

Boomer Marsh—A Preliminary Botanical and Historical Survey.

By

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During the year 1942, the Tercentenary of the Dutch landing in Tasmania, interest was again aroused in the question of the site of the landings which took place on December 2nd and 3rd, 1642 (old calendar). This question has led to considerable discussion by members of the Royal Society, during which no finality has been reached. Of the various views advanced, J. P. Gell (1845) considered the western shore of Forestier's Peninsula to have been the watering place selected by the Dutch discoverers on December 2nd, 1642. This suggestion was supported by J. B. Walker (1890). G. H. Halligan (1925) and Clive Lord (1926) gave reasons for believing the site to have been the small inlet just within 'The Narrows' on the western shore of Forestier's Peninsula (fig. 1). A. N. Lewis (manuscript in Library of Royal Society of Tasmania) considered Bream Creek to have been 'the spot at which water was obtained on this day'.

In December, 1942, a copy of the Gilseman chart (1642) was obtained by the Royal Society of Tasmania, and on the chart 'Water Plaats' is clearly marked on the western shore of Blackman's Bay, in a place corresponding to an unnamed opening shown on Tasman's chart. However, it has been argued that the charts do not provide definite evidence of the exact location of the site, for the following reasons:—

1. That Tasman's journal is too vague to serve for a firm basis of opinion.
2. That the name of a place on the chart does not always indicate its exact position.
3. That the charts are inaccurate when compared with present-day coastal topography.

Since, in Tasman's Journal, there is some record of the nature of the vegetation and of the herbs collected for food, the authors made a botanical survey of the localities under discussion. The results suggest the probable place of the landing to have been at Boomer Marsh. It is suggested that the botanical survey may help in the solution of the controversial problem of the site of the original Dutch landing and a preliminary account of the ecology of the area is given. The area is of botanical interest since, except for a description of sand-dunes given by Consett Davis (1940), no account of the coastal vegetation of Tasmania has been published.

The following quotations are taken from Tasman's Journal, 2nd December, 1642: 'About 3 hours before evening our Vessel returned and brought some strange Greens which they saw grow plentifully. Some of them are like to the greens which grow on the Cape of good hope and may be used in place of wormwood. The others are long and saltish and like to Sea Parsley . . . They found high but even land. Greens plentifully, growing naturally and not being planted'. (Woide's translation, Chief Secretary's Office.) 'About 3 hours before evening

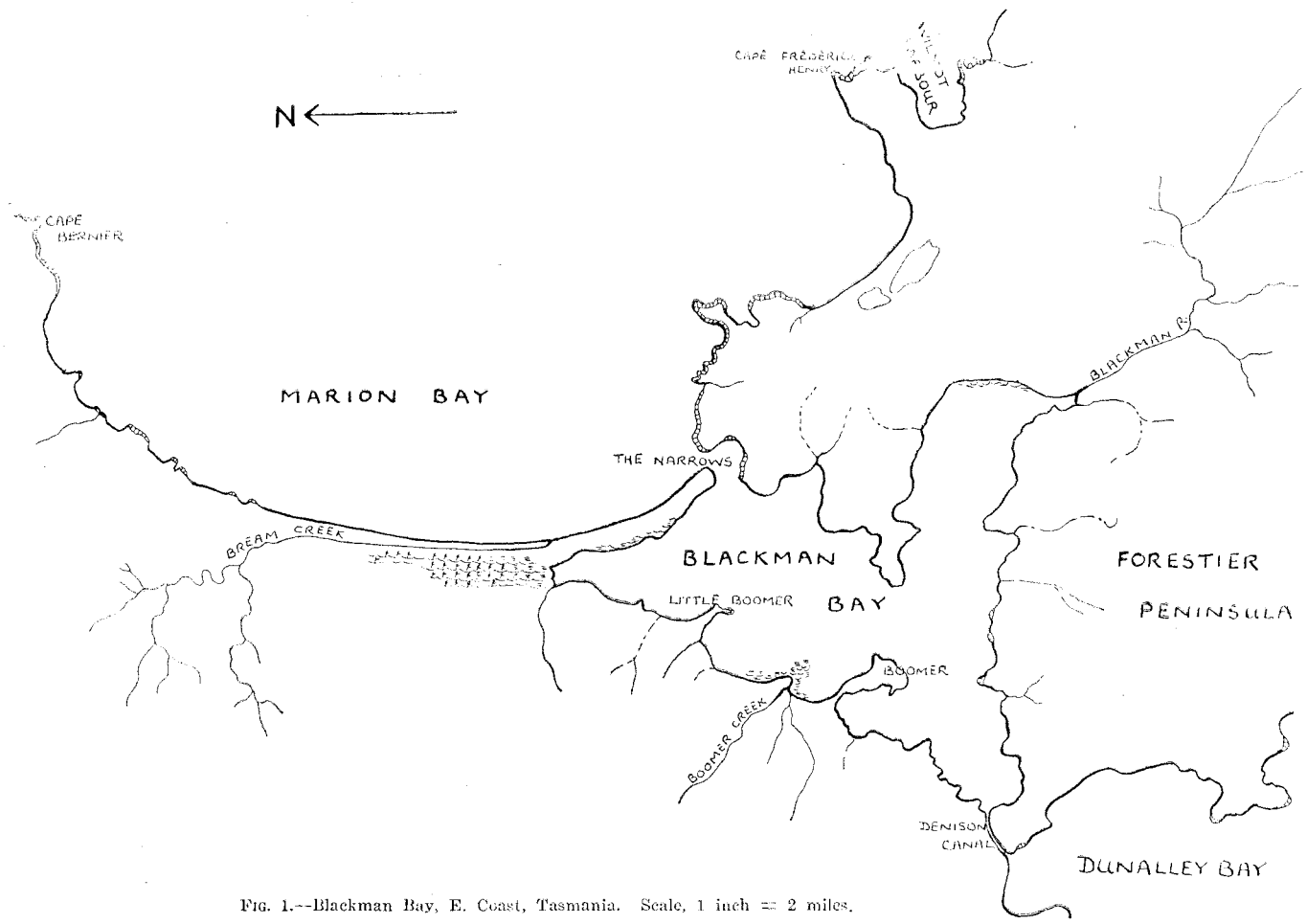


FIG. 1.--Blackman Bay, E. Coast, Tasmania. Scale, 1 inch = 2 miles.

our boats returned bringing various samples of vegetables which they had seen growing in abundance, some not unlike certain herbs which grow at Cabo de Bona Esperance and are fit for use as pot-herbs. Others were long and saltish which have no ill likeness to Sea parsley'. (Swart's edition.)

'About 3 hours before nightfall the boats came back, bringing various samples of vegetables which they had seen growing there in great abundance, some of them in appearance not unlike a certain plant growing at the Cabo de Bona Esperance and fit to be used as pot herbs and another species with long leaves and a brackish taste strongly resembling persil de mer or samphire . . . They had found high but level land covered with vegetation not cultivated but growing naturally by the will of God'. (Heere's Edition.)

In an attempt to locate an area in which 'greens suitable for pot herbs' grow in abundance or, alternatively, an area which showed evidence of having carried such vegetation in the Seventeenth Century, the coast from Wilmot Harbour to Cape Bernier was explored. Appropriate vegetation was found in only three areas, in marshes at the mouth of the Blackman River, at Bream Creek, and at Boomer Creek. The marsh at the Blackman River is young; the vegetation is an open community of *Salicornia*. Bream Creek marsh represents a fresh-water swamp which has become saline since the cutting of drainage channels to carry flood water from Bream Creek. The small saltmarsh at Boomer Creek is apparently in equilibrium with the factors of this habitat. Here, edible herbs are abundant and the topography of the area is in agreement with the description in Tasman's journal.

Boomer Marsh is a saltmarsh some four and a half acres in extent, which lies at the foot of the sandstone bluff about midway between Little Boomer and Boomer, the two prominent peninsulas on the western shore of Blackman's Bay (fig. 1). Boomer Creek (the putative watering place of Tasman) runs on the southern side of the headland known as the Bluff. The ground rises steeply above the marsh to a level area at the summit of the Bluff. A hundred yards to the south of Boomer Creek is another small stream not shown on the earlier maps. The land drained by this stream was originally part of the Hildyard Estate. Mr. C. D. Hildyard, a grandson of the original owner, states that when the grant was first occupied no stream existed and the present watercourse results from channels dug during the early part of this century to drain the swampy land. Extensive silting is exposed at low tide, extending from the mouth of each stream into the bay. While it is difficult to estimate the time involved in such silting, it is worth noting that streams such as the Piper River (N. Coast) which were navigable in the days of the early settlement of Tasmania, would no longer be practicable for the vessels then used.

An outline of the area occupied by the saltmarsh at Boomer was obtained by taking compass bearings and measurements between selected landmarks. A base-line from the creek bank, 65 metres above the mouth, was taken due east over the crest of the sandy spit forming the shore-line, a distance of 413 metres. Perpendiculars to the base-line were taken at intervals of approximately 80 metres: small channels and pans were mapped along the transects and by eye in the intervening regions. Six quadrats were laid down in selected areas along the base line and a census of the plants in each quadrat was made at intervals during the years 1942-1946. The vegetation was then mapped by making notes of the association in each metre along the transects (fig. 2).

This small area of saltmarsh shows a complicated pattern of erosion and deposition, due in part to the double tides which are a feature of Blackman's Bay since the cutting of the Denison Canal in 1902-1903. A sand-spit running in a north-west

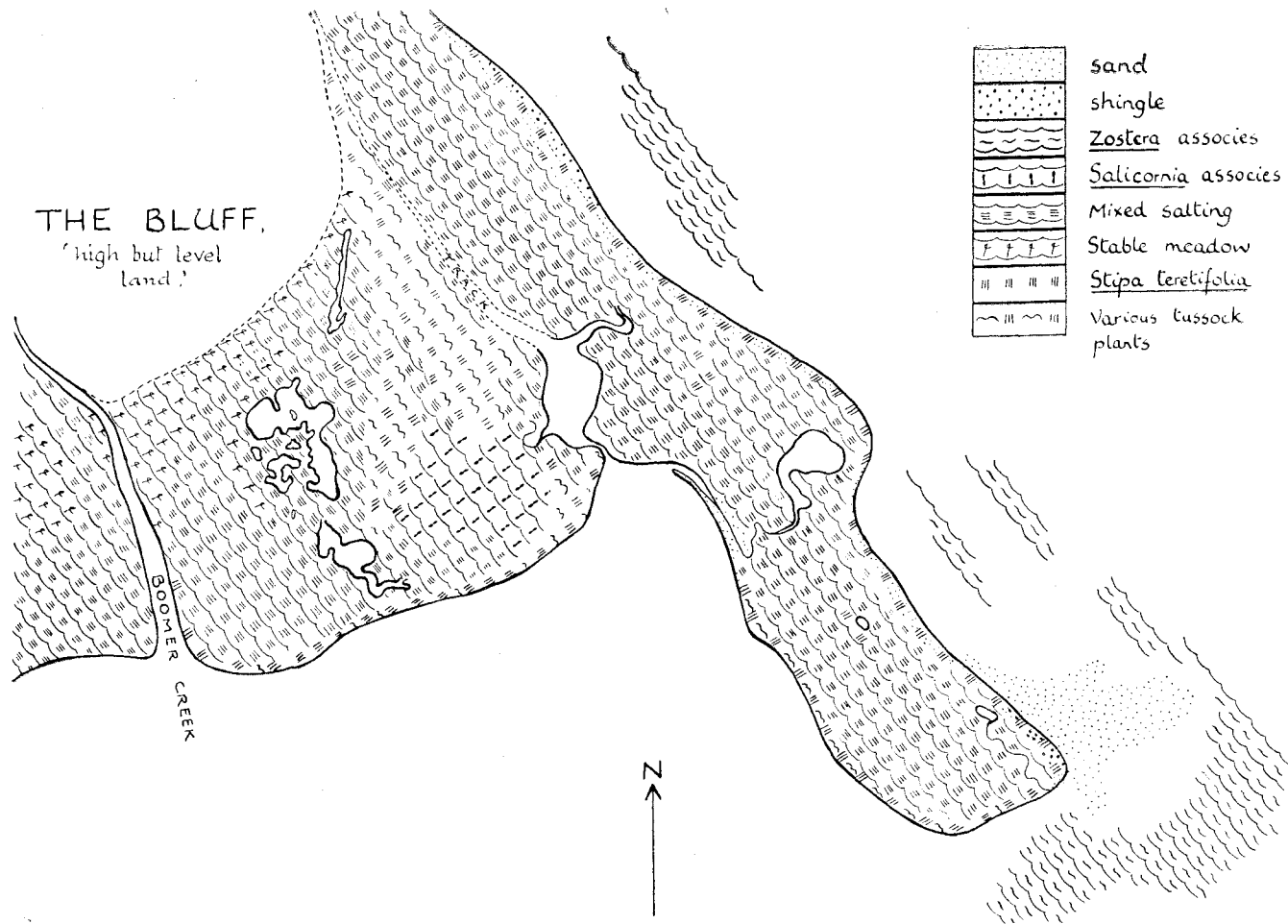


FIG. 2.—Saltmarsh at Boomer Creek. Scale, 1 cm. = 28 metres.

to south-east direction, forms the seaward boundary of the marsh. There is erosion on the south-west bank, but the distal end of the spit is being extended in an easterly direction. Similar erosion and deposition occur at Boomer, Little Boomer, and the Spit at The Narrows. At Boomer Marsh, between the present shore-line and the Bluff are several well-defined ridges of sand and shell representing old shore-lines, some of which can be assumed to have been in existence in 1642. Saltings are developed in the sheltered bays between the old shore-lines in the area between the sand-spit which forms the present shore-line, Boomer Creek, and the Bluff.

In general physiognomy, Boomer Marsh may be compared with the saltmarshes along the east coast of Great Britain, such as that described by Oliver (1913). Floristically, Boomer Marsh is comparable with the saltmarshes of the south-east coast of the Australian mainland, such as the marshes described by Pidgeon (1940) in New South Wales, and by Patton (1942) in Victoria, except that in Tasmania as in Great Britain, *Zostera* and *Salicornia* are pioneer plants on exposed mud and mangroves do not occur.

Boomer Marsh shows considerable variety in the terrain, areas of soft mud and silt, sandy mud, and sand with shell being found. The succession of plants appears to depend largely on the character of the substratum. The saltings, which are grazed by cattle, appear to be relatively stable, but the marsh must be recognised as an area on which, in appropriate conditions, a succession of plant associates could culminate in the development of open eucalyptus forest which is the climax formation.

The following zones may be distinguished:—

1. Algal communities.

On the seaward side of the sand-spit is an extensive area of sand exposed only during low spring tides. This is sparsely covered by *Hormosira*, there being approximately five plants per square metre. Each plant is attached to the shell of a mussel (*Mytilus*, sp.), which is buried several inches below the surface. It is of interest to note that in Tasman's Journal (Heere's Edition) there is a record of finding inside the Narrows, 'different kinds of muscles forming small clusters in several places.'

2. *Zostera* associates.

The areas occupied by *Zostera muelleri* are not invaded by other flowering plants, but in one region on the south-east side of the spit, *Zostera* is associated with *Lepilaena* sp.

3. The Saltings.

In the lowest parts of the area between the shore and the Bluff there is an open plant community of *Salicornia australis*. At a slightly higher level the *Salicornia* associates is invaded by *Wilsonia humilis*. The long runners of this plant are very conspicuous, as they spread out for several metres, rooting at the nodes. In a region of soft mud, *Salicornia* is associated with *Triglochin striata*. Where the period of immersion at each high tide is less, *Salicornia australis*, *Samolus repens*, *Hemichroa pentandra*, and *Suaeda maritima* form a closed community. Occasional bushes of *Arthrocnemon arbuscula* and tussocks of *Cladium filum* are scattered throughout the saltings, but the greater number of these plants occur in the higher parts of the marsh.

4. Stable meadow, beyond the limit reached by the high spring tides.

This is a narrow zone at the base of the Bluff, receiving drainage from the high ground. After heavy rain the vegetation may be submerged in brackish water. Plants in this zone include the grasses listed below, among which *Distichlis disticophylla* is particularly conspicuous. Other plants in this closed community are: *Spergularia rubra*, *Apium australe*, *Brachycome graminea*, *Selliera radicans*, *Lobelia anceps*, *Sebaea albidiflora*, *Plantago coronopus*, *Hemichroa pentandra*. *Salicornia australis*, is scattered throughout. The following species form tussocks: *Juncus maritimus*, *Scirpus nodosus*, *Cladium filum* and the grasses *Stipa teretifolia* and *Poa caespitosa*.

5. Ridges of sand and shell.

This stable ground, rarely covered by the highest tides, carries scattered bushes of *Arthrocnemum arbuscula* and tussocks of *Cladium filum* and *Stipa teretifolia*, also occasional clumps of *Gahnia trifida*. A few plants of *Plagianthus spicatus* occur, but they are heavily grazed. *Salicornia Blackiana* is scattered over these higher areas. The glaucous appearance of this plant distinguishes it from the more abundant *S. australis*. Plants which are found on the lower parts of the ridges, for example, *Selliera radicans*, *Wilsonia Backhousii* and *Apium australe* grow luxuriantly at the bases of the tussocks.

6. Pans and Creeks.

A number of pans have clearly originated by the blocking of drainage channels, some of those which are filling up carry a sparse cover of *Salicornia australis* as well as free-floating forms of green and red algae. A long deep pan in the higher part of the saltings contains the submerged phanerogams *Ruppia maritima* and *Lepilaena Preissii*. In Boomer Creek the floating leaves of *Zostera Muelleri* are conspicuous: luxuriant clumps of *Apium australe* occur along the banks.

Boomer Marsh corresponds in position to the 'Water Plaats' marked on the Gilseman chart. The saltings which exist in the bays between old shore-lines provide a variety and abundance of plants long familiar as pot herbs. *Salicornia* is still collected as 'samphire' from the salt marshes on the east coast of England. Gell (l.c.) writes of the Dutch discoveries: 'They collected a quantity of greens which were in all probability the Canagong (*Mesembryanthemum aequilaterale*) of the aborigines, long and of saltish taste'. At Boomer Marsh only one plant of *Mesembryanthemum* was found, but *Hemichroa pentandra*, which is plentiful is not dissimilar in the vegetative state. Species of *Mesembryanthemum* were familiar to sailors of the Seventeenth Century: of the many species in South Africa, *M. pomeridianum* L. from the coast at the Cape, was gathered for eating (for this information we are indebted to Miss E. Stephens of the Botany Dept., University of Cape Town). It is conceivable that at Boomer, *Mesembryanthemum* was previously more abundant, as it is now on the salt marshes at George's Bay (E. Coast), or that *Hemichroa* could be the plant 'not unlike a certain plant growing at the Cabo de Bona Esperance'. However, the description in Tasman's Journal (Swart's Edition) of plants 'which have no ill likeness to Sea parsley' suggests *Apium australe*, a plant abundant in this area.

CONCLUSION

The botanical evidence presented in this paper supports the contention that Boomer Creek was the site of the Dutch watering place on 2nd December, 1642.

Its position agrees with the unnamed opening on Tasman's chart and with the 'Water Plaats' marked on the Gilseman chart.

LIST OF THE FLOWERING PLANTS AT BOOMER MARSH.

Caryophyllaceae	<i>Spergularia rubra</i> Pers. var. <i>marina</i> .
Malvaceae	<i>Plagianthus spicatus</i> B.
Aizoaceae	<i>Mesembryanthemum australe</i> Sol.
Umbelliferae	<i>Apium australe</i> Hk.
Compositae	<i>Brachycome graminea</i> F.v.M.
Goodeniaceae	<i>Selliera radicans</i> Cav.
Campanulaceae	<i>Lobelia anceps</i> D.C.
Primulaceae	<i>Samolus repens</i> Pers.
Gentianaceae	<i>Sebaea albidiflora</i> F.v.M.
Convolvulaceae	<i>Wilsonia humilis</i> R.Br. <i>W. Backhousii</i> Hk.
Plantaginaceae	<i>Plantago coronopus</i> L.
Chenopodiaceae	<i>Chenopodium glaucum</i> L. var. <i>littorale</i> . <i>Suaeda maritima</i> Dumort. <i>Salicornia australis</i> Sol. <i>S. Blackiana</i> Ulb. <i>Arthrocnemon arbuscula</i> R.Br. (Moq.)
Amarantaceae	<i>Hemichroa pentandra</i> R.Br.
Juncaceae	<i>Juncus maritimus</i> Lam.
Juncaginaceae	<i>Triglochin striata</i> Ruiz. et Pav.
Potamogetonaceae	<i>Ruppia maritima</i> L. <i>Zostera Muelleri</i> Irm. <i>Lepilaena Preissii</i> F.v.M. <i>Lepilaena</i> sp.
Cyperaceae	<i>Scirpus nodosus</i> Rottb. <i>Cladium filum</i> R.Br. <i>Gahnia trifida</i> Lab.
Gramineae	<i>Stipa teretifolia</i> Steud. <i>Dichelachne crinita</i> Hk.f. <i>Agrostis stolonifera</i> L. <i>A. Billardieri</i> R.Br. <i>Distichlis disticophylla</i> (Labill) Fassett <i>Poa caespitosa</i> Forst. <i>Puccinellia stricta</i> (Hk.f.) Blom. <i>Vulpia megalura</i> (Nutt) Rydb. <i>Parapholis incurvis</i> (L) C. E. Hubbard.

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