

Easter excursion to The Lizard, March 20th-27th, 1913 - Geologists' Association excursion

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Easter excursion to The Lizard, March 20th-27th 1913

(Transcription from: GA Circular No. 153. Session 1912-1913. p. 4-7)

DIRECTORS: J. S. Flett, M.A., M.B., D.Sc., F.G.S., And J. B. Hill, R.N.

EXCURSION SECRETARY: Miss G. M. Bauer, 16, Selborne Road, Handsworth, Wood, Birmingham.

RAILWAY ARRANGEMENTS.—Members will travel by the "Cornish Riviera" Limited Express, leaving Paddington (G.W.R.) 10.30 a.m. on Thursday, March 20th. Special return tickets, Paddington to Helston, can be obtained from Miss Bauer, price 34s. 6d. each, which includes booking fee for reserved seat. Stamped addressed envelope should be enclosed with application. At 5.15 p.m. 'Bus to Coverack, cost 1s. 9d. Arrangements will only be made for those who have given their names in previously. Miss Bauer leaves for Cornwall on March 17th. All applications must be received before that date.

HOTEL ARRANGEMENTS

Coverack, March 20th to 25th. Headquarters Coverack Headland Hotel. Terms, 6s. per day (including bed, breakfast, sandwiches for lunch, dinner and attendance).

The Lizard.—March 25th to 28th. Headquarters: Hill's Hotel. Terms, 7s. per day. Housel Bay Hotel. Terms, 9s. per day.

As accommodation in the Hotel at each centre is limited, members are advised to apply at once for rooms, stating that they belong to the G. A. party, and at the same time inform Miss Bauer that they have done so (also on which days they will require drives, etc., especially mentioning March 20th, 27th, and 28th), enclosing stamped addressed envelope for reply.

Friday, March 21st.—Coverack and Crousa Downs

DIRECTOR: J. S. Flett.

Breakfast at 8 a.m. At 9.30 visit shore below Coverack ; examine bastite-serpentine in Perprean Cove (south side of village) with bands of chromite-serpentine. This is invaded by a boss of troctolite (dark variety, rich in olivine, with white spots of felspar), which is cut by gabbro dykes. Raised beach deposits, covered by "head," are seen in the cliffs above the cove. Then visit shore on north side of Coverack. The country rock is serpentine, which is traversed by an irregular intrusion of troctolite (grey variety, with green and red spots of olivine). The troctolite here also is cut by gabbro veins, sometimes foliated. In the serpentine are many large and small dykes of gabbro ; some of them are very coarse-grained (gabbro-pegmatite), others are highly schistose (gabbro-schists). The whole series is cut by later dykes of olivine-dolerite, which run about W.N.W. ; they are the least altered "black dykes" in the Lizard. In the west corner of the bay the raised beach is well seen. Following the shore northwards we come to the intrusive edge of the gabbro, which contains many inclusions of serpentine. At North Corner quite massive specimens of gabbro may be got. Follow path on top of cliffs to Lowland Point, where one of the largest raised beaches in this part of Cornwall may be seen. Behind it is an old cliff of gabbro, Turning inland we walk across cultivated fields, covered with large gabbro blocks (greystones or nigger-heads) to Crousa Common, where the Pliocene gravels are exposed in several pits, resting on the Pliocene platform, which is here cut out of gabbro. Good specimens of flaser-gabbro are to be obtained here. Then take road past Penhallick, where the "black gabbro," a perfectly massive variety, may be collected. Return to hotel for tea. Walking distance six to seven miles. Dinner 7 p.m.

Saturday, March 22nd.—Porthallow

DIRECTORS: J. S. Flett and J. B. Hill.

Breakfast 8 a.m. At 9.30 drive to Porthallow : five miles. At Porthallow, on the south side of the cove, see the Lizard boundary fault bringing mica-schist against Palaeozoic "killas." It hades to south. On the Lizard side of the fault the first rock is mica-schist, with an intrusive sill of granite-gneiss, then hornblende-schist and epidosite ; next comes serpentine, with a gabbro vein. The serpentine is fine-grained, crossed by many veins, well banded, and is often sharply folded with the hornblende-schist.

The killas on the south side of the cove is represented by strong sandy beds but on the north side consists of calcareous phyllite, with a few thin chert seams, as well as much crush breccia. Then follows soda felsite, associated with pillow lava, much deformed, the former especially being often intensely shattered. In Nelly's Cove there is a marked development of radiolarian chert, and the associated sandy and argillaceous beds are much shattered, amongst them is seen a large lenticle of quartzite, and there is also a small limestone band, in which fossils were found by Peach.

Northwards from Nelly's Cove calcareous, sandy and argillaceous killas occur, often highly disturbed; with crinoid fragments, but cherts are rare. At Fletching's Cove Silurian fossils were obtained by Mr. Sherborn. At Nelly's Cove is an excellent section of raised beach capped by "head," and the Pleistocene platform is often present along the section to the north.

Returning to St. Keverne we pass over mica-schists, with fine horn blende-schists and quartz-hornblende-granulite. The Treleague Quartzite will also be seen ; it contrasts strongly with the quartz-granulites, which are much more metamorphic, although they show excellent bedding. Near St. Keverne we again reach the gabbro country, and take the footpath to Coverack. Tea at St. Kevernene, 9d. Dinner 7 p.m. Walking distance six miles. Probable cost of drive, 8d.

On Sunday, March 23rd, we may walk over to Carrick Luz, two-and-a-half miles distant, and thus save time for Tuesday, which will be a very full day.

Monday, March 24th.—Nare Head to Manaccan

DIRECTOR: J. B. Hill.

Breakfast 8 a.m. At 9.30 drive to Penare (six miles). Examine the quartzite below Penare. Between this and the Nare Head metamorphosed Veryan beds are seen on the coast, consisting of felspathic quartzites, granulites, and phyllites, some of which are spotted, and show much deformation., At Nare Head the Devonian conglomerate appears, but the Veryan beds are seen on the shore beneath the Devonian at Polnare Cove, consisting of much deformed killas with lenticles of quartzite and limestone. The Devonian shales at this locality yielded plant remains. The Devonian beds are represented along the coastline as far as Gillan Harbour, where their relations with the underlying Ordovician are again seen. Midway across Men-aver-Beach a mica trap cuts the Devonian conglomerate, The cliffs along this beach arc made up of a deposit of " head" resting on a raised beach. From Gillan Harbour walk to Tregithey, where there is the most easterly exposure of the Manaccan hornblende-schist. At Cairn, just beyond, there is a large quarry of Veryan sandstone in a brecciated condition. At the head of Gillan Creek the hornblende-schist, much brecciated, is well exposed on the hillside, and the mica-schist in association with it is seen in a small quarry. Further up the valley leading to Manaccan the less altered phyllites of this metamorphic belt will be seen showing the biotite spotting. In the main road below Manaccan the granophyre is exposed in the bank amongst shattered killas. Tea at Manaccan.

Drive from Manaccan to Coverack, 8 miles. Dinner 7 p.m.

Walking distance about 4 miles. Probable cost of drives, 1s. 4d.

Tuesday, March 25th.—Carrick Luz, Kennack and Cadgwith

DIRECTOR: J. S. Flett.

Breakfast 8 a.m. Luggage should be ready at 9 a.m. for cartage to the Lizard, cost 6d. each. At 9.15 walk over the serpentine downs (partly cultivated) to Carrick Luz to examine the large dyke of gabbro cutting the serpentine. It shows beautiful injection foliation ; many smaller veins proceed from it. The gabbro often contains inclusions of serpentine ; very good specimens of augen-gabbro can be obtained here. The white gabbro also is common.

Take foot-path on top of cliffs to Poldowrian where there is a dyke or inclined sill of dolerite (epidiorite) in the serpentine. It cuts several gabbro dykes, some of which are much foliated. The serpentine is fluxion-banded. The black dyke contains acid veins or streaks. Again follow coastguards' path to Kennack. On the east side of the cove there are several black dykes, also in the centre of the cove. On the west side the Kennack gneisses begin. Near the telegraph house examine their banding and foliation, the way in which they cut across black dykes and gabbro dykes, and observe the inclusions of serpentine. Many varieties of the gneisses are visible ; some show excellent fluxion-banding ; all are well foliated. Massive pegmatites (passing into quartz veins) cut the gneisses. Going south we either take the cliff path or follow the shore as time and tides permit. At Polbream Point see one of the finest sections, proving the intrusive character of the gneisses and their composite origin. Thence south by Caerleon Cove to Enys Head and Cadgwith, where tea may be had. The hornblende-schists are faulted in at Kildown. At Cadgwith visit the Devil's Frying-pan to see the dunite-serpentine and tremolite-serpentine. Then follow cliff path to Lizard Town. Dinner 7 p.m.

Walking distance eight miles.

Wednesday, March 26th.—Lizard and Kynanee

DIRECTOR: J. S. Flett.

Breakfast 8 a.m. At 9 30 first see mica-schists and hornblende-schists at Lifeboat Station, Polpeor. The bedding of the sedimentary schists is very clear ; they contain bolster-shaped masses of greenstone. Then follow cliff path by Old Lizard Head to Kynance. The southern boundary of the serpentine is a fault or thrust at Pentreath Beach. At Holestrow there is a great caldron-shaped landslip, due to the breaking down of caves. At Kynance examine hastite-serpentine and tremolite-serpentine ; dykes of gabbro and epidiorite in serpentine ; veins of red gneiss and of banded-gneiss. Some good examples of hornblende-schist dykes will be seen, also of pseudophite. On the way back visit Pentreath Beach to see "augen serpentine." At Venton Hill Point there are andalusite-mica-schists. On Old Lizard Head we find green schists, hornblende granulites, and large sills of intrusive fine granulitic gneiss. Specimens of the Man-of-War gneiss may be found on the beach at Polpeor. It forms the outlying islands. Dinner 7 p.m. Walking distance five miles. Tea may be had at Kynance.

Thursday, March 27th.—Gunwalloe to Porthleven

DIRECTOR: J. B. Hill.

Breakfast 8 a.m. At 9.20 drive to Loe Bar (9 miles). At Gunwalloe (6 miles) visit the coast section and inspect the sharp folds in the Devonian strata in the cliff at Tangye-syn. At Gunwalloe also is seen a spread of blown sand used as golf links. Drive to Chyanvounder (1 mile) and inspect the Devonian strata with fossil plant beds at Baulk Head. The raised beach is seen near the coastguard station, also the Falmouth beds which occupy the coast section for well over a mile as far as Loe Bar. As the loose shingle renders walking irksome the party will drive to the Loe Bar, in which the large proportion of flints will be noted. The coast line from thence to Tregear Point, beyond Porthleven, will be inspected, about 2 miles. The Falmouth series extends to the northern end of the bar, where it is succeeded by the Mylor group which occupies the remainder of the section. The Mylor group lies in the granite aureole, and the contact alteration is very marked to the north-west of Porthleven. Along the Porthleven sands are some patches of "head" and raised beach, and erratic blocks are embedded in the beach shingle. Greenstone sills in great profusion line the coast on either side of Porthleven. On the north-west side occurs the enormous erratic of microcline gneiss known as the Giant's Rock, and relics of the Pleistocene beach are seen in the vicinity, as well as rounded erratics that have been washed out of it.

Walking distance 3 miles. Drive from Porthleven to Helston (2½ miles), where tea may be had. Those returning to the Lizard drive from Helston about 5.20 (10½ miles), Dinner 7 p.m. Probable cost of drive 3s.

Friday, March 28th

Return home. Motor-bus to Helston, 1s. 9d. each.

Those who prefer to spend Thursday night at Helston instead of returning to the Lizard must make their own hotel arrangements, but no reduction can be made in the 'bus fare.

Dr. Flett will take any who can stay a day longer round the coast from the Lizard to Mullion.

A pamphlet of the district is being prepared by the Directors, and will probably be on sale at the March meeting. Price 1s. (or 1s. 1d., post free), from Mr. G. W. Young.

REFERENCES.

1912. Geological Map, 1-inch scale, colour-printed. Sheet 359. Price 1s. 6d.

1912. Memoirs of Geological Survey; Geology of the Lizard and Meneage. Price 5s.

1912. UPFIELD GREEN AND C. D. SHERBORN: "Note on the Pollurian-Trewavas Coast Section." *Geol. Mag.*, dec. 5, vol. ix, p. 558.

1913. UPFIELD GREEN AND C. D. SHERBORN: "On the General Geological Structure of Western Cornwall." *Ibid.*, dec. 5, vol. x, p. 70.

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