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Tectonic geomorphology around the eastern piedmont of the Myoko volcano and their tectonic implications

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The Myoko volcano group is located in the south of Takada plain, and its eastern piedmont is intermontane trough (hereafter, referred as the Myoko trough) between the Nishi-kubiki Mountains and the Higashi-kubiki Hills. The Myoko trough is located from the south of the Takada plain to the north of the Nagano Basin. The Takada-heiya-toen fault, Takada-heiya-seien fault, and the Nagano-bonchi-seien fault are located along the eastern margin of the Takada plain, the western margin of the Takada Plain, and the western margin of the Nagano Basin, respectively (Nakata and Imaizumi, 2002). Based on detailed analysis of areal photographs, we newly mapped active faults and tectonic landforms in the Myoko trough. we describe evidences of recent activity and discuss the property of these tectonic landforms and their tectonic implications. Newly mapped active faults and tectonic landforms are distributed almost continuously from the southern edge of the Takada-heiya-toen-fault to around Fujisato village in the Shinano town. Based on these distributions, we judged that newly mapped active faults constitute a part of the Takada-heiya-toen fault, and that the length of the Takada-heiya-toen fault may be elongated from 26 km to max. 55 km. However, active faults in the Myoko trough and the Nagano-bonchi-seien fault are distributed in parallel at distance of 13-14 km. Therefore, these two faults may be converged at depth of 6-7 km, and the southern part of the Takada-heiya-toen fault may be a backthrust of the Nagano-bonchi-seien fault.

Keywords: Takada plain, active fault, air photo, Myoko volcano group, Takada-heiya-toen fault