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## **Żwiry północne na prawym brzegu Dniestru pod Samborem.**

### **Northern gravels on the right bank of the Dniestr near Sambor.**

Gravels of northern origin have recently been discovered to the South of Sambor in an unexpected position. On the field path leading from the southern part of Radłowice Górne to the northern limits of Uherce Zapłatyńskie (1:75.000 map, sheet Stary Sambor and almost on the northern edge of this sheet) and about half-way to the latter locality, in the vicinity of an old deserted brick-factory we come upon isolated blocks of granite and pink quartzite — sandstone scattered among numerous Carpathian gravels<sup>1)</sup>. These blocks differ from the mostly flat river gravels in being almost globular in shape. The diameters of the specimens found amounted to from 5 to 12 centimetres.

The spot described above is situated on a terraced shelf of the gently-sloped right bank of the Dniestr doubly intersected by secondary and tertiary streams. The place has an absolute altitude of about 305 metres, and stands approximatively 18 metres above the level of the Dniestr. The globular form of these gravels, scarcely ever found in river gravels, but typical of those of glacial origin, excludes any theory as to their being Carpathian conglomerates: they are undoubtedly northern gravels.

The unusual thing about the position of these blocks is that they are found on the right slope of the Dniestr valley, considerably above the mouth of the Strwiąż River. As these gravels could only have been brought there by the Strwiąż during the epoch when the waters of the San Valley being dammed by the

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<sup>1)</sup> The situation of these gravels has already been noted by St. Wendeker.

northern inlandice<sup>2)</sup>, it is clear that in the times when these gravels were deposited there (i. c. 18 metres above the river-level), the Strwiąż flowed into the Dniestr above the above named locality, the present confluence having been formed at a later period. A characteristic feature of the case is that the level of the above mentioned Dniestr gravels — 18 metres — corresponds not only with that of the mixed gravels on the Strwiąż<sup>3)</sup> but also with the level of paleocrystallic gravels below Żurawno<sup>4)</sup>. This circumstance undoubtedly proves that during the maximum Polish glaciation the waters of this Dniestr basin flowed at a level corresponding to the Dniestr terrace — 18 metres — which extends from Sambor to Martynów. This 18 metres Dniestr terrace situated where the Dniestr Valley disembouches from the Carpathians is of diluvial origin, dating from the maximum period of Polish glaciation.

I traced this terrace upstream along the Dniestr bank into the Carpathians and found it to be well developed in the Carpathian affluents of the Dniestr in the Lenina, Topolnica and Jasienica Rivers, as also in the valley of the Rozłucz, a tributary of the last named affluent. Everywhere it is found above the alluvial 2—6 metre accumulation terrace, as well as above a rock terrace of an approximative level of 12 metres. Hence this is the third Dniestr terrace, counting in general serial order, the rock terrace occupying second place.

The classification of the 18 metres terrace in the Carpathian sector of the Dniestr valley as diluvial forms an important criterion for the chronology of the terraces of the East Carpathian Valleys. These same terraces (2—6 metres, 10—15 metres), 18—25 metres and 29—35 metres) I verified in the basin of the Stryj and Opór, as well as in that of the Świca. Their common relative altitude as also the relation of the vertical intervals indicates the terraces of these valleys may also chronologically be compared with the another. In this way it will be possible to limit the vertical extent of the «terrace diluvium too widely conceived by former investigators».

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<sup>1)</sup> E. Romer: Some contributions to the history of the Dniestr Valley (in Polish). Kosmos XXXI. Lwów. 1906.

<sup>2)</sup> W. Pokorný: Some observations on the history of the Strwiąż Valley (in Polish). Kosmos XXXVIII. Lwów. 1913.

<sup>3)</sup> J. Czyżewski: Histoire d'une partie de la vallée du Dniestr. Trav. Geogr. E. Romer X. Lwów 1928.