A NOTE ON THE OCCURENCE OF PERMO-CARBONI FERGUS IN THE SOUTHEAST OF AFYON REGION

Bilge ERİŞEN*

The fossils aged Permo-Carboniferous related with autochthonous Paleozoic basement were found out in the region between Degirmendere, Kızıldağ and Cumhuriyet villages in the southeast of Afyon (Fig. 1).

Previous researches carried out in this region and surroundings by Chaput (1931), Parejas (1941), Blumenthal (1947), Brennich (1954), Abdüsselamoğlu (1958), Brunn and others (1971). These researchers tried to find out the age of the Paleozoic basement by correlation for the lack of fossils.

In 1971, in the southeast of Afyon, Permo-Carboniferous aged fossils were found in the Paleozoic formations during the studies aimed with geothermal energy researches. The report related with this subject has been registered in the archieves of Mineral Research and Exploration Institute of Turkey (Erişen, 1972).

In the research field, the Paleozoic basement which contains Permo-Carboniferous fossils has been covered with Pliocene layers and Quaternary deposits.

The Paleozoic basement, in this region, is formed by; a) Sultandede Schist, b) Yalnızagaç Formation, c) Karahasan Limestone. Among these, Yalnızağaç Formation and Karahasan Limestone contain Permo-Carboniferous fossils. Some characteristics and the content of fossils are as follows;

Yalnızağaç Formation, — Exposures of the formation are observed in the Yalnızağaç Tepe in the northwest of Kızıldağ village. Rock units are composed of alternating quartzite, quartzite schist, marble, locally calcschist, phyllite, muscovite-quartz schist, limestone and crystallized limestone (sparite). Limestone and crystallized limestone (sparite) horizons are fossiliferous. In these horizons crinoids and bryozoas are in abundance (Fig. 2).

In a sample which is taken at 200 m. south from Yalnızağaç Tepe:

Lithology: Yellowish coloured sparite

Fauna : Fusiella?

Age : Moscovian-Sakmarian

Karahasan Limestone overlies comformably on the Yalnızağaç Formation. There is a lateral gradition between Yalnızağaç Formation and Karahasan Limestone too.

Karahasan Limestone. — The best exposures of the formation are observed in the east of Karahasan Mahallesi of Değirmendere village. Formation is consist of alternating limestone, crystallized limestone (micrite, sparite), marble, .calcschist, muscovit-quartz schist, phyllite (Fig. 3).

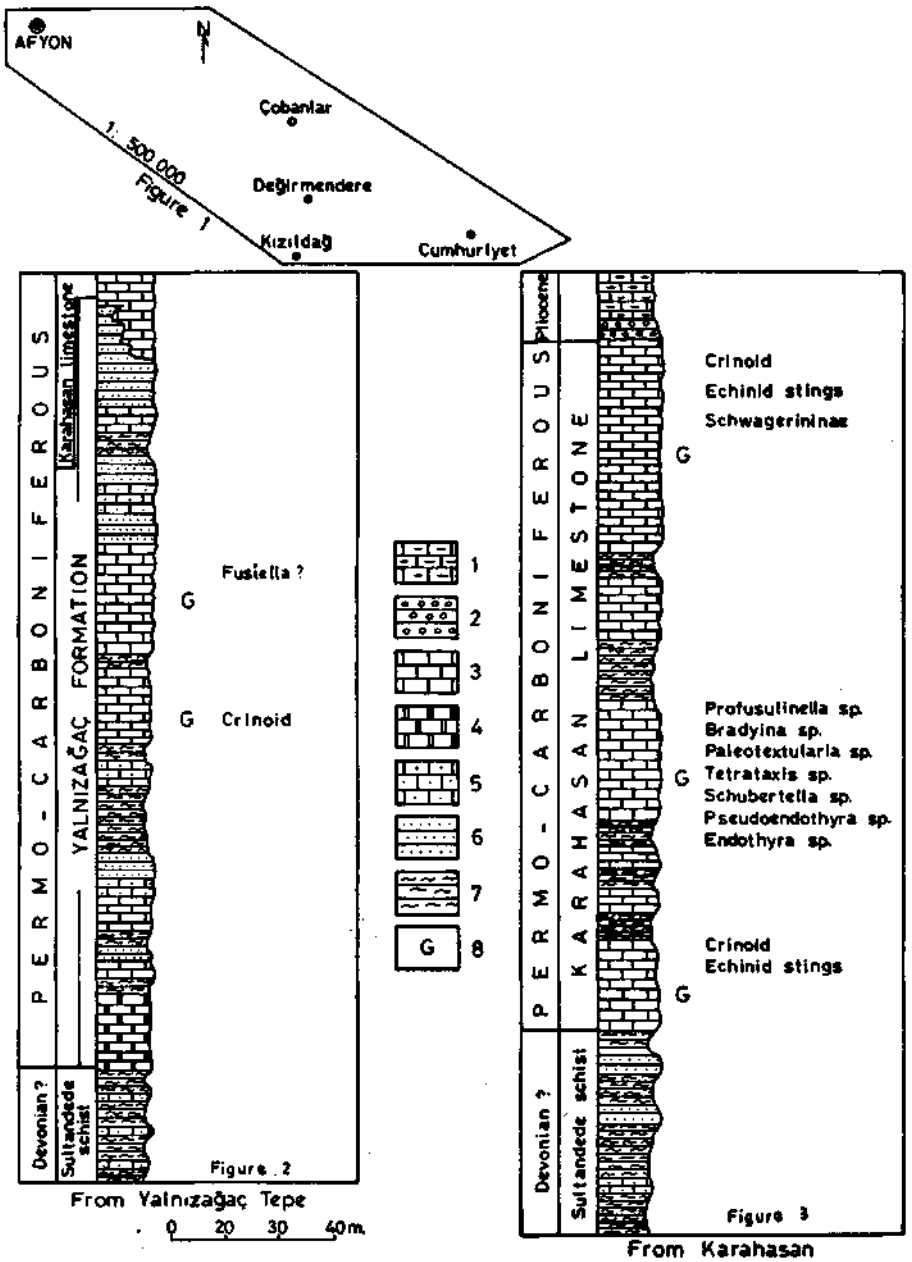

Fig. 1,2,3 - Columnar sections of Yalnızağaç Formation and Karahasan Limestone.
1 - Lacustrine limestone; 2 - Basal conglomerate; 3 - Crystallized limestone, limestone, calcshist; 4 - Marble; 5 - Quartz schist; 6 - Quartz; 7 - Muscovite-quartz schist, phyllite; 8 - Fossil locations.

Fossils and the age stages of samples which were taken are as follows:

— From north of Koca Tepe in the east of Karahasan Mahallesi:

Lithology: Beige coloured sparitic biomicrite

Fauna: *Profusilinella* sp., *Bradyina* sp., *Paleotextularia* sp., *Tetrataxis* sp., *Schubertella* sp., *Pseudoendothyra* sp., *Endothyra* sp.

Age: Middle Carboniferous

— From the southeast of Karahasan Mahallesi:

Lithology: Dark brown biosparite

Fauna: *Crinoid stems, Echinid stings, Schwagerininae parts*

Age: Upper Carboniferous-Upper Permian

— From Kocakoyak Burnu in the south of Değirmendere:

Lithology: Black coloured sparitic micrite

Fauna: *Globivalvulina* sp., *Ammovertella* sp., *Permocalculus* sp.

Age: Permian

— From Elbiz Dere valley in the southeast of Cumhuriyet village:

Lithology: Beige coloured sparitic micrite

Fauna: *Fusulina* sp., *Ammodiscus* sp.

Age: Carboniferous

— From the south of Cumhuriyet village:

Lithology: Gray coloured limestone

Fauna: *Endothyra* sp., *Pkctogyra* sp., *Archaediscus* sp., *Ammodiscus* sp.

Age: Carboniferous

Karahasan Limestone is overlain with the angular uncomformity by Pliocene sediments.

CONCLUSIONS

It is now proven that Yalnızağaç Formation and Karahasan Limestone which were given an age Paleozoic known by correlation actually belong to Middle Carboniferous-Upper Permian age. Age determinations that are available and attached type sections may be used for the correlation of the formations which are rather widespread in the region but are lacking of fossils.

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