

nicating the results of their own observations upon the same subject.

I may remark, that the disturbance and muddiness of the water caused by the late operations at the entrance of the basin appears to have destroyed all the worms in the timber, which corroborates a fact which I observed at the harbour at Halifax, in Nova Scotia, when, though the worms were so destructive to the dockyard wharf as to make it necessary to cover them with copper,—yet the masts and spars lying on the mud, though not covered by it, were altogether untouched.

It would be desirable to ascertain to what extent the action of muddy water is injurious to these worms, as we might perhaps gather some hints as to the means of protecting the timber from their action.

IX. *A List of the Mammals indigenous to Tasmania.*
By RONALD C. GUNN, Esq., F.L.S.

THE following list of the indigenous Mammals of Tasmania is as complete as the very limited means of reference at my command admits. I believe, however, it will be found to be nearly correct. Where deemed necessary I have added a few remarks, but will enter more fully into their habits in a subsequent paper.

Ord. CHEIROPTERA.

The only two genera of Bats found in the island may be thus shortly distinguished :—

Nyctophilus, LEACH, TEMMINCK. Ears united ; nostrils in the front part of a short lunate groove.

Scotophilus, LEACH, ears lateral, separate; nostrils with only a very short nasal groove behind them.

1. *Nyctophilus Geoffroyi*, LEACH, Linnean Trans. xiii. 78.
Barbastellus pacificus, GRAY, Zool. Misc. i. 38. Well figured in the Zoology of the Erebus and Terror. *Beasts*, pl. 21, f. 1.
2. *Scotophilus Gouldii*, GRAY, appendix to Grey's Travels in N. W. Australia, ii. p. 405. Well figured in the Geology of the Erebus and Terror, *Beasts*, pl. 19, f. 1. May be distinguished from the following species, *S. Morio*, by its larger ears.
3. *Scotophilus Morio*, GRAY, appendix to Grey's Travels in N. W. Australia, ii. p. 405.

————— *Australis*, GRAY, l. c. p. 406.

Well figured in the Zoology of the Erebus and Terror. *Beasts*, pl. 19, f. 2.

There is nothing remarkable or peculiar in the habits of our bats: they seem to be very generally dispersed over the island.

Ord. CARNIVORA.

I am not aware of any account having been published of the different species of Seal which inhabit our coasts and the islands in Bass's Strait, although I am informed that *three* distinct species exist. The *Arctocephalus cinereus* (*Otaria cinerea*, PERON) is one; but I cannot satisfactorily trace the others, and so omit them from this list. I have not observed in any work to which I have access that specimens from this island have been sent to Europe.

Ord. CETACEA.

Of the *Cetaceæ* inhabiting the seas in the neighbourhood of this island but little seems to be known by naturalists.

There are at least four or five species ; but, with the exception of the *Delphinus Novæ Zelandiæ*, QUOY et GAIM., I see none recorded in books as Tasmanian, although it is probable some of the Australian and New Zealand species are also found here. The materials at my command are, however, too imperfect to justify me in attempting to add them to this list.

Ord. RODENTIA.

4. *Hydromys chrysogaster*, GEOFFROY, *Ann. du Mus.*, vi. p. 81, t. 36, f. A.

———— *leucogaster*, GEOFF., l. c. f. B. C. D.

———— *fulvogaster*, JOURD.

Water Rat of the colonist. Inhabits the sea coasts and margins of estuaries ; aquatic, nocturnal.

5. *Mus setifer*, HORSFIELD, *Zool. Java*. t. —. GRAY, *Proc. Zool. Soc.* ii. p. 40.

—— *giganteus*, *Jav.* TEMMINCK.

This rat may be thus concisely described :—“ Fur bristly, blackish-brown beneath, especially the hinder part ; grey back, with nearly erect rigid bristles ; ears large, rounded, nearly naked ; tail long.” Specimens of this species from Van Diemen’s Land are in the British Museum.

6. *Mus penicillatus*, GOULD, *Ann. and Mag. Nat. History*, vol. x. p. 405. Found also at Port Essington.

A rat rather less than the *Mus decumanus* or Norway rat, distinguished from the others by the apical half of the tail being well clothed with black hairs.

7. *Mus fuscipes*, WATERHOUSE. *Zoology of the Beagle*. *Mammalia* pl. 66, t. 25.

—— *lutreola*, GRAY, appendix to Grey’s *Travels in N.W. Australia*, ii. p. 409.

Well figured in the *Zoology of the Beagle* as above quoted.

Rather less than *Mus rattus*, and of a stouter form ; remarkable for the great length and softness of its fur and the brown colour of its feet. Found also in South Australia, where it is the "water-rat" of the colonists. I have recently sent to Mr. J. E. Gray, of the British Museum, specimens of two species of *Mus*, which do not agree with any of the above. One is similar in size to *M. fuscipes*, but differs in the form of the muzzle, in the colour of the feet, and in some other respects. The other is much smaller, and appears from the length of its hind legs to belong to the jumping division of mice. They were caught by a domestic cat at the St. Patrick's River, near Launceston.

*Ord. MARSUPIALIA.**

8. *Thylacinus cynocephalus*, HARRIS.

Didelphis cynocephala, HARRIS, Linn. Trans. vol. ix. p. 174, pl. 19.

Dasyurus cynocephalus, GEOFFROY. Ann. du Museum, tome xv. p. 304.—WATERHOUSE, Nat. Library (Marsupialia), vol. xi. p. 123, pl. 5.

Thylacinus Harrisii, TEMMINCK, Monograph. de Mammal., tome i. p. 63, pl. 7.

Peracyon cynocephalus, J. E. GRAY, List of the Mammalia in the Brit. Museum, 1843, p. 97. Tiger and Hyæna of the colonists of Tasmania, to which it is confined.

This animal is found all over the island, from the sea coast to the summits of the mountains, 4000 feet above the sea level. It is the largest indigenous Australian carnivorous Mammal.

* I am indebted to Mr. Waterhouse's "Natural History of the Mammalia," vol. I., for all the Synonymes quoted relative to the *Marsupialia* and *Monotremata*, and I have invariably adopted his views as to the different species.

9. *Dasyurus ursinus*, HARRIS.

Didelphis ursina, HARRIS, Linn. Trans. ix. p. 176, pl. 19.

Dasyurus ursinus, GEOFF., Ann. du Museum, xv. p. 305.

Sarcophilus ursinus, F. CUVIER, Mammiferes.

Diabolus ursinus, J. E. GRAY, appendix to Grey's Travels in N. W. Australia.

The "Native Devil" of the Colonists of Tasmania, to which island it is restricted.

10. *Dasyurus maculatus*, SHAW.

Viverra maculata, SHAW, Gen. Zool. i. pt. 2, p. 433.

Dasyurus macrourus, GEOFF., Ann. du Mus. iii. p. 358 ;

PERON *et* LESUEUR, Voy. aux Terres Australes,

pl. 33 ; TEMM. Mono. de Mammal, i. p. 69 ; WATER-

HOUSE, Nat. Library, (Marsupialia), xi. p. 130, pl. 6.

———— *maculatus*, GRAY, List of Mammalia, Brit.

Mus. 1843, p. 98.

The *Spotted Martin*, PHILLIP'S Voy. to Botany Bay, p. 276. Martin Cat, pl. 46.

"Tiger Cat" of the Colonists of Tasmania, to which island it is confined. It is distinguished from *D. viverrinus*, (the "Native Cat" of the Colonists), by its superior size and more robust form ; also from the tail being spotted as well as the body.

11. *Dasyurus viverrinus*, SHAW.

Didelphis viverrina, SHAW, General Zoology, i. pt. 2, p. 491, pl. iii.

Dasyurus viverrinus, *et* *D. Maugei*, GEOFFROY, Ann. du Mus. iii. pp. 359 and 360.

———— *viverrinus*, TEMMINCK, Monog. de Mamm. pp. 71 & 72, pl. 7, fig 1-8.

Spotted Opossum, PHILLIP, Voy. to Bot. Bay, p. 147, pl. 15.

Topoa Tofa, WHITE, Journ. of a Voy. to N. S. Wales, p. 285 & pl.

“Native Cat” of the Colonists. The black one with white spots is the *D. viverrinus*, and the gray with white spots the *D. Maugei* of authors.

12. *Phascogale (Antechinus) minima*, TEMMINCK.

Dasyurus minimus, GEOFFROY, Ann. du Mus. iii. p. 362.

Phascogale minima, TEMM., Monog. de Mamm. i. p. 59.

———— *affinis*, GRAY, appendix to Grey's Travels in N. W. Australia, ii. 406.

Well figured in the Zoology of the Erebus and Terror. Beasts, pl. 25, f. 3.

13. *Phascogale (Antechinus) Swainsonii*, WATERHOUSE, Mag. Nat. Hist. 1840, vol. iv. p. 300.

Well figured in the Zoology of the Erebus and Terror. Beasts, pl. 25, f. 1.

14. *Phascogale (Antechinus) leucopus*, GRAY, Ann. and Mag. of Nat. Hist. 1842, vol. x. p. 261.

The three species of Tasmanian *Phascogale* have no recognized colonial names. They are small carnivorous animals, about the size of small rats, probably generally dispersed over the island. I obtained two very distinct species near Launceston.

There seems to be some confusion with reference to the species of these animals. The species *affinis* and *minima* are united by Mr. Waterhouse in his “Nat. Hist. of the Mammalia,” (1846); and Mr. J. E. Gray unites *minima* with *Swainsonii* in the appendix to Capt. Grey's Travels, and in the catalogue of the Mammalia in the Brit. Museum (1843), separates *P. affinis* as a distinct species from *P. minima*, with which Mr. Waterhouse unites it.

15. *Perameles obesula*, SHAW.

Didelphys obesula, SHAW, Nat. Miscell. viii. t. 298.

General Zool. i. pt. 2, p. 490.

Perameles obesula, GEOFF., Ann. du Mus. iv. p. 64, pl. 45.

Isoodon obesula, DESMAREST, Nouv. Dict. Hist. Nat.
xvi. p. 409.

Perameles fusciventer, GRAY, in appendix to Grey's
travels in N. W. Australia, ii. p. 407.

————— *affinis*, GRAY, List of the Mammalia in Brit.
Mus. 1843, p. 96.

Common "Bandicoot" of the Colonists.

16. *Perameles Gunnii*, GRAY, Proc. Zool. Soc. 1838, p. 1.
Ann. Nat. Hist. 1838, i. p. 108; WATERH. Nat. Lib.
(Marsupialia) p. 156, pl. 15.
Gunn's "Bandicoot."

It has sometimes been doubted whether the *Perameles* fed upon roots. For several years past my garden at Launceston has suffered severely from the attacks of *P. Gunnii*. Two beds of *Ixia maculata*, var. *viridis*, were entirely eaten, so as to eradicate the species from my garden. Some other *Ixiæ* and *Babianæ* were afterwards attacked; but many genera of Cape bulbs close to them were left untouched. The *Crocus* seems an especial favourite, as wherever they occurred they were diligently sought out, rooted up, and eaten, and that too at a season when no leaves appeared above ground to indicate their position. Tulips seem to be less relished, although they are occasionally eaten. In the bush I lately discovered a new species of tuberous fungus, partly eaten, at the bottom of a hole about nine inches deep, which I believe had been the work of a Bandicoot. My impression is, that the Bandicoots live a good deal, if not principally, upon roots and fungi.

17. *Phalangista fuliginosa*, OGILBY, Proc. Zool. Soc.
Sept. 1831, p. 135.

————— *Cuvieri*, (GRAY), WATERHOUSE, Nat. Lib.
(Marsupialia), xi. p. 268.

————— *felina*, WAGNER.

Beautifully figured in Gould's "Mammals of Australia."

The common "Opossum" found all over the island. Both the gray and black varieties are united under this species. A cream-coloured var. also occasionally occurs.

Mr. Gould differs from Mr. Waterhouse as to this species. Mr. Waterhouse thinks the Tasmanian *P. fuliginosa* identical with the Australian *P. vulpina*. Whereas Mr. Gould, in his splendid work on the Mammals of Australia, considers the *fuliginosa* to be confined to this Island, and to be quite distinct from the *vulpina*, which is restricted to the continent of Australia. From Mr. Gould's long residence and extensive travels in these Colonies, during which his attention was exclusively directed to Zoology, he may fairly be presumed to have arrived at the most correct conclusion. I have, therefore, in this instance adopted his opinion.

18. *Phalangista (Pseudocheirus) Cookii*, DESM.

————— *Cookii*, DESMAREST, Nouv. Dict. Hist. Nat. xxv. p. 478.

————— TEMMINCK, Monog. de Mamm. tome i.

————— *viverrina*, OGILBY, Pro. Zool. Soc. 1837, pt. 5, p. 131.

————— *Banksii*, GRAY, Ann. Nat. Hist. 1838, vol. i. p. 107.

Hepoona Cookii, GRAY.

New Holland Opossum, PENNANT, Hist. of Quad. vol. ii. p. 301.

White-tailed Opossum, SHAW, Gen. Zool. vol. i. pt. 2, p. 504.

"Ring-tail Opossum" of the Colonists.

This animal is more restricted in its distribution over the Colony than the common opossum, (*P. fuliginosa*), and is unknown in very many localities.

19. *Phalangista (Dromicia) nana*, GEOFF.

Phalangista nana (GEOFF.) DESMAREST, Nouv. Dict. Hist. Nat. tome 25, p. 470 ; WATERHOUSE, Nat. Lib. (Marsupialia), p. 279.

————— *gliriformis*, BELL, Linn. Trans., vol. xvi. p. 121, pl. 13.

Dromicia gliriformis, GRAY, List of Mammalia, Brit. Mus. 1843, p. 85 ; GOULD, Mammals of Australia, where it is admirably figured.

“ Opossum Mouse” of the Colonists.

20. *Phalangista (Dromicia) sp. nov.*

A second and smaller species of Opossum Mouse, found in this island. I have had a specimen alive in my possession for some years, but it does not seem to thrive or do so well in the cage as the other and larger species with which it is associated. I have sent specimens to Mr. J. E. Gray, British Museum, who will no doubt describe it.

The *Petaurus Sciureus*, DESM., has been introduced into the Colony from Port Phillip, and become wild, but cannot be included in the present list,—*vide* Proc. Roy. Soc. of V. D. Land, vol. i. p. 253.

21. *Phascolomys Wombat*. PERON & LESUEUR, Voy. Aux. Terr. Austr.

————— *fossor*, SEVASTIANOF, Mem. Acad. Imp. St. Petersburg, i. p. 444.

————— *Wombatus*, LEACH, Zool. Misc. ii. p. 101, pl. 96.

————— *fusca*, DESM., Nouv. Dict. Hist. Nat. xxv. p. 500, Tab. G. 44, f. 1.

————— *Wombat*, DESM., Mammal, pt. I, p. 276.

————— *Bassii*, LESSON, Manuel de Mammal, p. 229.

————— *ursinus*, GRAY, List of Mamm., Brit. Mus. 1843, p. 95.

Womback, BEWICK, Quad.

Wombat, COLLINS, N. S. Wales, p. 153, with plate.

“Wombat” and “Badger” of the Colonists.

In addition to the above synonymes the genus has been called *Vombatus* by Geoffroy and *Amblotis* by Illiger.

The Wombats of Tasmania differ much in colour in different localities; some being a dirty black, and others of a silvery gray. I have been unsuccessful in detecting two species here, although both *P. Wombat* and *P. latifrons* are at Port Phillip. Wombats are found on the tops of the mountains, and thence to the sea-coasts. They are very numerous in some localities, 234 having been killed in less than a year upon a farm at present occupied by me on the St. Patrick's River.

22. *Hypsiprymnus (Potorous) murinus*, ILLIGER.

Macropus minor, SHAW, Gen. Zool. vol. i. pt. 2, p. 513,
pl. 116.

Hypsiprymnus murinus, ILLIGER, Prod. Syst. Mamm.
p. 79.

Potorous murinus, DESM., Nouv. Dict. Hist. Nat.
xxviii. p. 79.

Hypsiprymnus setosus, OGILBY, Proc. Zool. Soc. 1831,
p. 149.

————— *Peron*, QUOY & GAIM., Zool. de l'Uranie,
p. 64.

————— ? *myosorus*, OGILBY, Proc. Zool. Soc.
1835, p. 62.

Poto-Roo, or *Kangaroo Rat*, WHITE, Journ. Voy. N.S.W.
p. 286 & pl.

“Kangaroo Rat” of the Colonists.

23. *Hypsiprymnus (Bettongia) cuniculus*, OGILBY, Proc.
Zool. Soc. 1838, p. 63; WATERHOUSE, Marsupialia,
p. 186.

Bettongia setosa, GRAY, Mag. Nat. Hist. vol. i. (new series) p. 584. List of Mamm. Brit. Mus. 1843, p. 93.

————— *cuniculus*, Tasmanian Jerboa Kangaroo, GOULD, Monog. Macropod., part 2, where it is well figured.

“Forest Kangaroo Rat” of the Colonists. May be distinguished from *H. murinus* by its larger size, and a considerable part of the extremity of the tail being usually tipped with white.

24. *Macropus (Halmaturus) Billardieri*, DESM.

Kangurus Billardieri, DESM., Mammal. p. 452.

Macropus (Halmaturus) Billardieri, WATERH. Nat. Lib. p. 227.

————— *rufiventer*, OGILBY, Proc. Zool. Soc. 1838, p. 23, and in Ann. Nat. Hist. 1838, p. 220.

Halmaturus (Thylogale) Tasmanei, GRAY, Ann. Nat. Hist. 1838, p. 108.

————— *brachytarsus*, WAGN. SCHREB. Sang. Nos. 111, 112.

————— *Billardieri*, GOULD, Monog. Macropod.

“Wallaby” of the Colonists of Tasmania, to which island it is restricted.

I cannot trace that this animal is in any way gregarious, as stated by Mr. Gould, in his “Macropodidæ.” They are, it is true, very numerous in many localities; but not, I think, really gregarious. I have had four of them many months past in an enclosure at Penquite, and I perceive that they all adopt separate hiding-places, considerably apart, during the day.

The Wallaby often inhabits our dense Myrtle (*Fagus*) forests; and as no gramineous plants grow in them, I presume it must occasionally live upon the roots of ferns, fungi, &c., as indeed I am assured it does.

25. *Macropus (Halmaturus) ruficollis*, DESM.
Kangurus ruficollis, DESM., Nouv. Dict. Hist. Nat.
 xvii. p. 37.
 ——— *rufogriseus*, DESM., l. c. p. 36.
Macropus ruficollis, LESSON, Manuel de Mammal. p. 228.
Halmaturus elegans, (LAMBERT) GRAY, Cat. Mamm.
 Brit. Mus. 1843, p. 89.
 ——— *ruficollis*, GOULD, Monog. Macropodidæ.
 ——— *griseo-rufus*, GOLDFUSS, Isis, 1819, p. 267.
 ——— *leptonyx*, WAGNER ?
- To this species, which inhabits N. S. Wales and King's Island, Mr. Waterhouse has no doubt our "Brush Kangaroo" belongs; and Mr. Gould seems disposed to concur. The following synonymes must therefore be added to the above.
- Macropus ruficollis* var. *Bennettii*.
 ——— *Bennettii*, WATERHOUSE, Proc. Zool. Soc.
 1837, p. 103; Marsupialia, p. 211, pl. 19.
Macropus (Halmaturus) fruticus, OGILBY, Ann. Nat.
 Hist. 1838, vol. i. p. 219.
Halmaturus Ualabatus, GRAY, Mag. Nat. Hist. 1837,
 vol. i. (new series) p. 583.
 ——— *Bennettii*, GOULD, Monog. Macropod.
 "Brush Kangaroo" of the Colonists.
26. *Macropus giganteus*, ZIMMERMAN.
Didelphis gigantea, SCHREB. Sang. iii. p. 552, t. 154.
Macropus giganteus, SHAW, Nat. Misc. pl. 33.
 ——— *major*, SHAW, Gen. Zool. i. pt. 2, p. 505, pl. 15.
Kangurus labiatus, DESM. GEOFFROY, &c.
Halmaturus griseo-fuscus, GOLDFUSS, Isis, 1819, p. 266.
Macropus major, "great gray Kangaroo," GOULD, Mon.
 ——— *ocydromus*, GOULD, Ann. Nat. Hist. 1842,
 p. ix.
 ——— *melanops*, GOULD, Proc. Zool. Soc. 1842, p. 10.

“Forester Kangaroo” of the Colonists; called also “Boomer,” “Old Man,” “Flying Doe,” &c.

Ord. MONOTREMATA.

27. *Echidna setosa*, CUV. Reg. An. tome i. (1817) p. 226.

———— *breviaculeata*, TIEDEMANN, Zoologie, 1, p. 592.

Well figured in Gould’s Mammals of Australia, part 2.

“Porcupine” and “Hedgehog” of the Colonists. Naturalists are still in doubt whether the Echidna of V. D. Land (*E. setosa*) is really specifically distinct from *E. hystrix* of the continent of Australia. The Tasmanian animal is distinguished from the Australian by the greater length of the fur, so as in a great measure to hide the spines.

28. *Ornithorhynchus anatinus*, SHAW.

Platypus anatinus, SHAW, Nat. Misc. vol. x. pl. 385,

Gen. Zool. vol. i. p. 229, pp. 66, 67; GRAY, Cat.

Mam. Brit. Mus. 1843, p. 191.

Ornithorhynchus paradoxus, BLUMEN., VOIGT’S Mag. ii.

p. 305, pl. 41; HOME, Phil. Trans. 1800, p. 432,

and 1802, p. 67; CUVIER, Reg. Anim. 1829, i.

p. 235.

———— *fuscus et rufus*, PERON, Voy. de

Decouv. i. t. 34; LEACH, Zool. Misc. ii. p. 136, t. 3.

———— *brevirostris*, OGILBY, Proc. Zool. Soc.

1831, p. 150.

———— *crispus et lævis*, MACGILLIVRAY, Mem.

of the Wernerian Soc. 1832, p. 127.

“Platypus” and “Water-mole” of the Colonists.

From the preceding List it will be perceived that we possess 27 species of Mammals, described as inhabiting this island (omitting the Seals and Cetacea); and to these have to be added one *Dromicia*, and probably two species of

Mus. The whole Mammals of Tasmania may then be classed thus:—

CHEIROPTERA	3
CARNIVORA (Seals)	3
CETACEA	5
RODENTIA	6
MARSUPIALIA	19
MONOTREMATA	2
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	38
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Penquite, 1st September, 1851.

X. *Report on the Coal said to have been found at the Don River, and upon the West Bank of the Tamar River, in Tasmania. By JOSEPH MILLIGAN, Esq., F. L. S. [Read 9th July, 1851.]*

Hobart Town, 11th June, 1851.

SIR,—I have the honour to report that, in obedience to instructions from His Excellency the Lieutenant-Governor, I recently proceeded to the Mersey and Don Rivers to examine the tract of country there on which Coal was said to have been found; and that I also devoted a week to the examination of both banks of the Tamar, from Whirlpool Reach downwards, with reference to a surmise of Coal existing there.

The entrance to the Mersey River, which is not wide, lies open and exposed to the full sweep of the winds, and has but little shelter from the roll of the sea directly in from Bass's Strait. There is a bar well out to seaward, which is said to