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The angiospermoid pollen from the Liassic flora in Poland

By JADWIGA DYAKOWSKA, Cracow

In Grójec near Cracow there are layers of clay exploited for the ceramic industry. This clay contains a rich flora; its age was defined as upperrhaetic or liassic. This flora was investigated by Marian RACIBORSKI in 1890.

In the last year Miss Jane OSZAST investigated palynologically in the laboratory of the Botanical Institute in Cracow a sample from the Grójec clay. She found between many spores of Archegoniatae and pollen grains of Coniferae some sporomorphs with three meridional furrows.

These sporomorphs are the subject of my demonstration.

They are nearly spherical and tricolpate, but their three furrows are not equally long, what is easy to observe, when the grain is in equatorial position. The equatorial distances between the furrows are also unequal. This is the reason, why the symmetry of the sporomorphs in polar position is bilateral not radial. The exine is rather thick and smooth.

Since the meridional furrows are characteristic only to the pollen grains of Angiospermae, we have in the clays of Grójec the remains of an old lower jurassic angiosperm plant.

Similar tricolpate angiospermoid sporomorphs were described by SIMPSON (1937) from liassic coals from Scotland. According to this author the Scotch sporomorphs are similar to pollen grains of Nymphaeaceae, espacially of *Nelumbium*. Both the pollen grains of *Nelumbium* and the tricolpate liassic sporomorphs from Scotland are bilaterally symmetrical when seen in the polar position. This same bilateral symmetry may be observed, as was mentioned, in the sporomorphs from Grójec.

In the year 1948 ERDTMAN described tricolpate sporomorphs from the liassic sediments in South Sweden. These sporomorphs have some mutuale features with the pollen grains of *Eucomia*. Namely their three furrows are not of the same length. Therefore ERDTMAN called the new sporomorph *Tricolpites (Eucomiidites) Troedssonii*.

The tricolpate sporomorphs from Grójec are so similar to the photographs of Erdtman's specimens, that Miss OSZAST determined them as *Tricolpites (Eucomiidites) Troedssonii*.

There are also some other jurassic sporomorphs resembling *Tricolpites*.

PFLUG found in Liass from Germany tricolpate sporomorphs which he called *Classopollis classoides*. He made however the remark, that they may be identical with ERDTMAN's *Tricolpites Troedssonii*. PFLUG

also thinks that the jurassic sporomorphs described by THIERGART as Bennettiteae-Pollenites lucifer are very similar or perhaps identical to *Tricolpites* and *Classopollis*.

At last the Russian scientist NAUMOWA described some tricolpate sporomorphs from the low jurassic sediments in Fergana (central Asia), but the reproductions in NAUMOWAS paper is not very good and makes it impossible to compare the sporomorphs from Fergana with *Tricolpites*.

The facts above show that during the lower Jurassic period very similar sporomorphs with distinctly angiospermoid marks appeared in a large area from Scotland to central Asia.

Diskussion. M. Van CAMPO: Ce type de pollen peut-il être rapproché du même type de pollen de Palmae à deux sillons?