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The Flora and Vegetation of Old Man Rock, Mercury Islands Group

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Abstract

A description is given of the vegetation and soil covering Old Man Rock, a small islet off the coast of the Coromandel Peninsula. A list of the plants found is included.

OLD Man Rock is a precipitous-sided stack, less than an acre in area, which rises straight out of the water to a height of 225ft. It lies approximately 12 miles north-east of Whitianga in Mercury Bay, is 1½ miles east of the Coromandel coastline at its nearest point, and 1½ miles north-west of Ohena Island. A rock specimen collected was identified by Dr W. A. Watters (N.Z. Geological Survey) as basalt.

The writer had a chance to visit the islet on July 11 and 12, 1961, when the battery-operated navigation light was being serviced from H.M.N.Z.F.A. Hauraki. Landing is difficult except during calm weather.

The scrub which covers Old Man Rock looks undisturbed, and it is possible that this vegetation was never burnt during Maori times. It is therefore worthwhile to put on record details of the composition of the islet's plant covering together with a list of the species found.

The vegetation of the upper two-thirds of the islet is a *Paratrophis*-karo-houpara scrub in which the dark green foliage of karo (*Pittosporum crassifolium*) contrasts with the paler greens of *Paratrophis banksii*, houpara (*Pseudopanax lessonii*) and other shrubs. The scrub canopy is for the most part 5–10 feet high with a few trees emerging to a height of 14 feet. An understory is practically absent apart from the fern *Asplenium lucidum*. The soil is a shallow powdery loam with many shattered rocks exposed at the surface. Bluffs are numerous. The scrub covering the small flat-topped summit of the islet contains a high proportion of wharangi (*Melicope ternata*) and a soil profile here showed:—

¼in—dark brown loam; loose; fine granular structure.

12in—dark brown loam with stones; very friable; moderately developed very fine crumb structure.

Roots throughout; well drained.

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To obtain a more exact picture of composition, 25 canopy shrubs were counted along a transect up the southern face of the islet and a contour transect was made at the summit where 20 shrubs were counted.

On the lower western slopes of the islet, the scrub canopy is discontinuous with patches of *Disphyma australe, Deyeuxia billardieri,* and *Poa anceps* in openings. *Salicornia australis* appears to be the main plant of the halophyte zone above high water mark, but it was not possible to examine this zone properly. The lower part of the eastern face is a vertical cliff 50ft high.

Several petrel burrows were noticed near or on the summit of the islet. Birds either seen or heard were silvereye, chaffinch, blackbird and a parakeet. Geckos (*Hoplodactylus* sp.) and skinks (*Leiolopisma* sp.) were found under rocks. Chewed foliage of *Disphyma* suggested that rats may possibly be present.

A total of 40 species of plants were seen during three hours of searching. In the list below, numbers in brackets refer to specimens lodged in the Botany Division herbarium, Lincoln. Names of ferns and dicotyledons follow Allan (1961) and names of monocotyledons follow Cheeseman (1925). Where departures have been made from Cheeseman, his name is placed in brackets. The abundance ratings used are as follows:—

a—abundant, plants generally distributed over the islet.
m—many, plants seen only in parts of the islet.
f—few, plants seen only at one or two points.
*—introduced species.

Species	Family	Abundance
Asplenium flaccidum var.	Aspleniaceae	a
A. lucidum	Aspleniaceae	m
Astelia banksii	Liliaceae	f
Collospermum hastatum (*Astelia solandri*)	Liliaceae	f
Coprosma repens	Rubiaceae	m
		Plants up to 12ft in height
Deyeuxia billardieri	Gramineae	a
Dichondra repens	Convolvulaceae	m
Disphyma australe	Aizoaceae	m
Hymenanthera novae-zelandiae	Violaceae	a
*Hypochoeris radicata**	Compositae	a, summit
Isolepis cernua (*Scirpus cernuus*)	Cyperaceae	m
Lepidium oleraceum (121207)	Cruciferae	f
Linum monogynum (121203)	Linaceae	f
*Lycium ferocissimum** (121201)	Solanaceae	f
		Two plants seen on northern part of summit
Mariscus ustulatus	Cyperaceae	f
Melicope ternata	Rutaceae	f
Metrosideros excelsa	Myrtaceae	f
		Plants up to 12ft in height
Microlaena polynoda (121204)	Gramineae	f, summit
Muehlenbeckia complexa	Polygonaceae	a
Oplismenus undulatifolius	Gramineae	m
Paratrophis banksii (121202)	Moraceae	a
Parietaria debilis	Urticaceae	f
Peperomia urvilleana	Piperaceae	f
Phormium tenax	Liliaceae	m
Pittosporum crassifolium (121206)	Pittosporaceae	a
		Plants up to 14ft in height
Planchonella novo-zelandica	Sapotaceae	m
Poa anceps	Gramineae	m
Pseudopanax lessonii	Araliaceae	a

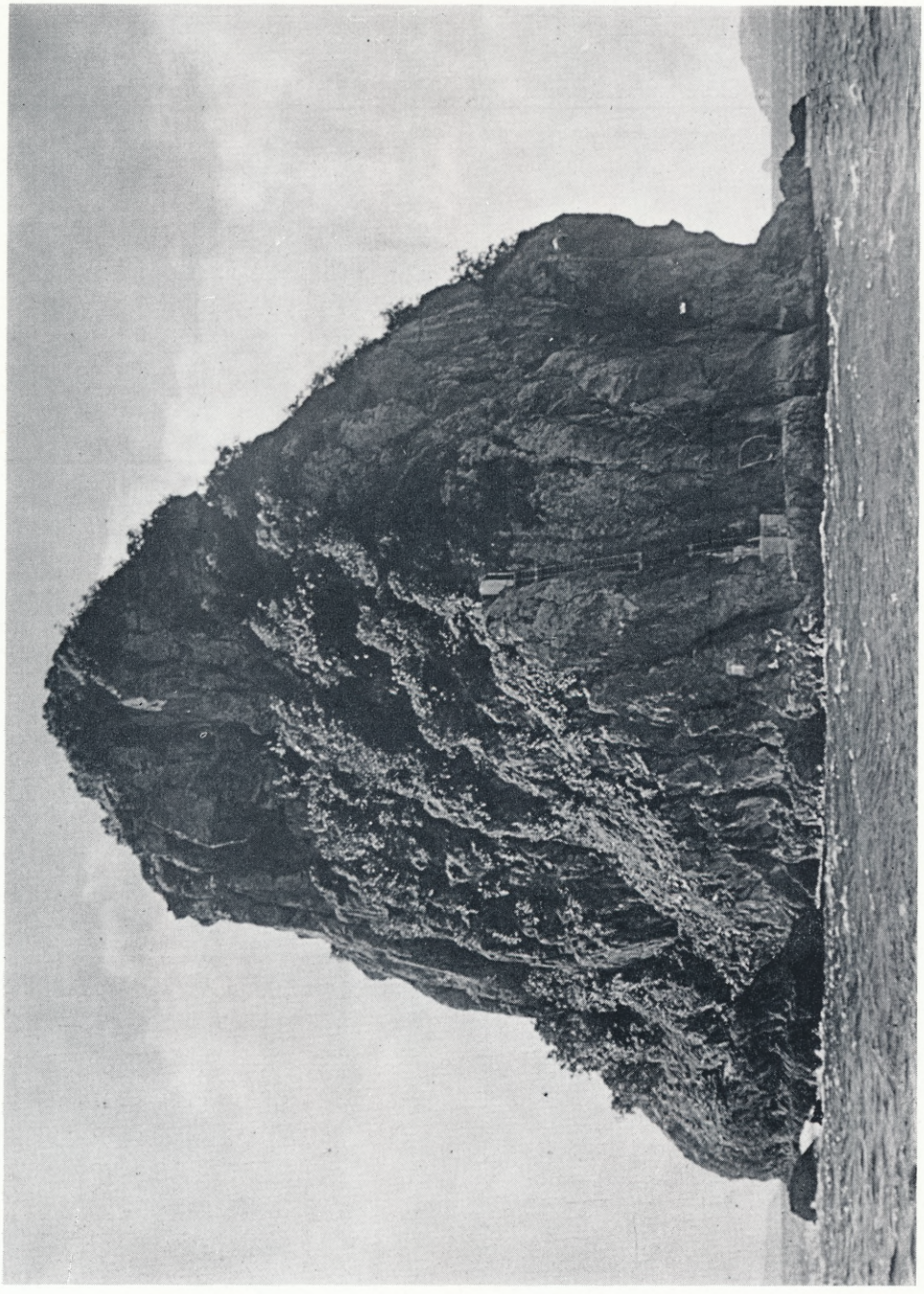

FIG. 1.—Old Man Rock (225ft) viewed from the south-west. Western slopes partly covered by a *Paratrophis*-karo-houpara scrub.

Species	Family	Abundance
Pyrrosia serpens	Polypodiaceae	a
Rhagodia triandra	Chenopodiaceae	m
Salicornia australis	Chenopodiaceae	m
Scirpus nodosus	Cyperaceae	f
Senecio lautus lautus	Compositae	f
Sicyos angulata	Cucurbitaceae	m
*Solanum nigrum**	Solanaceae	f
Sonchus littoralis	Compositae	f
*Stellaria media**	Caryophyllaceae	f
Tetragonia trigyna	Aizoaceae	a
Thelymitra longifolia	Orchidaceae	f
Wahlenbergia gracilis (121205)	Campanulaceae	a, summit

TABLE 1.—COMPOSITION OF COASTAL SCRUB CANOPY ON OLD MAN ROCK.

	S aspect slope (30°)		Summit	
Species	Number Counted	Composition %	Number Counted	Composition %
Paratrophis banksii	8	32%	4	20%
Pittosporum crassifolium	6	24%	2	10%
Pseudopanax lessonii	6	24%	1	5%
Hymenanthera novae-zelandiae	2	8%	3	15%
Coprosma repens	1	4%	2	10%
Metrosideros excelsa	1	4%	1	5%
Planchonella novo-zelandica	1	4%	1	5%
Melicope ternata	0	—	6	30%
	25	100%	20	100%

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