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A Note on the Stratigraphic Position of the Sirdang Quartzites of the Type Area, Kumaon Himalayas

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With 1 Fig.

Schlüsselwörter
Himalaya
Devon
Fossilfund

At Sosa (29° 59′ 00″: 80° 38′ 12″) a thick succession of white quartzite marks the base of the sedimentary zone of Sirdang. The quartzites are followed by a thick succession of intercalated pelitic slates, limestones and thin bands of marble at places. The slates are graphitoid at a few localities. The upper limit of this sedimentary zone is represented by thick-bedded white quartzites containing thin ribs of chlorite schists near the village Samri. The entire succession has undergone metamorphism and this is clear from the development of sericite in the white quartzite and sericite and phlogopite in marble (Heim & Gansser, 1939, p. 79).

In the area east of Sirdang these quartzites extend into Nepal, whereas in the western direction they pinch out between the Dhauliganga and Goriganga valleys. Gansser (1964) has shown these outcrops to be lenticular, Structurally, the area is very complicated and detailed mapping is needed before anything could be concluded beyond doubt.

The stratigraphic position of the Sirdang Zone has not been precisely defined and most of the geologists consider it to be of Precambrian age. Heim & Gansser (1939, p. 37) made the following observations while discussing the sedimentary succession near Sirdang:

"... apparently we are in a normal ascending series, the metamorphism of which, as a whole, is decreasing Northeast of Sirdang village, the trail crosses within the phyllite zone a 20 meter layer of coarse grained marble, then a spotted limestone lense. The first one might be a transformed echinoderm breccia, and second an altered coral limestone ..."

If the above observations of Heim & Gansser are true then the possibility of this succession being of Precambrian age is out of question. This is supported by the find of a rolled specimen of fossiliferous white quartzite by the author near the village Samri during the course of field work carried out as a member of the Kalapani-Kuti expedition organized by the Wadia Institute of Himalayan Geology, Delhi. The specimen resembles lithologically Muth Quartzite and has

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a fairly well preserved brachiopod *Salopina* (fig. 1) and an undeterminable pelecypod.

In view of the observations made by HEIM & GANSSER and the find of *Salopina* near Samri, the author believes that the Sirdang Quartzite may be assigned Lower Palaeozoic age. The possibilities are more in favour of this succession being of Devonian age.

The descriptions of HEIM & GANSSER (1939) and the position in the section clearly show that the Sirdang Zone is part of the Lower Himalayan sequence and not of the Tibetan Zone. Thus the fossil find is of great importance as a new argument in favour of a Palaeozoic age of the otherwise nearly unfossiliferous succession of the Lower Himalayas.

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Fig. 1. *Salopina* sp. from the Sirdang Quartzite near Samri.

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