotalipora* cf. *balernaensis*, *Ticinella* cf. *raynaudi*, *Nezzazata simplex*, *Nezzazata conica*, *Dicyclina* cf. *schlumbergeri*, *Ovalveolina* cf. *ovum*, *Praealveolina simplex*, *Cuneolina* cf. *pavonia*, *Heterohelix reussi*, *Pithonella perlonga*, *Dictyoconus arabicus* (Plate 1, 2, 3, 4).

The age of this section is lower Albian-Cenomanian. The total measured thickness is 487.5m. In lithostratigraphy limits of view, this section is divided in to two Formations as follow:

A-The lower part of Kazhdumi Formation is 175m. Including limestone and marly limestone from thin to thick- bedded and from green to light grey (Fig. 2). Considering the existence of Foraminifers such as:

Orbitolina sp. *O. concave*, *Simplorbitolina* cf. *conolus*, *Mesorbitolina* cf. *texana*, *Hemicyclammina sigali*, *Ticinella madecassiana*, *Calcisphaerula innominata*, *Stomiosphaera sphaerica*, *Favusella washitensis*, *Rotalipora* cf. *balernaensis* *Neoiraqia* sp.

The age of this part has been determined from lower Albian to lower Cenomanian.

B-The upper part of Sarvak Formation is 312.5m. Including grey to light from thin to thick bedded and massive limestone (Fig. 2) considering the existence of Foraminifers such as:

Ticinella madecassiana, *Calcisphaerula innominata*, *Stomiosphaera sphaerica*, *Favusella washitensis*, *Rotalipora* cf. *balernaensis*, *Ticinella* cf. *raynaudi*, *Nezzazata simplex*, *Nezzazata conica*, *Dicyclina* cf. *schlumbergeri*, *Ovalveolina* cf. *ovum*, *Praealveolina simplex*, *Cuneolina* cf. *pavonia*, *Heterohelix reussi*, *Pithonella perlonga* and *Dictyoconus arabicus*.

The age of this part is determined from upper Albian to upper Cenomanian.

2. 2. Kuh-e Rahmat stratigraphic section:

This stratigraphic section has been mapped from