

# Stop 9: Salevere Salumägi

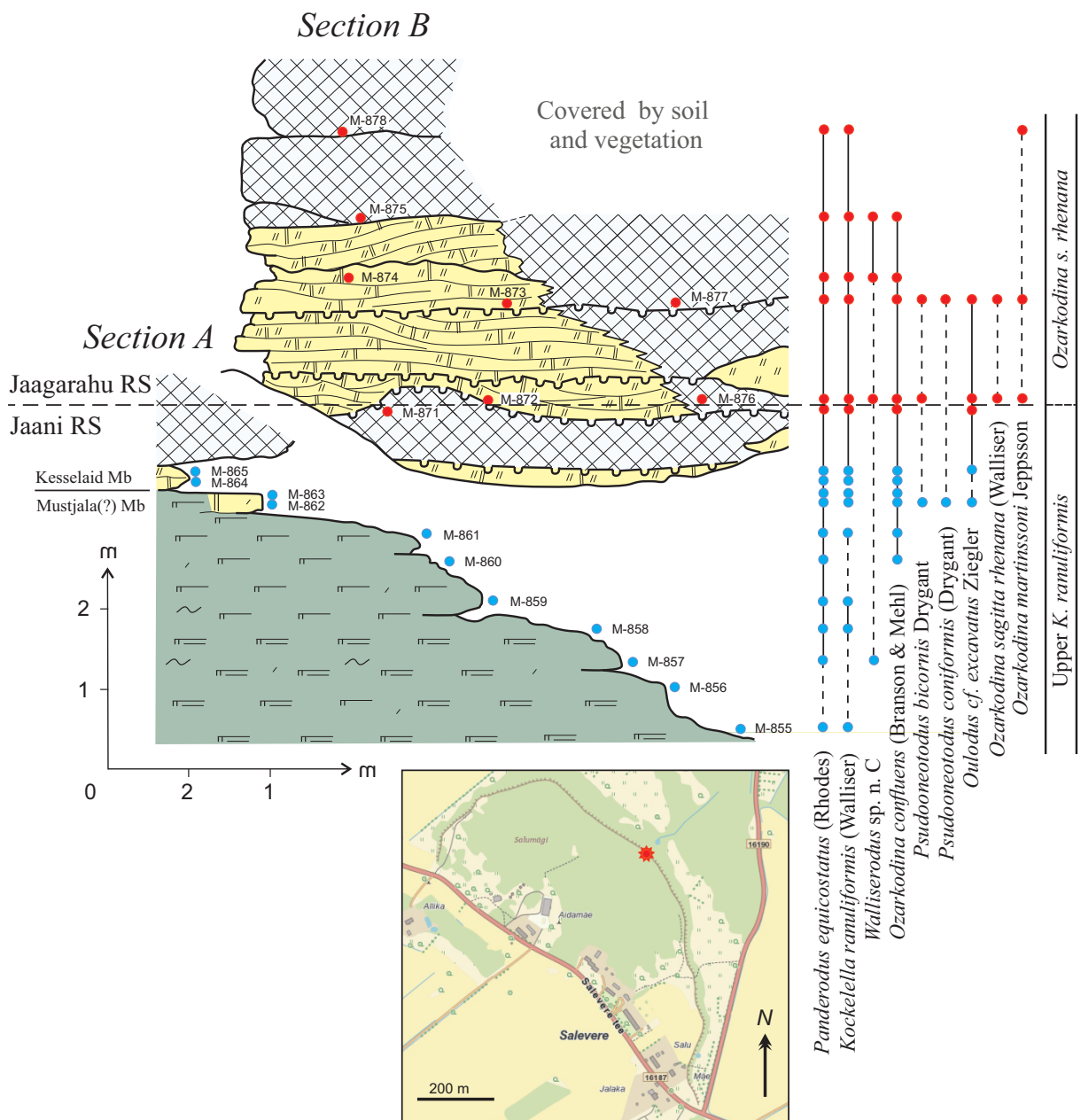
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**Location:** Latitude 58°41'27"N, longitude 23°35'23"E; Pärnu County, Estonia.  
**Stratigraphy:** Sheinwoodian, Jaani Fm (Mustjala(?) Mb) and Muhu Fm (Kesselaid Mb), Jaani and Jaagarahu RSs.  
**Status:** Cliff is under nature protection; no hammering, but loose material may be collected.  
**More information:** <https://geoloogia.info/en/locality/14272>

The following text is updated and slightly modified from Einasto & Männik (1991).

The Salevere Salumägi (Salevere grove mountain) is lo-

cated in western Estonia, about 15 km west of the Lihula settlement. It is a remnant reef rock that has been more resistant to erosion and survived denudation by glaciers during the last ice age and later by the wave activity of



**Fig. 9.1.** Studied sections (red star in the map marks their location). From left to right: regional stratigraphy, lithology; location of micropalaeontological samples (blue and red dots with sample numbers); distribution of conodonts; conodont zones. Abbreviations: RS – Regional Stage; Mb – Member.

the Baltic Sea (about 4000-6000 years ago). As a result of the latter process, a coastal cliff formed on the northern side of the reef body. Nowadays, the cliff is partly covered and only separated outcrops, some of them up to 5–7 m high, can be observed along the northern edge of the Salevere Salumägi in an interval up to 1 km long. The cliffs consist of dolomitised bioherms surrounded by

coarse-grained and often cross-bedded grainstone. The only exposure of dolomitic marlstones underlying the cliff-forming reefs is located near the spring (Section A in Fig. 9.1). Here, the section characterised below was studied and described. Section B is located a few meters to the West of Section A.

## Description of the sections

### Section A

#### *Mustjala(?) Member, Jaani Stage*

3.3+ m – dark grey, on weathered surface yellowish, dolomitized argillaceous marlstone, which becomes more calcareous in the upper part of the interval. Rare pyritized brachiopod, ostracod, and trilobite fragments oc-

cur, and bioturbation can be observed. In the upper part of the interval, nodules and interbeds of argillaceous dolostone appear. The upper boundary of this interval is marked by a distinct denudation surface.

### Section B

#### *Kesselaid Member, Jaagarahu Stage*

6.6 m – reef complex in which three intervals of different composition were recognized:

(1) 0.8–1.0 m – strongly dolomitized massive bioherm with up to 0.2 m thick basal bed of dolomitic coarse grainstone. Few poorly preserved tabulate corals and stromatoporoids were recognized. The upper boundary is marked by a wavy denudation surface.

(2) 1.8–2.1 m – dolomitized grainstone, relatively well sorted in the lower and less in the upper part. Grain size increases, and the rock becomes cross-bedded in the

upper part of the interval. To the west, these grainstones are replaced by bioherm. Two distinct denudation surfaces, both observable in grainstone as well as in bioherm, cut the interval. The upper surface of the complex is wavy, resembling large ripples.

(3) 3.1–3.2 m – relatively homogenous massive, cavernous biohermal dolostone. In the lower part of this interval, some rugose corals and brachiopods were observed. The interval is cut by a wavy denudation surface in its middle part.

## Stratigraphy

Dating of the section is based on conodonts (Fig. 9.1). Dolomitic marlstone in the lower part of the succession, probably representing the Mustjala Mb (Jaani Fm), and the basal part of the reef complex of the Kesselaid Mb (Muhu Fm) above yield conodonts characteristic of the Upper *Kockelella ranuliformis* Zone. The appearance of

*Ozarkodina sagitta rhenana* in the lower Kesselaid Mb correlates the strata above with the *Oz. s. rhenana* Zone, indicating that the boundary between the Jaani and Jaagarahu RS-s in this section lies in the basal part of the reef complex, about 1 m above the contact between the Jaani and Muhu Fm-s.

## References

Einasto, R., Männik, P., 1991. Salumägi at Salevere. In: *Geology and mineral resources of Estonia. Excursion Guide. First World Meeting of Estonian Geologists. Tallinn–Lohusalu,*

*9–14 September 1991* (Puura, V., Kalm, V. & Puura, I. eds). Estonian Geological Society, Tallinn, p. 51–53. [In Estonian]