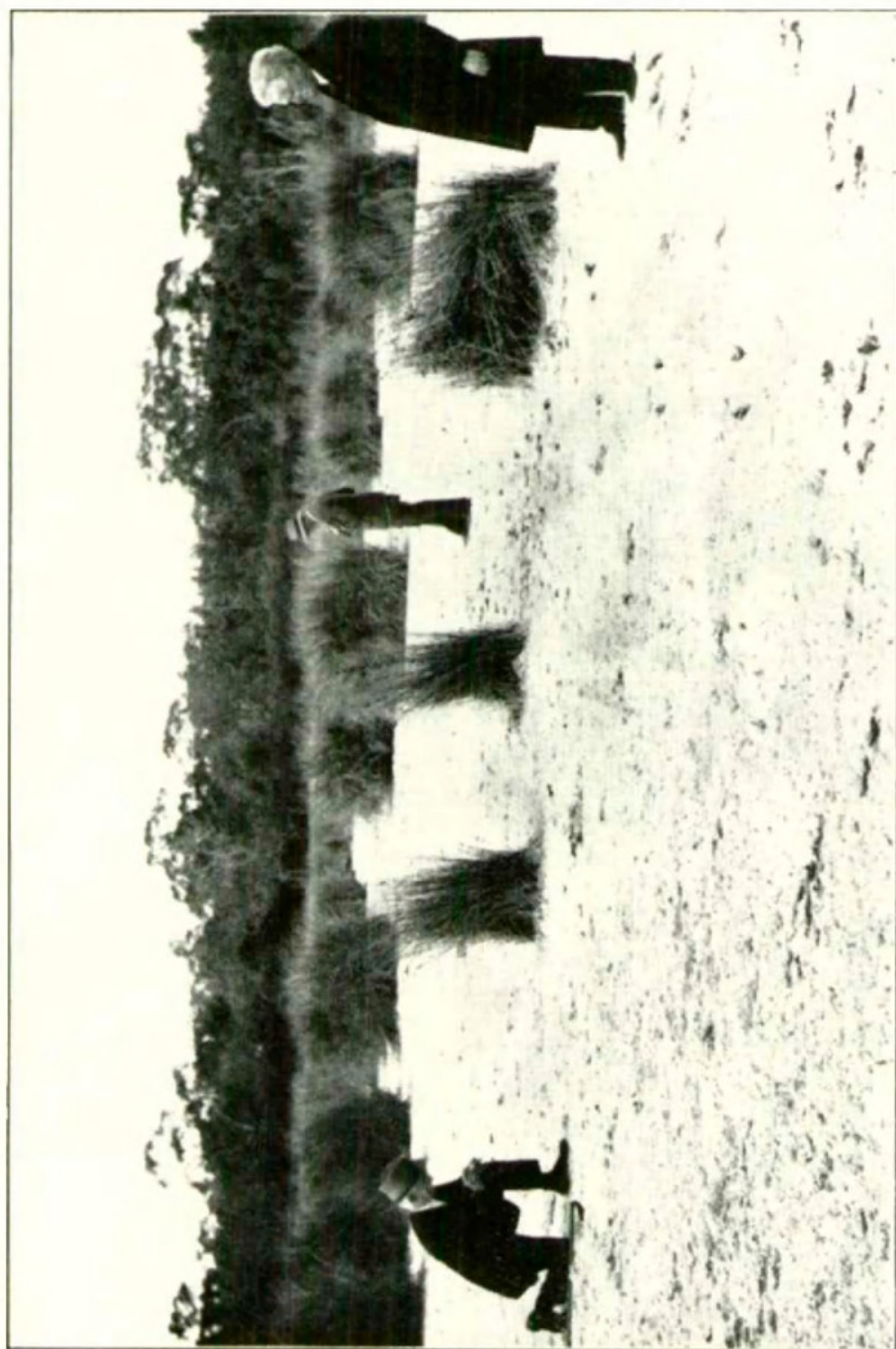


Plate I



Emu Swamp, Sperm Whale Head

Photo.: Chas. Harrett.

EMU SWAMP, SPERM WHALE HEAD PENINSULA.

By A. D. HARDY, Hon. Secretary, The Lakes National Park.

One of the many interesting features of the Lakes National Park¹, on Sperm Whale Head, Gippsland Lakes, is Emu Swamp.

We² first viewed it on surmounting a low sandy ridge near the Lake Victoria shore of the Park, where, on a small sandy beach at Kangaroo Point, we had disembarked.

From the ridge we looked down on what appeared much like a salt-pan with tussocks growing here and there. Descending, we forced a way through a belt of six-foot high Coast Saw-sedge (*Gahnia trifida*) and crossed a zone of Paper Bark (*Melaleuca ericifolia*), 12 feet to 15 feet high, in the breaks of which, or in little tracts adjoining, the Beaded Glasswort (*Salicornia australis*) compensated with its bright translucent crimson shoots for the general absence of flowers in the neighborhood. The pretty little blue Monkey Musk (*Mimulus gracilis*), was one of the few plants seen in bloom that day, was sheltered by the *Melaleuca*. From the margin there appeared to be a covering of dead algae, extending from side to side excepting where large tussocks grew singly or in clumps, an appearance prompted by my recollection of having identified as an alga (*Lyngbia*) material of the same macroscopic texture. It had been submitted by Mr. Charles French as nesting material of the White-headed Stilt, in a swamp at Laverton (*Iict. Nat.*, Jan., 1912). A mat of bleached algae (*Enteromorpha*) covered the shore rocks of Lake Corangamite.³

The dense, white mat of tangled thread proved under magnification to be a species of *Nitella*, a genus of many species which habitually live in varying depths of clear, still water, as in Yan Yean reservoir a few feet deep, in Preston reservoir at much greater depth, and, according to Schimper, in Lake Constance at 100 feet or thereabout. Species are sometimes found in pure aquatic meadow formation or mixed with such as Water Milfoil and Floating Pond-weed (near Frankston in roadside pool), and in Mallee reservoir lakes fed by the Wimmera and its irrigation channels. Species which inhabit brackish water are few, if indeed there are more than the one. This introduces a special interest in Emu Swamp, which, by virtue of the marginal *Salicornia* as well as the salty taste of the *Nitella*, periodically has water of a decidedly brackish nature. The *Nitella* could not be specifically identified because it was either sterile or had, when drying, dropped its spores. It is a very slender plant, the longest, unravelled from the felted mass, being about 4 in., with simple

1. It is intended to prepare a description of this park at an early date.

2. Members of Committee of Management: Messrs. G. Coghill, F. Lewis, Charles Barrett, A. D. Hardy.

3. "Excursion to Lake Corangamite District," *Iict. Nat.*, June, 1918.

whorls of one-celled leaves on an axis about 1/40 in. thick and with internodes about two inches long. Numerous naviculoid Diatoms, including *Amphora* (probably *A. ovalis*) were enmeshed in the weed, these being the only associated algae noted. The swamp has a natural drainage of rainwater from an area of about a half square mile, but when rivers in flood increase the volume in the Gippsland Lakes the water of Lake Victoria rises and flows into such depressions as this, so that, with annual rainfall and occasional additions of flood water, there is salinity which, apart from the concentration due to evaporation, is of varying intensity.

The tracks of kangaroos and emus were numerous and indicated that many of the former and several emus had traversed the area in several directions since the evaporation. The tracks



Photo. by F. Lewis.

Track of Kangaroo when "creeping"

of mature and of half-grown kangaroos were seen, and although most of the emu prints were of full grown birds there were the marks of a chick accompanying one of these. What were these animals doing there? Had they visited the area for water, or out of mere curiosity? or was the soft carpet of dead *Nitella* pleasant to walk upon? There was no sign of scratching or pecking. Except for the "spoor" the felted mass was unbroken.

So, failing to solve the puzzle, we indulged in tracking, with results which would have won praise from Cooper's "Deerslayer" or a Scoutmaster, for although we did not track beyond the confines of the swamp, and so did not come up with the animals, we found enough evidence in the tracks to conceive a mental picture which was almost compensating. Here it was plainly seen that a kangaroo had hopped leisurely across, and there

another had first hopped and then turned from a biped into a "tripod" while, propped on hind legs and tail, it sat up and took notice of its surroundings before creeping, as a "quintipod," using four feet and tail.

Where the marsupials hopped the feet broke through the weed and exposed the black mud, two short parallel indentations and about six feet to the hop; the tail, being only a balancer when the owner is hopping, of course left no impression. The track of the creeping animal was of most interest, for in it could be plainly seen the method of progress. From a "sitting up" posture the kangaroo had lowered its front quarters and placed its fore feet well in advance, then, drawing the tail well in behind, it rested on forepaws and tail while advancing the hind feet, now diverging, outside, toes in advance of the fore feet, on which to rest while bringing the "fore and aft supports" into action. In creeping thus, impression is made by both heel and toe,⁴ but in hopping the toes only are used. On the *Nitida* mat of Emu Swamp "he who runs may read" the very distinct tracks in all their variety.

A deeper impression indicated where it had "sat up" again and reconnoitered. It was easy to visualise the little forearms hanging limp, the ears erect, and the nostrils delicately twitching as the animal sampled the slight breeze for possibly suspicious signs of danger; and, that discretion was deemed the better part of valor, in exposure, was plainly evident in the resumed hopping: two hops of about five feet, a short pause with tail down, and then long nine foot hops out of the swamp area and away to the sheltering scrub. There were no marks indicating play or fight.

The emu tracks crossed those of the marsupials, and occasionally ran parallel. Although the great birds would weigh as much as these grey kangaroos, they left shallower indents in the mat, which was compressed rather than broken, and so more difficult to photograph. By much circumspection Mr. Lewis managed to get a set of marks with the emu footprints deep enough to have shadows. The emus had leisurely walked with short stride, their beautiful poise and balance shown by the footprints being in an almost straight line.⁵

But we had much else to see in the park and in the Lake Reeve section of the Sanctuary, which includes the park and most of the land and water extending to the ocean, so we left Emu Swamp hoping to see and examine it again under different conditions.

4. Note that the Great Red Kangaroo and the Large Grey Kangaroo in the Melbourne Zoological Gardens frequently creep on their toes, while Grey Kangaroos in an adjoining enclosure place both toe and heel on the ground when so progressing.

5. Seen elsewhere on a Mallee sandhill the Emu footprints diverged and the larger stride indicated haste as well as insecure foothold.



Hardy, A D. 1937. "Emu Swamp, Sperm Whale Head Peninsula." *The Victorian Naturalist* 54, 3–5.

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