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WILD BERRIES OF TASMANIA

By Raleigh A. Black.

(Concluded.)

IN CONCLUDING my article from *The Tasmanian Naturalist* (Vol. 1, New Series, No. 3), wherein a necessary distinction between the true and false berries was made and the former group described, steps are now taken to deal with the false berries. Some of these are even more beautiful than the true berries.

From the popular viewpoint, the terminal—that part of the peduncle or flower-stalk which produces, after the falling of the petals or sepals or both, a comparatively small coloured swelling, either singly or in clusters—is called a “berry.” In spite of the decision come to in the first published part of this paper, mention will be made of the Coral Cluster Berry, the Native Cherry, and similar coloured swellings which are not the sarcocarps or coloured parts of fruits.

In describing the berries one is faced with a rather formidable undertaking, as there are many pitfalls surrounding the colour question. The more one studies Nature the more one observes that she certainly does not create to a blue print!

A person who happens to be a nature-lover, not actually a systematic botanist, may, at times, find it a little difficult to succeed in making a correct determination of the species concerned owing to shades of colours appearing among some berry-like fruits; yet it may not be so difficult after all, unless he were given a loose false-berry without any leaves, because a shrub producing berry-like fruits would have its dominant colour, which, of course, would be the guiding rule to follow.

The Key has been constructed to enable the tyro to quickly determine the systematic place held by a particular berry-like fruit growing naturally among the flora of the State; anything outside this berry-naming conception must be met by a reference to Rodway's *Tasmanian Flora*.

FOLLOWING the decision of the School of Botany, Tasmanian University, the classification adopted by Rodway will be followed.

When false berries are mottled or speckled it will be observed in such cases that usually there is a dominant colour or shade, which will be the guide in determining the colour group. Of course when one is picking the fruits the predominating colour will be noted. Often a few pure white false berries will be perceived among red ones, and also green false berries among blue ones, and so on, but these anomalies should not lead to confusion, and no notice should be taken of them for the time being.

When a genus, e.g., *Coprosma*, includes several species whose fruits are very much alike, mention is made of some distinguishing characters relating to habit, size, kind of leaves, presence of spines, to ease the position.

If it be desired that the name be worked out in the bush, then a pair of watchmaker's finely pointed forceps, a measuring instrument, and a small magnifying glass must be always available for the purpose.

A glossary will be found in part 1 of my article (Vol. 1, No. 3).

The numbers on the left-hand side of the Key refer to the pagination of Rodway's "Flora."

WHAT are colours? We know that light is the agent which by its action on the retina excites in us the sensation of vision. That part of physics which deals with the properties of light is known as optics. This light from the sun, specifically known as solar light when decomposed, gives us a colour band like that of the rainbow, called the solar spectrum. In this spectrum there is, in reality, an infinity of different tints, which imperceptibly merge into each other, but it is customary to distinguish seven principal or simple colours which are, metaphorically, Nature's paints that enable her to produce all the beautiful colours and shades which are seen on all plants, including flowers and berries.

In making my Key, these prismatic colours have been used to produce categories to simplify the identification of the true and false berries.

As a flint glass prism is able to decompose solar light into specific colours and shades, so are Nature's objects able to decompose solar light by the process of reflection; and their colours and shades depend on their reflecting power for the different simple colours. Those which reflect all colours in the proportion in which they exist in the spectrum are white, while those which reflect none are black. Between these limits there are infinite tints, according to the greater or less extent to which bodies reflect some colours and absorb others. Hence bodies have no colours of themselves, but are coloured by the kind of light which they reflect.

B.—FALSE BERRIES.

KEY TO COLOURATION.

VIOLET, B (a); indigo, B (b); blue, B (c); green, B (d); yellow, B (e); orange, B (f); red, B (g); white, B (h); black, B (i).

BLUE.—B (c).

Including shades, such as blue-black, azure, sky-coloured, sapphire, amethyst, bluish-violet, purplish-blue.

(Fam. Tiliaceae.)

B (c), 1.—Drupes blue, usually 1-seeded, globular-ovoid, in clusters of 9 or more; the stone $\frac{1}{4}$ - $\frac{1}{2}$ in. long, rugose on the surface. The fruits are stalked; leaves elliptical-oblong, 3-4 in. long.

18. *Elaeocarpus cyaneus*, Ait. (Blue Olive Berry).

(Fam. Rubiaceae.)

B (c), 2.—Drupes solitary, terminating short, erect branches, oblong, blue, 3-4 lines long with 2 stones which, when dry, with the epicarp removed, appear as one. A small, prostrate perennial; leaves $1\frac{1}{2}$ - $2\frac{1}{2}$ lines long; branches, slender, mostly 3-4 in. long.

69. *Coprosma moorei*, Rod. (Moore's Coprosma).

(Fam Myoporaceae.)

B (c), 3.—Fruit a fleshy, 2-4, 1-seeded drupe, purplish blue, globular to ovoid, in axillary clusters, 1-3 lines diameter. A tall shrub often dwarfed and diffuse on the sea coast, but sometimes up to 20-30 ft. high and 6-8 in. in diameter; leaves 1-3 in. long, but very variable.

146. *Myoporum serratum*, R. Br. (Coast Boobialla).

B (c), 4.—Fruit a fleshy, 2-4, 1-seeded drupe, solitary, or few together in the axils, purplish blue, 2 lines diameter. A small procumbent shrub, of few feet growth; leaves linear to narrow, spatulate, $\frac{1}{2}$ -1 in. long.

146. *Myoporum parvifolium*, R. Br. (Creeping Boobialla).

GREEN.—B (d).

Including shades such as sea-green, turquoise, greenish-blue, leaf-green, emerald, velvety-green, shamrock-green, beryl, bluish-yellow.

(Fam. Epacridaceae.)

B (d), 1.—Drupe nearly $\frac{1}{2}$ in. diameter, ovoid or globular and greenish; solitary, axillary; plant small, cushiony; leaves about $\frac{1}{2}$ in. long, narrow, mostly lanceolate, with a hard, sharp point; flowers red.

110. *Astroloma humifusum*, R. Br. (Cranberry Heath).

B (d), 2.—Drupe similar to the preceding, but with less fleshy endocarp. Plant a shrub, 1 to 3 ft. high. Flowers about $\frac{1}{4}$ in. long, red at the base, passing into yellow with green tips to the lobes.

111. *Astroloma pinifolium*, Benth. (Pine Heath).

(Fam. Proteaceae.)

B (d), 3.—Fruit a berry-like drupe, ovoid, fleshy, yellowish-green, solitary, axillary, $\frac{1}{4}$ in. or more long, 1-seeded. A sub-erect, much branched, spreading shrub, often not exceeding 2 ft.; from silky-hairy all over to almost glabrous; leaves narrow-linear, pungent, spreading $\frac{1}{2}$ - $1\frac{1}{2}$ in. long.

167. *Persoonia juniperina*, Lab. (Prickly Geebung).

YELLOW.—B (e).

Including shades such as golden, sulphur, canary, lemon, gamboge, coffee, brown, etc.

(Fam. Rubiaceae.)

B (e), 1.—Drupe very succulent, globose, coffee shade, in small terminal or axillary clusters, up to 3-8th in. diameter; with 2, 1-seeded stones which, when dry, appear as a single stone, about $\frac{1}{2}$ in. diameter; a shrub, 2-5 ft. tall; leaves 1-3 in. broad.

69. *Coprosma hirtella*, Lab. (Rough Coprosma or Coffee Berry).

B (e), 2.—Drupe fleshy, globose, orange-yellow; solitary, terminal, about $\frac{1}{4}$ in. diameter with 2, 1-seeded stones. A small under shrub, creeping, 1-2 ft.; leaves about 2-3 lines long.

69. *Coprosma repens*, Hook. f. (Spreading Coprosma).

ORANGE—B (f).

Including shades such as amber-red, bright orange-red, etc.

(Fam. Rubiaceae.)

B (f), 1.—Fruit a drupe, fleshy, solitary in the terminal axils, amber-red to bright orange-red, and globose or broader than long and about 1-5th in. long. Plant prostrate, perennial forming cushions a few inches to one foot or more in diameter; leaves $\frac{1}{4}$ - $\frac{1}{2}$ in. long, broadly ovate, coriaceous or fleshy, shining deep green.

70. *Nertera depressa*, B. and S. (Cushion Nertera).

B (f), 2.—Fruit a berry-like drupe, globose, fleshy, purple to orange, about 4 lines diameter; pyrenes (stones) free, normally 10; drupes few in terminal, axillary, clusters. A tall, much-branched shrub; leaves from 3 lines long, and broadly oblong to 9 lines, narrow, shortly stalked, mostly 3 or 5 ribbed.

112. *Trochocarpa gunnii*, Benth. (Gunn's Wheel Berry).

KEY TO RED FALSE BERRIES.

CATEGORY B (g).

- A, raspberry-like Aa.
 B, drupaceous Ba.
 C, fruit a dry capsule, but appearing berry-like from the fleshy calyx Ca.
 D, fruit with a dry pericarp, but the fruit-stalk, below, swollen and red-berry-like B (g) 22.
 Aa, plant of few inches, fruit an aggregation of 5 or more united drupes B (g) 1.
 Plant climbing over undergrowth, prickly, fruit of many united drupes B (g) 2.
 Ba, fruits solitary, in the terminal leaf-axils Bb.
 „ on short axillary branches Bc.
 „ solitary, axillary Be.
 „ 2 or more in terminal leaf-axils, leaves 3-4in. long B (g) 20.
 „ clustered in terminal axils Bf.
 Bb, drupe red, 3-5 lines dia., leaves clustered at ends of branches B (g) 9.
 „ 3 lines dia., leaves 3 lines long appressed to stems, showing their pale undersurfaces B (g) 10.
 „ 2-2½ lines dia., leaves with very pungent point B (g) 14.
 „ 2½ lines dia., leaves with a hard but not pungent point, plant small prostrate B (g) 11.
 „ 6 lines dia., leaves with a hard callous point, 9 lines long, pale and often polished beneath B (g) 12.
 „ 3 lines dia., leaves sharply pointed, 3-9 lines long, pale and many ribbed beneath B (g) 13.
 „ purple, 6-9 lines dia., leaves 3-4in. long, narrow-oblong B (g) 20.
 Ca, berry-like fruits red in terminal leaf axils Cb.
 Cb, leaves ½-1in. long B (g) 6.
 „ 3-4 lines long B (g) 7.
 Bc, plant 2-10ft. high Bd.
 „ 5-10ft. high B (g) 5.
 Bd, plant spiny, leaves ¼-½in. long, thin B (g) 3.
 „ a small prostrate shrub more or less matted B (g) 17.
 „ rigid, leaves ¼-1in. long, thick B (g) 4.
 Be, drupe purple, 1-3in. dia., leaves in clusters or false whorls B (g) 8.
 „ reddish purple, 1-3in. dia., leaves scattered, 1-2in. long, thick B (g) 21.
 Bf, drupe red, 6 lines dia., leaves 9 lines long, with hard callous point B (g) 12.
 „ pinkish, 2½ lines dia., leaf 3-6 lines long, sharply pointed B (g) 15.
 „ red, 3 lines dia., leaves 2 lines long, obtuse B (g) 16.
 „ purple, 6 lines dia., leaves 6-9 lines long, somewhat distichous B (g) 18.
 „ pale purple, 6 lines dia., leaves 1-1½ lines long B (g) 19

RED—B (g).

Including shades, such as scarlet, crimson, carmine, vermilion, pink, light-red, purple, bluish-red, etc.

(Fam. Rosaceae.)

B (g), 1.—Fruit red, succulent, consisting, in the aggregate, of five or more drupes of the character of a raspberry, but with fewer drupes; the whole fruit about 1-3rd in. in diameter, produced on an oval-shaped receptacle; the fruit grows beneath the foliage, usually hidden from the light, and partly, sometimes wholly, buried in the light soil in which it grows; plant a few inches high; common on most mountain summits.

43. *Rubus gunnianus*, H. K. (Mountain Raspberry).

B (g), 2.—Fruit crimson, succulent, roughly, in characted, as is the preceding, with the exception that the plant is prickly, with long, weak branches, climbing over the undergrowth after the manner of the introduced Blackberry.

43. *Rubus parvifolius*, Link. (Small-leaved Bramble).

(Fam. Rubiaceae.)

B (g), 3.—Fruit a drupe, fleshy; oval to spherical, red, solitary on short axillary shoots, with 2, 1-seeded stones, which are slightly fused together, when dry; up to $\frac{1}{2}$ in. long and about 3-16th in. broad. A slender shrub, several feet high; branches often reduced to spines.

69. *Coprosma billardieri*, Hook. (Prickly Currant Bush).

B (g), 4.—Fruit a drupe, fleshy, oblong to almost globular; bright red, solitary on short, axillary shoots, about $\frac{1}{2}$ in. diameter; the two-seeded stones when dry appear as a single stone, when it measures about 3-16th in. long and 2-16th in. broad. A rigid, erect, much-branched shrub, 3-6 ft. tall; leaves from $\frac{1}{2}$ -1 in. long, margins somewhat recurved.

69. *Coprosma nitida*, Hook. f. (Shining Coprosma).

(Fam. Thymeliaceae.)

B (g), 5.—Fruit a berry-like drupe, succulent, red, about 3-lines long, few together terminating in small lateral branches; the exerted style persistent round the fruit. A much-branched, glabrous, slender shrub, the branches often many feet long; leaves opposite, nearly linear, $\frac{1}{2}$ -1 in. long.

174. *Pimelea pauciflora*, R. Br. (Scanty Rice Flower).

(Fam. Ericaceae.)

B (g), 6.—Fruit a dry capsule, solitary in upper axils, but appearing berry-like from the succulent calyx which is red and seldom completely enclosing the capsule. Plant a small, sub-erect, spreading bush; leaves $\frac{1}{2}$ -1 in. long.

108. *Gaultheria lanceolata*, Hook. (Red Wax Berry).

B (g), 7.—Fruit as in the preceding, but the fruiting calyx only about half enclosing the capsule. Plant sub-erect or prostrate; leaves 3-4 lines long; fruit usually solitary, red, globose, $\frac{1}{2}$ in. diameter, but frequently the calyx lobes remain dry and unaltered.

108. *Gaultheria antipoda*, Forst. (Mountain Wax Berry).

(Fam. Epacridaceae.)

B (g), 8.—Fruit a berry-like drupe, very fleshy, red to purple or white, solitary, axillary, mostly about 1-3rd in. diameter. Generally a small shrub, but in unfrequented parts of a damp bush it will attain to a height of from 30 to 40 ft.; leaves 1-1 $\frac{1}{2}$ in. long, narrow and pointed, and in clusters or false whorls.

113. *Cyathodes glauca*, Lab. (Cheeseberry).

B (g), 9.—Fruit a berry-like drupe, very fleshy, about 3-5 lines diameter, red, solitary, clustered in the terminal leaf-axils. A sub-erect, much-branched, spreading shrub, common on mountains; leaves clustered at ends of branches; mostly $\frac{1}{2}$ - $\frac{3}{4}$ in. long, oblong blunt.

113. *Cyathodes straminea*, R. Br. (Red Stoneberry).

B (g), 10.—Fruit a berry-like drupe, red, fleshy, in terminal axils, solitary or 2 or 3 together; about $\frac{1}{2}$ in. diameter. A diffuse shrub, with ascending branches; leaves mostly $\frac{1}{2}$ - $\frac{3}{4}$ in. long, oblong, blunt, scattered on the branches, and appressed to them, showing their pale undersurfaces.

114. *Cyathodes adscendens*, Hook.

B (g), 11.—Fruit a berry-like drupe, red, fleshy, solitary in terminal axils; about 2 $\frac{1}{2}$ lines diameter. A small, prostrate, much-branched shrub; leaves mostly 2 lines long, lanceolate, with a hard but not pungent point, silvery-white beneath.

114. *Cyathodes dealbata*, R. Br.

B (g), 12.—Fruit a berry-like drupe, red or white, very fleshy, solitary, but usually clustered in the terminal axils; about $\frac{1}{2}$ in. diameter. A rigid, erect, much-branched shrub, 2-4 ft. high; leaves 9 lines long, with a hard callous point, pale and often polished beneath.

114. *Cyathodes abietina*, R. Br.

B (g), 13.—Fruit a berry-like drupe, red, fleshy, solitary in the upper axils; about $\frac{1}{2}$ in. diameter. A slender, erect or diffuse, much-branched shrub, from 2 to many feet high. Leaves shortly stalked, linear or narrow-lanceolate, tapering into a hard, sharp point, flat or convex above, pale and many ribbed beneath, $\frac{1}{2}$ - $\frac{3}{4}$ in. long.

114. *Cyathodes acerosa*, R. Br. (Crimson Berry).

B (g), 14.—Fruit a berry-like drupe, red, fleshy, small in the terminal axils, about 2-2 $\frac{1}{2}$ lines diameter. A small, rigid shrub; leaves about $\frac{1}{2}$ in. long, narrow-lanceolate, with a hard, very pungent point; flowers small in the terminal axils, on very short, recurved peduncles.

115. *Cyathodes parvifolia*, R. Br. (Pink Berry).

B (g), 15.—Fruit a berry-like drupe, fleshy, pink or white, about $2\frac{1}{2}$ lines diameter, small and numerous in axillary racemes. A small prostrate, ascending or sub-erect, much-branched shrub, often not exceeding 6 in., at others about 2 ft.; leaves $\frac{1}{2}$ - $\frac{3}{4}$ in. long and sharply pointed.

116. *Lissanthe strigosa*, R. Br. (Peach Berry).

B (g), 16.—Fruit a berry-like drupe, red or white, fleshy, about 3 lines diameter, numerous in terminal clusters. An erect, much-branched shrub, usually 1-2 ft. high; leaves narrow-oblong, obtuse, flat, pale, and many-nerved beneath, mostly $\frac{1}{2}$ in. long.

116. *Lissanthe montana*, R. Br. (Mountain Peach Berry).

B (g), 17.—Fruit a berry-like drupe, fleshy, oblong-globular, red, 5-celled, about 2-3 lines long, the pyrenes (stones) free, normally 5, but varying from 5-10, but usually 8, solitary, terminal on short branchlets. A small prostrate shrub, more or less matted and spreading; leaves about $1\frac{1}{2}$ lines long, bluntly pointed; on mountain summits.

111. *Pentachondra pumila*, R. Br. (Mountain Mat Berry).

B (g), 18.—Fruit a berry-like drupe, globose, very fleshy, purple, about $\frac{1}{2}$ in. diameter, pyrenes free and normally 10, few together in terminal spikes. A tall, often broadly spreading shrub; leaves somewhat distichous, 6-9 lines long.

112. *Trochocarpa disticha*, Spreng. (Purple Wheel Berry).

B (g), 19.—Fruit a berry-like drupe, globose, very fleshy, pale purple, about $\frac{1}{2}$ in. diameter; pyrenes free, normally 10, usually many in terminal clusters. A small spreading sub-erect shrub; leaves mostly 1- $1\frac{1}{2}$ lines long.

112. *Trochocarpa thymifolia*, Spreng. (Thyme-leaved Wheel Berry).

(Fam. Proteaceae.)

B (g), 20.—Fruit a berry-like drupe, globose, fleshy, purple, $\frac{1}{2}$ - $\frac{3}{4}$ in. diameter, axillary, terminal, 2 or more together. A small erect or spreading tree; leaves narrow-oblong, shortly stalked, coarsely and remotely denticulate, mostly 3-4 in. long.

167. *Cenarrhenes nitida*, Lab. (Native Plum).

B (g), 21.—Fruit a berry-like drupe, ovoid, fleshy, reddish-purple, solitary axillary, about 4 lines long. An erect branched shrub, often 6-8 ft. high; leaves thick 1-2 in. long, spatulate, obtuse; growing on many mountains.

168. *Persoonia gunnii*, Hook. (Mountain Geebung).

(Fam. Santalaceae.)

B (g), 22.—Fruit dry or nearly so, usually surrounded at the base by the persistent perianth, the fruit-stalk enlarged into a thick, succulent, red berry-like swelling. A small tree, the branches very numerous, slender and usually drooping towards their ends; leaves reduced to minute, alternate, persistent scales.

183. *Exocarpus cupressiformis*, Lab. (Native Cherry).

WHITE.—B (h).

Including shades of prismatic colours, but the background of the fruit being dominantly white.

(Fam. Ericaceae.)

B (h), 1.—Fruit a 5-celled capsule, but appearing berry-like from the succulent white calyx which completely surrounds the capsule, about four lines in diameter. An erect spreading shrub, 2-6 ft. high, the branches and midribs of the leaves covered with coarse brown hairs; leaves 1-2 in. long.

108. *Gaultheria hispida*, R. Br. (White Cluster Berry).

(Fam. Oleaceae.)

B (h), 2.—Fruit a 2-celled fleshy drupe, often maturing, but 1-seeded, nearly globular, white through pink to purple, about $\frac{1}{2}$ in. diameter; a tall shrub or small tree; leaves narrowly or broadly lanceolate, shortly stalked, 1-3 in. long.

128. *Notelaea ligustrina*, Vent. (Privet Mock Olive).

(Fam. Epacridaceae.)

B (h), 3.—Fruit a berry-like drupe, globose, fleshy, white, $1\frac{1}{2}$ -2 lines diameter, in terminal clusters. Plant a small, erect or diffuse, much-branched shrub; leaves oblong, blunt, and ciliated at ends; $\frac{1}{2}$ - $\frac{1}{2}$ in. long.

118. *Leucopogon hookeri*, Sond. (Punch's White Bells).

(Fam. Thymeliaceae.)

B (i), 1.—Fruit a berry-like drupe, ovate, fleshy, black, about 3 lines long, 1-seeded. An erect shrub, of 4-6 ft., hairy on the branches and inflorescence, slightly so on the leaves; leaves opposite, narrowly to broadly oblong, $\frac{1}{2}$ -2 in. long.

174. *Pimelea drupacea*, Lab. (Native Privet).

FIELD NATURALISTS' CAMP

Plunkett Point, Saltwater River.

By M. S. R. Sharland.

NEAR the north-western tip of Tasman Peninsula, where a wooded range overlooks the wide, smooth waters of Norfolk Bay, the Field Naturalists' Club found a delightful spot for its camp during Easter, 1949. The site was sheltered by hills which rose immediately behind, by high scrub and numerous trees, and the tents opened to a lovely view of the bay and the blue ranges of the peninsula beyond.

Beautiful by day, with the colourful forest behind and a patchwork of heath and bracken clothing the sandy hills right to the edge of the sea cliffs, the picture was even more attractive by night, when the moon laid a silver trail across the water, penetrated through the trees, and cast veiled shadows on the white tents clustered near the water's margin.

The site was at Plunkett Point, three or four miles beyond the settlement of Saltwater River, where there existed the notorious coal mine penal station a century ago. The healing salve of Time had covered most of the scars of those evil days. There were still many traces of the station itself; in the fine masonry of the broken penitentiary and administrative quarters, stone houses of officers, old tram line formations, mine shafts, air shafts, and villainous underground cells, all in various stages of decay and ruin, most overlaid by bracken and scrub. There were also prison relics to be found in any number, where men had slaved at the mines and other parts of the station. They were found amid the ruins, on the site of buildings now vanished, in the earth itself, and on the surface of the ground. Leg irons, rusted hand-made spikes and nails, hinges, parts of willow-pattern china, broken earthenware jars, and an odd assortment of iron ware, all told their tale of the prison days and the victims who sweated in the workings underground or shivered in the cells.

But here to-day was beauty where ugliness reigned a century before. As a camping spot, a site for nature study, and for pleasant relaxation, it was a haven, off the beaten track, where Nature had done much to obliterate the past.

Elsewhere in this issue is an article describing the penal station, by Mr. Wilfrid Huspeth, to whom we are indebted for the information. One regret is that we did not seek Mr. Hudspeth's advice on the station before the camp began, since the information, much of which has not been published previously, would have been helpful to the parties which "explored" the ruins and endeavoured to identify them.

This camp, like others held by the Club, proved most enjoyable to the 50 persons who occupied the 23 tents. Probably, because of fine weather, it was one of the most successful of camps in recent years. And it need scarcely be mentioned that



Members of the Tasmanian Field Naturalists' Club who attended the Easter Camp at Plunkett Point, Saltwater River, 1949.
Photo: K. Aves.

most of what contributed to this was performed behind the scenes, with Hon. Organiser Harold Sargison disregarding all union rules about the 40-hour week, overtime, and incentive payments, in order to ensure no hitch in the smooth fulfilment of plans. His reward was the satisfaction that his work made the way enjoyable for others, and the knowledge that no accidents occurred to mar the happy spirit, that no one was lost—though one party out till after dark gave some little concern on this score—and that food and appointments were more than sufficient for all.

So let us pass a vote of thanks to "Sargie," and declare it carried with acclamation!

THE Club's president during four previous years now took a back seat while the new president (Kelsey Aves) became the master of ceremonies, with Elliot Forsyth as his efficient lieutenant round the camp fire at night, when the air was tuneful with favourite songs, and some which were new. Gwladys Morris, Doreen Potter, Burn Widdicombe, members of the Quartette, and other talented members, who have been our song leaders at other camps, made the concerts highly enjoyable, while contributions in quaint vein were welcomed from three New Zealand girls attending their first Field Naturalists' camp, Misses Youngman, Harding and Kipling.

The ex-president's most memorable achievement was to lead a tired walking party four miles out of the way on a "blind" road, one hot Easter day. Yet even here there was a silver lining, when 45 persons sardined themselves on the tray of a lorry, to be carried back on the right track for nearly three miles, over a road that was as dusty as it was hilly.

A six-ton lorry, a modern bus hired from the Transport Commission, and three private cars, were used to transport the camp gear, food, and personnel to the site, and we gave thanks to the convicts of the past who built so stoutly the road that led right down to the point and the stone wall that served as stand for a 1,000 gallon water tank and a backing for the cook's camp fire and stove.

The advance party, which left Hobart on the Monday before Easter, and reached the site before noon, 70 miles from the city, spent the ensuing three days erecting tents and getting gear into position. A natural terrace was selected for the men's tents; the women's tents were in two rows of six among the trees to the left of the headquarters' tent; the married quarters were on a further terrace below these, down by the water's edge. It was a compact arrangement, with the large dining marquee and kitchen marquee and cooks' tent in a strategic position at the end of the old road.

The main party, having left Hobart shortly after 8 p.m. on Thursday, 14th April, arrived about 11.30, after some members of the advance party had gone out as far as Premaydena to ensure that the bus in the dark took the right road at a fork that would have puzzled a driver even by day. The precaution was justified, too.

The new arrivals, cheered by the warmth of a camp fire, were further warmed by coffee and supper, prepared by our worthy Camp Chef, Charles Theobald, and his assistant, Keith Smith, who did an excellent job throughout the camp.

SEPARATE articles will give some idea of the plant and bird life of the area traversed by the campers. This embraced almost the whole of the tip of the peninsula, from the camp site to Lime Bay, round about Slopen Lagoon, and the samphire flats and beach of Slopen Main. One outing consisted of an examination of the ruins of the coal mines station. This was more a journey of exploration, for none had seen all which were hidden among the folds of the hills.

The outing to Lime Bay and the lagoon was under the guidance of the Warden of Tasman (Mr. S. Bresnehan), who also showed us some additional and very fascinating coal mine relics, including an air shaft lined with freestone, estimated to be 100ft. in depth. Mr. Bresnehan, who has since retired from the Council, had his home on a hill at Saltwater River—the doctor's old residence—and he and Mrs. Bresnehan gave much help to the camp, in addition to permitting a party to tramp through their house and inspect its many attractive features. They also invaded a second house, owned by Mr. Bresnehan, but empty, on the adjoining hill overlooking the former convict hospital, now used as a store, and several ruined cells, old buildings, and the base of a mill. This house, once occupied by the commandant of the penal station at Saltwater River—the farm for Port Arthur—was equipped with cedar fittings and had many other interesting features.

One of the old cells, by the way, contained two unusual convict "relics." These were drawings, scratched in the surface of the plaster, now in fragments on the wall. One was a sketch of a full rigged ship and the other of an old man-o'-war. Some prisoner had doubtless drawn them to pass a tedious hour.

The historical significance of the district, both on the site of the coal mines and the farm, was probably more interesting to many than its natural history possessions. While the whole area was attractive in many ways for the naturalist, one could not say that there were any particular highlights or "purple patches" in either birds or plants, and certainly, in reptiles (or their absence), our "reptilian" member, Alan Hewer, found disappointment.

Nevertheless, at the camp itself birds were reasonably plentiful and pleasantly vocal, and on the outskirts members collected some attractive wild flowers. Swampy patches seemed at first sight as if they might yield a Ground Parrot or Emu-Wren, or even an Orange-breasted Parrot, but, as it was, none of these uncommon species was listed. Len Wall and Hugh Wilson were the most active bird-observers and compiled a commendable "list" as the result of their detached rambles through the district.

HOWEVER, in spite of what might have seemed at a cursory glance to be a somewhat uninteresting place for a working field naturalist, the district did yield a surprising variety of specimens under the stimulus of competition. This competitive spirit in collecting revealed itself in a wild-life exhibition, held in the dining marquee, one afternoon. Here one saw many things which might have been overlooked but for the discriminating eyes and

alertness of individual observers. There were living animals collected from the shore at low tide; the plants were diverse and often colourful, the shells were pleasantly varied, and, in all, the exhibition was a conspicuous success, with the specimens well displayed and labelled. Alice Wall carried off the prize in the senior section, and Eleanor Widdicombe obtained a well-merited award in the junior section.

Burn Widdicombe, of course, could just not avoid a touch of the burlesque. Clad in appropriate costume, he made an excellent "Lord Mayor of Plunkett Point," to open the exhibition, "with a few well chosen words," while, as the "Lady Mayoress," with a bouquet of bracken, Marjorie Scott assumed commendable dignity and grace.

On the final night (Easter Monday) the moon looked down upon a strange scene. It was the camp fire finale, the opportunity for a fancy dress parade. Comedy and satire were pleasantly blended in the group items, the individual costumes and the quaint character studies. There were also birds and animals of most extraordinary shapes and names. It was an excellent wind-up to a successful camp, and the last tired actors got to bed about midnight, some of them probably to stir uneasily at the thought that the morning would bring the unpleasant duty of dismantling tents, packing up, boarding the homeward bus, and saying good-bye to camp for another year.

Plunkett Point and its charms will, however, long remain pleasant memories.

Those who attended the Camp were:—

Messrs. H. K. Aves, Harold F. Sargison, E. W. Cruickshank, E. C. Forsyth., C. B. Widdicombe, A. Brownell, A. M. Hewer, F. D. Green, M. S. R. Sharland, J. A. Simson, L. Wall, L. H. Vernon, H. Wilson, N. Davies, J. Mitchell, G. Taylor, L. Brownell.

Mesdames Widdicombe, Brownell, Goldfinch, Nicholls, McMillan, Fleming.

Misses H. Mosey, F. Moorehouse, P. Atkins, M. Scott, S. Sargison, M. Fraser, L. Ibbott, R. Featherstone, J. Butler, D. Potter, M. Westbrook, M. Elliott, M. Cruickshank, G. Marshall, A. Wall, P. Youngman, L. Harding, W. Kipling, M. Harrison, G. Morris, E. Widdicombe, L. K. M. Goldfinch.

Masters David Wilson, J., R., and G. Brownell.

Staff: Official Chef, C. A. Theobald; assistant chef, K. Smith.

AUDITOR'S SERVICES: The Committee of the Club expresses appreciation of the services rendered by the Hon. Auditor over many years—Mr. R. F. Ellis, Bankers' and Traders' Insurance Co. Ltd., 119 Macquarie Street, Hobart.

COAL MINES STATION

By Wilfrid H. Hudspeth.

RELIABLE records of the penal station at the Coal Mines on Tasman Peninsula are scanty, and must be looked for among sources not readily accessible, such as despatches, newspaper files, private Journals and reports, and old plans and sketches.

Careful study of these would be necessary for the compilation of a comprehensive survey of the northern stations on the Peninsula. The following notes, gathered from time to time during researches into the penal system, may be of interest.

The Coal Mines were started in 1834, during the regime of Captain Charles O'Hara Booth, who was Commandant at Port Arthur from 1833 to 1844. They were designed primarily to supply the Convict and Military departments.

The first mine was opened on Slopem Island. Later a new shaft, the main shaft, was sunk on the mainland, on the hill above the site of the Penitentiary. In 1844 there was said to be an abundance of coal.

In 1835 some 500 tons of coal per month were being brought up to Hobart Town. The coal was first sold for 12s. per ton, afterwards increased to £1 5s. per ton, with concessions to the Convict Department. It was of inferior quality.

The main shaft had an engine pump to control the water. This was in operation before 1843.

There is a Plan of the workings of this shaft in the Royal Society's Library.

The cost of working was considered excessive. The operations were eventually discontinued, and the mine leased to a private company, whose working was also subjected to criticism in the Press. By 1867 the coal was exhausted and the company closed down the mine. For many years afterwards local inhabitants say that coal was burning underground, and in certain weather smoke could be seen rising from the deposits. It is said to be still burning, though I saw no smoke on a recent visit. I noticed, however, that slag heaps were hot to the touch.

Estimates of the number of convicts working at the mines vary from 500 to 800. There were also stationed there a detachment of Imperial forces—a major and 120 rank and file—and a number of overseers and civilian officers.

Conditions at the mines were bad, and to be sent there was considered one of the worst punishments on the Peninsula.

A one-time superintendent, James Purcell, says that in 1846 the food was bad, and there were 150 men in hospital. He alleges that the medical attendant drew the rations issued for the sick, and that there was collusion between him and the overseers. He also says that a paid minister attended on Sundays and held services for the convicts. The wife of the magistrate refused to sit with the convicts, and separate services, therefore, were held for her and her family.

John Evenden, who was Chief Constable on the Peninsula for 44 years (but who is not always a reliable authority), writing in his old age, in 1884, says that the station was closed in 1848. This would seem to be inaccurate, as the main buildings were not erected until after 1847, as hereafter mentioned. By 1860 the buildings were already falling into decay.

THE following are particulars of the various buildings still visible, with the exception of one or two, the purpose of which I have not been able to discover:—

The Penitentiary: Built of beautiful white and pink freestone, the buildings were grouped round a large open space, used for musters and parades. The penitentiary accommodated the convicts and staff.

A ground plan of the lay-out, dated 1847, in the possession of the Royal Society, shows the following: 300 separate apartments for convicts; 16 solitary cells; hospital for 22 patients; chapel for 292 convicts and 84 officers; school room and library; three mess rooms, holding 100 men each; quarters for superintendent, three assistant superintendents, religious instructor, medical officer, storekeeper, eight overseers; watch houses; constables' huts, and other accommodation.

It is not recorded whether this elaborate Plan was carried out in its entirety, but the present ruins show that the buildings were very extensive. Much destruction has been wrought by time and vandalism. When I first visited them I admired the handsome mantelpieces, carved in stone with the Rose, Thistle, and other emblems, but these have been completely wrecked by sacrilegious hands.

The Military Barracks: These were behind the Penitentiary, and are built of brick. A ground plan of them, dated 1847, is in the possession of the Royal Society.

Stone House: Near the coal deposits. This was the engine house, and originally had a chimney stack and a large iron boiler.

Bakehouse: Behind the Penitentiary.

Store: On the point. This was built of the same beautiful freestone. It was pulled down in recent years, and the material used to build a church at Dunalley.

Jetty: On the point, now disappeared.

Cemetery: This was a short distance up the hill from the Penitentiary, and was reserved for officers and free persons. Until recently there could be seen tombstones, some of them inscribed with the names of young military officers. But all of them have now been wickedly destroyed, and the area is overgrown with scrub. There was another cemetery, for convicts, some distance away, down by the shore.

Underground Cells: Now, alas, these are falling into decay. They were the best preserved ruins at the station. They were used for refractory convicts, who were kept there under strong guard. With the exception of the Dumb Cells at the Port Arthur Model Prison they were the most severe punishment on the Peninsula.

There were many escapes, some successful, from the Coal Mines, mostly by sea, and stories of murders committed there. The place was a veritable hell on earth. There were the usual hints at revolting practices, as at Port Arthur.

There is a lot of work waiting for someone capable of compiling a proper history of the various stations at the northern end of the Peninsula. If the ruins are not to disappear altogether, steps should be taken to protect and preserve them without delay. Every time I go there I notice more depredations.

TASMANIAN FIELD NATURALISTS' CLUB.

(Founded 1904.)

MEEETINGS are held at the Royal Society's room, Tasmanian Museum, Hobart, on the third Thursday in each month, except December and January. The annual meeting is held in February.

Annual Subscription: Adults 5/-; juniors (under 18) 2/6.

Anyone interested in Nature Study is welcomed to membership.

Application for election should be made to the Hon. Secretary, c/o Sargison's, Jeweller, 21 Elizabeth St., Hobart, or direct to Mr. A. M. Hewer on meeting nights. Subscriptions may be paid to Mr. H. F. Sargison, 21 Elizabeth St., or to Secretary.

Lectures, field outings, wild life show, and nature study camps, are the chief activities of the Club.

MR. N. LAIRD RETURNS FROM MACQUARIE ISLAND: With much fascinating material on the fauna of Macquarie Island, particularly relating to the bird life, Mr. Norman Laird returned to Hobart late in April, after 13 months spent on Macquarie Island with the Australian expedition. He represented the Tasmanian Government on the expedition, as photographer and naturalist.

ANNUAL SUBSCRIPTIONS: Members are reminded that subscriptions to the Club are due at the annual meeting each February; 5/-, and 2/6 for juniors under 18 years. The club must have funds to finance publication of *The Tasmanian Naturalist*, and would appreciate prompt payment of subscriptions as well as any donation that could be spared for the Publication Fund.

BOTANICAL NOTES

By Kelsey Aves.

THE district surrounding Saltwater River appears to be mainly sandstone, hence the soil is sandy and the vegetation mostly heath and light woodland. There are also salt-marshes, sand-dunes and lagoons. Most of our walks during the Easter Camp, however, took us through bracken-fern country, well interspersed with heaths, tea-tree and *Melaleuca* scrub, and light timber.

The Common Heath (*Epacris impressa*) was blooming well in all colours from white, through pink to red; the White Swamp Heath (*E. lunuginosa*) was also fairly common; its flowers densely clustered in the terminal axils probably account for its earlier vernacular name, Rocket. Large drifts of another member of the Epacridaceae were seen—Rough Whitebeard (*Leucopogon collinus*). Though each flower is so tiny that only a magnifying glass clearly shows its densely bearded corolla, the massed effect of this Heath is very pleasing. Cranberry (*Astroloma humifusum*) and Pink Swamp Heath (*Sprengelia incarnata*) were also noted.

Proceeding by gentle degrees of family relationship we came to the Bluebell (*Wahlenbergia gracilis*), and another member of the Campanulaceae, of which a single flower was found, was *Lobelia anceps*. A plant well scattered over the area, but past its best flowering, was the Trigger Plant (*Stylidium graminifolium*).

A few scattered blooms of *Tetradthea pilosa* (popularly, but incorrectly, known as Wild Boronia) were noticed.

Many areas were dominated by the Yellow Bottlebrush (*Melaleuca squarrosa*), which forms quite a thick and not easily negotiated scrub, as those members noticed who missed the main party leaving Little Slop Beach. Second scrub honours in these parts should go to the two tea-trees, Woolly and Prickly (*Leptospermum lanigerum* and *L. scoparium*), both of which were flowering profusely around the camp. The scent of these tea-trees, when the leaves are crushed in the fingers, is memorable. While speaking of scrub-negotiation, *Bauera rubioides* comes to mind, though this plant, so dreaded by the bushman in the trackless west of Tasmania, is in this part of Tasman Peninsula just a pretty trailing plant, of which a few flowers were seen on the cliffs near camp.

Immediately around the camp the River Wattle (*Acacia discolor*) made an attractive picture. It is our only genuinely autumn-flowering Acacia, and its pale yellow-brown globular heads of flowers in loose racemes showed up very well against the dark green divided leaves. Fires have been through considerable areas here, and in these places quite small plants of the Hop Acacia (*A. stricta*) were flowering, although this plant is normally a spring flower. A few blooms were also seen on the Prickly Moses (*A. verticillata*), which is another spring flower. Silver Wattle (*A. dealbata*) was fairly common, though not in flower. Other Legumes observed, though not flowering, were Running Postman (*Kennedy*

prostrata), Native Gorse (*Daviesia ulicina*), Native Daphne (*Pultenea daphnoides*), Prickly Beauty (*P. juniperina*). One *Gompholobium huegelii* bloom was brought in.

A few flowers were seen of *Hibbertia angustifolia*, Musk (*Mimulus repens*), Eyebright (*Euphrasia brownii*), Bladderwort (*Utricularia lateriflora*), Parrots' Food (*Goodenia ovata*) and *Ozothamnus cinereus*.

Of the Orchids, the Pink Autumn Orchid (*Eriochilus autumnalus*) was fairly plentiful, also the Ant Orchid (*Chiloglottis gunnii*), though no flowers of this were seen. Flowering specimens of the Fly Orchid (*Prasophyllum despectans*) were found.

Native Cherry (*Exocarpus cupressiformis*) was common and a branch brought in to the camp museum contained all stages from flower to fruit. Bul-oke (*Casuarina suberosa*) was plentiful and in flower, also She-oke (*C. quadrivalvis*), though flowers were not so plentiful. Best flowering of all the trees was *Banksia marginata*, which was everywhere and in all stages of bloom.

The Eucalypts were mostly Stringybark (*Eucalyptus obliqua*), White Gum (*E. viminalis*), Black Peppermint (*E. salicifolia*) and Blue Gum (*E. globulus*).

A pretty non-floral was the Club-moss (*Selaginella uliginosa*), which was common on the heaths.

MISSING FROM THE CAMP: Camp members at Easter noted with regret the absence of Gerald Propsting, who, because of the illness of his brother, was not able to attend this year. It is the first occasion Mr. Propsting has missed a camp for many years. Another absentee was Mr. B. H. Edgell. Domestic matters made it inconvenient for him to attend. A few weeks later members were grieved by the news of Mr. Edgell's sudden death. Although but a comparatively recent member of the Club, Mr. Edgell was very interested in its activities and, at camps, entered into the fun and merriment round the camp fires. A letter of sympathy was forwarded to his widow.

FOR SALE: *A Guide to Collecting and Preserving Plants, Shells, Seaweeds, Insects, etc.*—Useful to members; price 3d.; a Club publication. Also back numbers of *The Tasmanian Naturalist*. See the Editor.

SPECIMENS FOR EXHIBITION: These are always wanted for monthly meetings. Members displaying specimens are expected to describe them and indicate where they were collected, for record purposes.

BIRDS OF SALTWATER RIVER

By Leonard Wall.

THE area covered by observers at the Field Naturalists' Easter Camp, 1949, was all that part of Tasman Peninsula north of a line from the mouth of Saltwater River to Boat Harbour, just west of the settlement of Gwandalan. It consisted almost entirely of heath country, lightly forested with peppermint gums, Banksia and tea-tree scrub.

A small area around the township of Saltwater River and northward towards the camp site at Plunkett Point was open grazing and agricultural country; behind the beach at Slopen Main was a fairly extensive samphire marsh, and a couple of miles to the north of that was Slopen Lagoon (about a mile long and a quarter of a mile wide). The chief observers were Miss C. H. Mosey, Messrs. M. S. R. Sharland, H. M. Wilson, L. Vernon, and L. E. Wall, and a list of 62 species was compiled.

Throughout the heath country, with both heath and Banksia in bloom, nectar- and insect-feeding birds were plentiful, the most common being the Black-headed Honeyeater (*Melithreptus affinis*), Crescent Honeyeater (*Phylidonyris pyrrhoptera*), Yellow-throated Honeyeater (*Meliphaga flavicollis*), Yellow Wattle-bird (*Anthochaera paradoxa*), Mock Wattle-bird (*A. chrysoptera*), Grey Thrush (*Colluricincla harmonica*), Green Rosella (*Platycercus caledonicus*), Spotted Pardalote (*Pardalotus punctatus*), and Striated Pardalote (*P. striatus*).

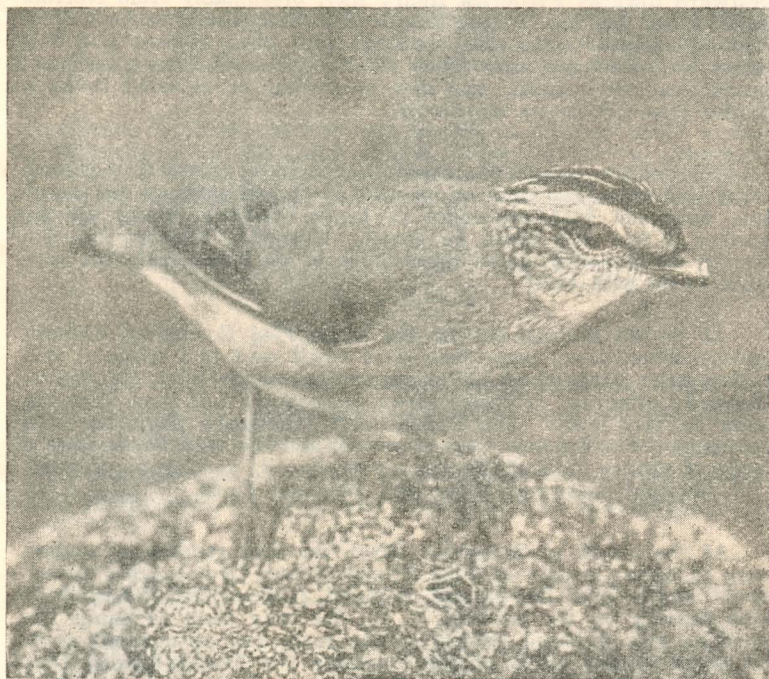
Other birds seen in this area were the Raven (*Corvus coronoides*), Grey Fantail (*Rhipidura flabellifera*), Spinebill Honeyeater (*Acanthorhynchus tenuirostris*), New Holland Honeyeater (*Meliornis novae-hollandiae*), Dusky Robin (*Amaurodryas vittata*), Scarlet Robin (*Petroica multicolor*), Flame Robin (*P. phoenicea*), Dusky Wood Swallow (*Artamus cyanopterus*), Silvereye (*Zosterops lateralis*), Brown Thornbill (*Acanthiza pusilla*), Yellow-tailed Thornbill (*A. chrysorrhoa*), Blue Wren (*Malurus cyaneus*), Golden Whistler (*Pachycephala pectoralis*), Black Magpie (*Strepera arguta*), Grey Butcher Bird (*Cracticus torquatus*), Brown Hawk (*Falco berigora*), Bronzewing Pigeon (*Phaps chalcoptera*), Brown Quail (*Synoicus australis*), a Black Cockatoo (*Calyptorhynchus funereus*), observed by Mr. E. Forsyth, and the Spotted Quail-thrush (*Cinclosoma punctatum*). Mr. Wilson reported having seen the Tawny Frogmouth (*Podargus strigoides*) to the north of the camp, and having heard a Scrub Wren (*Sericornis humilis*) in a patch of scrub in the same locality.

Mr. Wall also reported an Olive Whistler (*Pachycephala olivacea*) from the vicinity of Slopen Lagoon, but as this was not confirmed by any other observer, and the locality was outside the usual habitat of the species, it has been recorded only as "doubful."

The open grazing country contained all the birds common to that habitat, Spurwing Plover (*Lobibyx novae-hollandiae*), Scarlet Robin, Blue Wren, White-fronted Chat (*Epthianura albifrons*), and Goldfinch (*Carduelis carduelis*) being most common. White-

backed Magpie (*Gymnorhina hypoleuca*), Eastern Rosella (*Platycercus eximius*) and Noisy Miner (*Myzantha melanocephala*) were observed near Cemetery Point, and other birds seen in the vicinity near Saltwater River township were the Skylark (*Alauda arvensis*), Raven, Pipit (*Anthus australis*), one Tree Martin (*Hylochelidon nigricans*), Banded Plover (*Zonifer tricolor*), Sparrow (*Passer domesticus*) and Starling (*Sternus vulgaris*).

The bird population of the samphire marsh behind Slopem Main was disappointing, following a long dry summer and autumn. A small creek meandered through the marsh, but the samphire was quite parched. The only birds seen there were White-fronted Chat and Pipit. In the low scrub on the edge of the marsh were



Striated Pardalote.

Photo: M. S. R. Sharland.

New Holland Honeyeater, Crescent Honeyeater, Blue Wren, Dusky Wood Swallow, Dusky Robin, Flame Robin and Grey Fantail. A momentary glance was obtained by Mr. Wall of what appeared to be a Field Wren (*Calamanthous fuliginosis*) here, but in the absence of confirmation this bird is recorded as a "possible" only.

SLOPEN LAGOON provided a small variety of water birds, but was on the whole disappointing. Two Mountain Duck (*Casarca tadornoides*) were seen at the east end of the lagoon and later at the west end, where they had retired on our approach. Seven other ducks, at first thought to be the Chestnut Teal, turned out to be the Blue-winged Shoveler (*Spatula rhynchotis*) when viewed at closer range. Besides these, Hoary-headed Grebe (*Podiceps poliocephalus*) and Musk Duck (*Biziura lobata*) were seen towards the west end of the lagoon, and also two White-faced Heron (*Notohyx novae-hollandiae*).

As we were leaving the lagoon at the west end a White-breasted Sea Eagle (*Haliaeetus leucogaster*) was seen heading westward towards Frederick Henry Bay, presumably from Norfolk Bay. Here, too, Mr. Wilson heard what he believed to be a Bald Coot (*Porphyrio melanotus*) calling from some rushes, and this report was confirmed later when Mr. Wall observed one in a small marsh near Gwandalan, and saw also what he believed to be a Native Hen (*Tribonyx mortierii*).

Birds of the sea and shore were not common. Silver Gull (*Larus novae-hollandiae*), so common on most sheltered parts of our coastline, were not seen anywhere in large numbers: along all the beaches a few only could be found. I wonder whether the fish cannery at Dunalley, about eight miles to the north-east, has anything to do with this?

At Slop Main a few of the Little Pied Cormorant (*Microcarbo melanoleucus*) were seen on a small reef just offshore, and at Saltwater River about 180 were resting on the jetty. A White-breasted Cormorant (*Phalacrocorax fuscescens*) was seen near the camp by Mr. Wall. The Pacific Gull (*Gabianus pacificus*) was uncommon. No Gannets were observed, and the only Terns were a party of twelve Crested Tern (*Sterna bergii*) resting on a sandbank between Saltwater River and Plunkett Point.

At the mouth of Saltwater River the first reports of waders came to hand; a pair of Pied Oystercatcher (*Haematopus ostralegus*) and a lone Red-capped Dotterel (*Charadrius ruficapillus*) were feeding on the mudflat. On the way back to camp the shoreline was followed instead of the road, and on a small mudflat about a mile north of the township two Double-banded Dotterel (*Charadrius bicinctus*), eight Red-capped Dotterel, two Pied Oystercatcher, one Little Stint (*Erolia ruficollis*) and a few Spurwing Plover were found.

From my own limited experience of Norfolk Bay I had not seen any waders there before and was surprised to find any, with the exception of Spurwing Plover. It is interesting to note that from inquiries made of local inhabitants it would appear that the Pied Oystercatcher has frequented these parts only during the last six or seven years. That point is also borne out by a report which reached me recently that a pair of these birds was seen for the first time at Newman's Beach, at the head of Norfolk Bay, during the past summer. A pair of Hooded Dotterel (*Charadrius*

cucullatus) was seen by Misses F. Moorhouse and R. Featherstone at Slopem Main. Several dead Fairy Penguin (*Eudyptula minor*) were found washed up on the beaches, but no live birds were seen.

Little was seen of migratory birds, a fact not surprising when the date of our camp is considered. Of the waders which spend summer with us, we saw only one Little Stint, which it would appear was a stray bird likely to remain throughout the winter. The other migrant wader was the Double-banded Dotterel which winters here and travels to New Zealand in September for the breeding season. Other migratory birds seen were the Tree Martin, seen once at Saltwater River and once in the vicinity of Gwandalan, and the Dusky Wood Swallow, which was present throughout the area, though in small numbers.

It is worthy of note that the English Blackbird was absent from the locality. As was suggested at the camp, it appears that Eaglehawk Neck provides a barrier to the spread of some species.

I think it should be recorded, though it does not come within the observations of this camp, that a Pelican (*Pelecanus conspicillatus*) has been seen at Koonya, almost at the head of Norfolk Bay, as this is possibly the southernmost point at which it has been recorded.

OBSERVATIONS: Don't forget that members would be pleased to hear of interesting observations made in any aspect of natural history. These should be announced by the observer at monthly meetings. They will be recorded in the minutes. Please relate all observations which you think would be worthwhile.

ORNITHOLOGISTS' CONGRESS AND CAMP: The annual congress and camp of the Royal Australasian Ornithologists' Union will be held in Tasmania this year. It is proposed to hold the congress in Hobart during November and the camp at Lake St. Clair immediately following the congress. Members from different States will attend. Persons interested in birds who would like to become members of the Union should communicate with the Hon. Secretary for Tasmania, Mr. M. S. R. Sharland, 141 Hampden Road, Hobart. The subscription is £1/1/- a year, including the quarterly journal, *The Emu*.

SHORELIFE ATTRACTIONS

By Frank Green.

ALTHOUGH Plunkett Point—the site of the 1949 Easter Camp—lacked a beach facing the ocean, the shore was distinguished for having many marine gardens among rocks in which the abundant life displayed brilliant hues in the early morning sun. At low tide members examined every rock and pool.

Clinging to the rocks were mussels, which were ridged end to end. This species, *Brachyodentes erosus*, is different from the smooth one, *Mytilus planulatus*, which is common in the Derwent.

Creeping over the sand in a pool was a Pheasant shellfish (*Phasianella australis*). This is noted for its artistically marked shell, the pattern of which runs symmetrically with the whorl. An army of periwinkles littered the pools. This mollusc is fascinating for it had a lid attached to its foot, which, when retracted, forms a seal to its shell. This enables it to retain water when the tide is out.

Along the adjacent shores some other common shells were identified, such as *Ostrea virescens*, *Fusinus novae-hollandiae*, *Ischnochiton evanida*, *Verconella tasmaniensis*, *Patelloida alticostata*, *Melarhappe unifasciata*, *Clanculus yatesii*, *Clanculus flagellatus*, *Turbonilla acicularis*, *Bittium cylindricum* and *Calliotrochus legrandii*.

Coiled up in the brown beaded seaweed one member found Sea Horse. The younger members delighted in collecting "bullies" stranded by the ebb. Hosts of crabs, blue and green, made a hurried exodus to a more permanent shelter. Several tried the power in the pincers of larger species by testing breaking a match. The power is enormous for such a small creature.

A red shrimp darted forth here and there, as did the Sea-Centipede, taking care not to pass within reach of sea-anemones. There were pinks, reds and greens with some specimens striped. Hidden under the clefts were many "cushion" stars, and larger starfish with searching tentacles lay in open lanes between the seaweeds.

Floating in the seaweed was a brown Sea Slug (*Nudibranch*). These animals are classed as Gasteropoda. They start life in a shell but later discard it.

Floating on the tides of Slopen Main Beach were many specimens of sea urchins (*Echinoplateus*). The dry ones proved less attractive than fresh ones rolled in the waves. These had shades of delicate browns and green.

The seaweeds added colour to the rock pools. Many varieties were noted, prominent of which was the Sea-Lettuce (*Ulva*), beaded seaweed, *Macrocrystis*, *Sargassum* and *Fucus*.

CLUB FIELD OUTINGS

By Marjorie Scott.

EIGHT monthly field outings were held by the Field Naturalists' Club, from May till November, last year. With the exception of the first outing, led by Mr. Sharland, they were arranged and led by Mr. Hewer.

For the first outing, Mr. Sharland took us to Lindisfarne to observe the gathering of the birds into flocks, prior to their migration.

The next two outings, held during the winter, were to places of historical interest. The first was to a cave on the slopes of Mt. Wellington which Rocky Whelan, a bushranger, used. The cave is of sandstone with a front and lower side entrance. Flowers were scarce on this outing with the exception of Currijong (*Plagianthus sidoides*), which was in bloom in one of the gullies.

The other outing was from Lindisfarne to Risdon to see the monument erected at the landing place of the first settlers of the colony, led by Lieut. Bowen, in 1803. It was interesting to note how the river must have silted up since those days, as it would be impossible to get a boat there now. Some of the buildings and an old bridge are still in use, which were built by convict labour.

The next outing was to South Arm in August to see wading birds. We walked to Roaring Beach, then along the beach on the north side of the neck. Birds noted on this outing by Mr. L. Wall included the Black-faced Cuckoo-shrike, Pelican, Bar-tailed Godwit, Crested Tern, Pied Oystercatcher, Sooty Oystercatcher, Blue Heron, Field Wren. It was interesting to note the absence of the Double-banded and Hooded Dotterels and the presence of the Cuckoo-shrike at this time.

For our next outing we walked from Lindisfarne along the old Sorell train line to Tunnel Hill. Here again flowers were scarce, but we noticed many leaves appearing of the spring orchids.

Grasstree Hill was our most successful outing as regards numbers of members. A bus was hired for this trip, taking 32 members along the Richmond road to the Grasstree saddle. The Grasstrees (*Xanthorrhoea australis*) were the main attraction, although many of the members caught the leader's fascination for turning over rocks in search of lizards. After lunch we climbed Grasstree Hill, where we had a wonderful view.

Our first outing in the spring was from Cascades to the Fern Tree and home via the Ridgeway reservoirs. This outing was of chief interest to the botanists, with so many spring flowers in bloom. Large patches of Ant Orchids (*Chiloglottis gunnii*) were found on the way up, and towards the reservoirs we found *Caladenia angustata*, *Glossodia major*, *Caladenia carnea*, *Eriostemon obovatis* (Wax Plant), *Boronia pinnata*, *Veronica formosa*, and *Stackhousia linarifolia*.

For our last outing we walked from Sandy Bay to the Sphinx Rock, which is on the shore about a mile from Sandy Bay. From here we walked along the shore, then up Mt. Nelson to the site of the old batteries. On the way up we watched the Grey Fantail building a nest just above a small creek. Also on the way we found the nest of the Satin Flycatcher on an exposed gum bough just above the track.

The average attendance at these outings, with the exception of the Grasstree Hill outing, was 13. They were attended by the same people nearly every time. This year we hope new members will join the outings, which are held on the Saturday following the monthly meeting.

One week-end trip was held at Collinsvale in November. The nine members walked from Glenorchy over the Goat Hills to the Collinsvale Youth Hostel, where they spent the night. Round the hostel in the bush towards the creek we found *Boronia pinnata* and *Tetrachea glandulosa* mainly. The next day we walked over Mt. Faulkner to Claremont. The track was fairly well defined until we reached the summit, and after that we found walking very difficult, over rotten timber and through fairly thick undergrowth. Mr. Hewer noted *Senecio centropappus* on Mt. Faulkner—a shrub that had not been noted from that locality before.

NEXT EASTER CAMP: Selection of a suitable site for a camp always is a problem for the Committee and camp organisers. Many miles are travelled long before a site finally is selected. Members are requested to keep in mind the need for examining possible sites during the year and keep the Committee informed. In considering a site, special attention must be paid to such aspects as water supply, fuel, natural history interest, and accessibility.

PHENOLOGY: Phenological studies will, it is hoped, form a new activity for the Tasmanian Field Naturalists' Club. The Weather Bureau has asked the Club to undertake a series of wide-spread observations in relation to birds, plants, insects, etc., recording their presence, date of occurrence, numbers at a given time, flowering times, seeding times, and so forth, in order that the information may be correlated to weather conditions over a period. This work will need the services of several reliable observers, and will, in fact, lend greater interest and provide a definite objective to outings and camps. A committee is now endeavouring to frame a programme of observations in conjunction with the meteorological authorities, and a definite plan will be submitted to the Club. It is likely also that members will be asked to co-operate with the *Wild Life* Australian-wide bird observing movement, in conjunction with the Royal Australasian Ornithologists' Union, although this has nothing to do with the proposal for phenological studies.

TASMANIAN FIELD NATURALISTS' CLUB.

Annual Report for 1949.

FINANCIAL membership of the Tasmanian Field Naturalists' Club is now 122, consisting of 114 seniors and eight juniors.

The annual meeting and nine ordinary monthly meetings were held during the year, the average attendance being 58. Lecturers and leaders were: Messrs. M. S. R. Sharland, L. Miller, L. Wall, A. M. Hewer, H. K. Aves, F. Smithies, G. K. Meldrum, J. Levis, H. J. King, Mrs. Luckman, and Miss Mosey. Subjects covered: The River Murray, Insects' struggle for existence, Ornithological survey and photographs of Wilmot Harbour area, Mt. Field National Park, Pleman River, Animal structure and function, Bird migration, Scallop fishery, Nature study by moving pictures, Port Davey, R.A.O.U. Congress (W.A.), Gulls and terns.

A number of field outings under the leadership of Mr. A. M. Hewer were held.

Easter camp (1948) was held at Wilmot Harbour, and in spite of uncomfortable weather, some good field work was done. Mr. Sargison's splendid organisation, and the hard work done by the advance party, contributed largely to the success of the camp.

A Wild Nature Show was held at the Hobart Town Hall on November 11 and 12, and was well attended. Takings at the door covered all expenses, with a fair margin of profit. Exchanges of exhibits were made with the Field Naturalists' clubs of Broken Hill and Ararat.

No. 3 of the new series of the Club's magazine, *The Tasmanian Naturalist*, was published during the year and was favourably received.

A sub-committee was appointed to prepare matter for a handbook, which the Government intends to publish on the Mount Field National Park.

The Statement of Receipts and Expenditure shows that cash in hand at the end of the year amounted to £91/17/9, as against £112/18/11, at the commencement. This is due to increased cost of publishing *The Tasmanian Naturalist*.

NEW OFFICERS: There were several changes in office-bearers at the annual election of the Club in February. After four successive years as president and two years as secretary before that Mr. M. S. R. Sharland retired to accept an office as vice-president; Mr. H. K. Aves was elected president. Mr. A. M. Hewer was elected hon. secretary in place of Mr. H. Vaughan, who retired from the joint office of secretary-treasurer to hold the single office of treasurer. Position of assistant-secretary, vacated by Mr. Hewer, was filled by the election of Miss Marjorie Scott. Mr. L. Wall, Mr. B. Widdicombe, and Miss P. Batt came on to the general committee.

CAMP-FIRE REUNION: A camp-fire evening in the grounds of Mr. E. W. Cruickshank and Mrs. Scott, Glenorchy, on 14th May, proved popular. The bush for a wide radius was illuminated by the huge fire. Thanks are due to the hosts for the evening.