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Hummocky moraines of piedmont glaciers from Geyikdağ, Central Tauride Mountains, Turkey; insights from cosmogenic ^{36}Cl dating

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For the first time we report the presence of Late Quaternary piedmont glaciers represented by the largest hummocky moraine field in Turkey. The piedmont glaciers developed in the Central Taurides, 50 km north of the Mediterranean Sea. They were located on the north-facing hill-slopes of the Namaras Valley situated around 2000-2050 m above sea-level (a.s.l) in Geyikdağ. The hummocky moraines resulted from *in situ* deposition of stagnant glacier ice (or dead-ice) where debris cover was heterogeneously distributed on the glacier surface. Twenty-six boulders from hummocky, lateral and terminal moraines from the Namaras Valley and the tributary Susam Valley were dated by cosmogenic ^{36}Cl surface exposure dating. The moraine ages indicate three phases of glacial advances during the Late Quaternary. The oldest glacial advance occurred in the Namaras Valley at the end of the Last Glacial Maximum (18.0$\pm$0.4 ka, ka: thousands years ago) and is recorded entirely by the sequence of hummocky moraines in the mountain. Glaciers retreated towards the Susam Valley (2100-2200 m a.s.l.) and became stagnant during the Late Glacial (14.3$\pm$1.3 ka) as observed from hummocky and terminal moraines at the interior and outlet of the valley. Glaciers re-advanced at around 11.5$\pm$1.0 ka ago (Younger Dryas) which is represented by several lateral moraines that are at least 50 m higher than the surrounding hummocky moraines in both valleys. Comparable glacial chronologies were obtained from other Turkish mountains and from other Mediterranean mountains.