

O GEOLOŠKIH RAZMERAH MED BOHINJEM IN TRIGLAVSKIMI JEZERI

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V letih 1955 do 1956 in delno tudi naslednja leta smo raziskovali Dolino Triglavskih jezer in okolico Bohinjskega jezera. Tu sta v načrtu dva rezervata* v okviru širšega Triglavskega narodnega parka. To ozemlje na razvodju Soče in Save Bohinjke do zdaj geološko ni bilo sistematično obdelano, zato ga je avtor ponovno geološko kartiral.

V pleistocenu ločimo več zasipov, nekateri so le pobočni, hudourniški in fluvioglacialni vršaji, drugi pa prave rečne dolinske naplavine. Možno je razlikovati dva mlajša in dva starejša zasipa, katerih starosti pa ne moremo natančno dokazati. Pleistocenska plastovita jezerska kreda, ohranjena do 50 m iznad današnje jezerske gladine, je nagubana in pokrita z morenami. V nižjih plasteh najdemo zahodno od Zlatoroga varvne (pro-gaste) plasti.

Večji del apnencev južno od sv. Janeza uvrščamo zaradi brečaste strukture po analogiji s Tellerjevo določitvijo v starejši oligocen. V mlajšem oligocenu smo našli tudi ostanke litotamnijskega apnenca.

Na severnem pobočju Bohinjskega jezera smo našli na dachsteinskem apnencu peščene in tufitske apnene plasti, analogne jurskim skladom v češnjiški sinklinali. Po fosilnih ostankih rodu *Calpionella* sklepamo, da spadajo ti skladi v zgornjo juro. Jurski skladi, vklinjeni v dachsteinski apnenec, se nahajajo tudi severozahodno od Dednega polja na kontaktu s triadnimi dolomiti in na prevalu ob novi planinski poti Prehodavci—Dolič. Pod Vršaki je bogato nahajališče zgornjejurskih amonitov z vrsto *Perisphinctes roubyanus* Steinmann, južno od koč pri Triglavskih jezerih ter ob poti na Ovčarijo pa smo našli hydrozoje vrste *Ceraostroma steinmanni* Kühn (E. Flügel).

Zgornjetriadne sklade sestavlja na zahodni strani Slatenske plošče skladovit dachsteinski apnenec z velikimi megalodonti (do 25 cm), v Kanjavcu pa neskladovit dolomitiziran »triglavski« apnenec (retska stopnja). Niže sledi srednji dachsteinski apnenec s skladi dolomitnega apnenca in s številnimi horizonti megalodontov. Možno je sklepati na vrsti *M. böckhi* Hörnes in *M. laczkoi* Hörnes. *M. triqueter* mut. *dolomitica* se pojavlja v spodnjem dachsteinskem apnencu. Megalodonti v zgornjem dachstein-

* Rezervat Doline Triglavskih jezer je bil z odlokom Ljudske skupščine LRS junija 1961 že proglašen za Triglavski narodni park.

skem apnencu pripadajo verjetno vrsti *Conchodus* sp. Pod dachsteinskim apnencem so neskladoviti karnijski in kasijanski apnenci z ostanki koral in krinoidov, pod temi pa ponekod svetel drobljiv kasijanski dolomit. Ladin je razvit v Slatenski plošči apneno, južno od Bohinjskega jezera pa nahajamo ploščast apnenec, tufe, tufite in porfir. To so obenem tu najstarejše plasti.

Geološka zgradba je zelo pestra. Med Kanjavcem in Vršacem smo našli velik prelom, ki se v obliki razpoke nadaljuje proti severu v Zadnico (stranska dolina Trente), proti jugu pa je njegov potek nejasen, ker ga prekriva Slatenska plošča. Morda se ravno tako v obliki razpoke nadaljuje čez Ukanc in Bohinjsko jezero proti Stari Fužini. Drug velik prelom je na južnem pobočju Bohinjskega jezera in se nadaljuje proti vzhodu. Delno je že označen na italijanski specialki (Tolmin, 1937). Tretji velik prečni prelom deli Bohinjsko jezero na dva dela in poteka zahodno od Vogarja. Številni prečni prelomi so ustvarili stopničasto zgradbo Doline Triglavskih jezer in Bohinjskega jezera.

H geomorfološkim ugotovitvam Rakovca in Winklerja (1957) bi mogli dodati, da so po novejši uvrstitvi sivice najvišji ravniki (2500 m) lahko oligocenske starosti. Povezava sarmata med Ljubljansko kotlino in Furlanijo preko Bohinja (Winkler, 1957) ni verjetna, ker ni najmanjših sledov take zveze. Močne ledeniške skalne erozije se v Bohinju ne dajo dokazati, čeprav imamo tu lepe doline v obliki črke U. Ledeniki so v glavnem počistili le nevezan grušč v spodnjih delih pobočij, medtem ko so zgornja pobočja ostala konservirana pod ledom.

GEOLOGIC RELATIONSHIP BETWEEN BOHINJ AND TRIGLAV LAKES AREA

The author has made a study of the geological conditions of the Valley areas of Triglav Lakes and the environment of Bohinj Lake during the years 1955—1956 and also during the subsequent years. Plans have been made to create here two natural preservation areas, both within the frame of an expanded Triglav National Park.

Several Pleistocene alluvial deposits could be identified within this area. Of the Soča—Sava Bohinj watershed some of these are lateral alluvial fans which are fluvio-glacial in their origin, or such as has been brought down by torrents. Other alluvial deposits are due to the transportation of materials by rivers. We can distinguish between the two older and two younger alluvial deposits, however their ages cannot be determined precisely. Pleistocene stratified lake chalk occurs from the present lake level up to 50 meters above it. It is folded and covered with moraines. Varves can be found in the lower zone, west of Hotel Zlatorog. The author places limestone beds south of sv. Janez into the older Oligocene due to their brecciated structure and also on the analogy of determination made by Teller. Remnants of lithothamnian limestone beds were found in the younger Oligocene.

Sandy and tuffaceous limestone strata analogous to the Jurassic strata from the Češnjica syncline north of the Srednja vas village in the Bohinj valley could be found covering the Dachstein limestone in the slope north of Bohinj Lake. The author believes them to belong to the Jurassic age due to the remains of *Calpionella* sp. that has been found there. Jurassic strata was also found north-west of Dedno polje in contact with Triassic dolomites, and on the pass along the new alpine path Prehodavci—Dolič which are wedged between the Dachstein limestone beds. The author also found a reach finding place of upper Jurassic ammonites with the species *Perisphinctes roubyanus* Steinmann, under Vršaki south of the alpine hut of Triglav Lakes and on the path towards Ovčarija he has found hydrozoans belonging to the species *Ceraostroma steinmanni* Kühn (E. Flügel).

The upper Triassic is represented by stratified Dachstein limestone containing large Megalodontidae — up to 25 cm, which occur in the western part of the Slatna sheet. In Kanjavec we find the unstratified dolomitized 'Triglav' limestone-Rhaetian stage, grading down into middle Dachstein limestone made up of dolomitic limestone with numerous Megalodontidae. They can be attributed to the species *M. böckhi* Hörnes and *M. laczkoi* Hörnes. The species *M. triqueter* mut. *dolomitica* appears in the lower Dachstein strata. Megalodontidae from the upper Dachstein limestone most probably belong to the species *Conchodus*. Under the Dachstein limestone we find unstratified Carnian and Cassian limestones containing remains of corals and crinoids, followed by light colored crushed Cassian dolomite on some places.

In the Slatna sheet Ladinian stage appears in limestone. Platy limestone, tuffs, tuffites and porphyry occur south of Bohinj Lake representing at the same time the oldest strata.

From a tectonic point of view the area shows a great variety. A new large fault has been discovered between Kanjavec and Vršac and continues towards the north into the Zadnica valley — part of the Trenta valley. The second large fault can be observed in the south slope of the Bohinj valley, running toward the east. This is partly indicated on the Italian Geological Map Tolmin — 1937. Another transverse fault cuts Lake Bohinj into two parts and continues west of the Vogar mountain. The step-like structure of the valley of Triglav Lakes and of the Bohinj Lake has been created by numerous transverse faults.

The author agrees principally with the geomorphological analysis made by Rakovec and Winkler (1957). On the basis of recent findings of the age of the gray marine clay we can place the highest peneplains — 2500 meters into the Oligocene. A connection of Sarmatian from the Ljubljana basin with that of Friuli across Bohinj — Winkler 1957 — does not seem probable as no traces of it can be found in our area. Neither is it possible to prove in Bohinj a strong erosion of rock by glaciers in spite of the fact that we have here beautiful U-shaped valleys. Glaciers have usually taken away the loose scree from the lower parts of slopes while the upper slopes remained preserved under the ice.