Lower Triassic succession in Jomsom and Manang regions, Tethyan Himalaya, central Nepal
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The High Himalayan zone of central Nepal consists of a thick sequence of Paleozoic and Mesozoic sedimentary rocks overlying the Precambrian metamorphic rocks. The Triassic is the major component of the sediments and widely exposed in the Jomsom and Manang regions. It is divided into the Lower Triassic Tamba Kurkur, Middle Triassic Mukut Limestone, and Upper Triassic Tarap Shale and Quartzite Formations in ascending order. In particular, the Tamba Kurkur Formation which is only around 60m (Fig. 1), represents a condensed marine succession spanning from Induan (251.0-249.7Ma) to Olenekian (249.7-245.0Ma) in age. It mainly consists of limestone and shale and characterized by thinly alternated beds of dark red mudstone and black mudstone in the Induan section and lies on the basal unit of the Triassic deposits. The thin dark red bed is rich in alumina, indicating intense chemical weathering in the hinterland, while the black bed is carbonaceous with concentration of trace metals suggesting that the deposition occurred during the periods of poor oxygenation by bottom water (Fig. 2). The overlying Olenekian section is characterizedly composed of thin-bedded nodular and pelagic limestones yielding a large amount of Smithian-Spathian ammonoids as a good key bed in the series (Figs. 3 and 4). These remarkable sedimentary facies suggest significant episodic of sedimentary environments in the Tethyan Ocean during the early Triassic period.

On the cover: Field view of studied section in Manang region, central Nepal. Upper Permian to Middle Triassic rocks are exposed on the cliff behind the Manang village. A large recumbent folding is observed on the left side of the cliff.

Fig.1: Photograph showing stratigraphic section from uppermost horizon of Permian to basal horizon of Middle Triassic, in the Manang region, central Nepal. The red limestone beds are intercalated in the limestones in the lower part of the Olenekian section.

Fig.2: Photograph showing thinly alternated beds of dark red mudstone and black mudstone in Induan section. The thin dark red bed is rich in alumina, while the black bed is carbonaceous.

Fig.3: Nodular and pelagic limestones in Olenekian section are exposed in Jomsom region. Gray limestones intercalate characteristic red nodular limestones, which serve as a good key bed. These beds are overturned.

Fig.4: Close-up photograph of bedding plane of nodular and pelagic limestones in Olenekian section in Jomsom region, suggesting loosely packed arrangement of fossil ammonoids and nautiloids.