



ICG2022-471, updated on 28 May 2023

<https://doi.org/10.5194/icg2022-471>

10th International Conference on Geomorphology

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New Late Quaternary Glaciation Areas in Western Taurus (SW Turkey)

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Understanding the causes and consequences of past climate changes is important for predicting and preparing for future changes that the human will face. The climatic changes that occurred during human existence on Earth, that is, during the Quaternary, caused the ice ages explained by the Milankovitch Cycles and shaped the earth's surface and the life of the living beings on it. Turkey has also been affected by Quaternary glaciation; some of the glaciers that formed in high areas in various regions of Anatolia have reached the present day, and the landforms formed by glaciers that have vanished due to the effects of climate change have been preserved in most areas. While studies by various researchers focused on glaciation in the Taurus Mountains Belt and along with Turkey's glacier inventory have been thought to be completed, glaciated areas of various sizes are still being discovered. The glacial areas of the Taurus Mountains Bozburun, Kovacık, Emerdin and Dumanlı Mountains have never been reported in the literature, and there is a lack of geomorphological, climatological, and chronological knowledge about these glaciated areas. The first of the mountains to be examined within the scope of this study is Bozburun Mountain (37°18' N, 31°03' E), which has a 2504 m peak and is largely composed of conglomerates, 50 km north of Antalya Bay. On Bozburun Mountain, where there are three cirques, the moraines have descended to 1800 m. Another mountain included in this study is Kovacık Mountain (37°16' N, 31°23' E), which extends for 20 km in the north-south direction, about 30 km east of Bozburun Mountain. There are 5 cirques on the mountain, which consists of carbonates and has the highest peak of 2268 m. The cirque developing in the north of Çeşkar Tepe (2288 m) in the north of Kovacık Mountain is one of the most important cirque in the Kovacık. This cirques developed in a karstic depression with a base of 1600 m and surrounded by the lowest elevations of 1700 m. Numerous recession moraines (9) were found in front of this cirque, which go down to 1650 m. It is also located in the north of Kovacık Mountain, on Emerdin Mountain (37°24' N, 31°18' E) and Dumanlı Mountain (37°33' N, 31°20' E). While there are 2 cirques and moraines descending to 1700 m in front of Emerdin Mountain, which has a summit of 2405 m, among these mountains consisting of carbonates, there are 3 cirques and moraines descending to 1650 m in front of Dumanlı Mountain (2311 m), which is further north. In this study, traces of glacial morphology related to the Late Quaternary glaciation in the ranges of Western Taurus mountains were mapped with topography maps, UAVs and detailed field studies, and glacial reconstructions were made on sensitive data, and the glacier limits and the glacial features were revealed.

Keywords: Western Taurus, Glacial geomorphology, Late Quaternary glaciation.

