

TRANSACTIONS  
OF THE  
PHILOSOPHICAL SOCIETY  
OF NEW SOUTH WALES.

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*On the Vertebrated Animals of the Lower Murray and Darling, their habits, economy, and geographical distribution, by GERARD KREFFT.*

[Read 10th September, 1862.]

SOME of the observations embodied in this paper date back as far as the year 1852, but the greater number are the results of a nine months' sojourn on the Lower Murray and Darling, where, encamped in the neighbourhood of Gol Gol, I was enabled, with the assistance of Messrs. Williams and their devoted natives, to thoroughly investigate the fauna of that part of Australia.

I cannot speak too highly of the valuable co-operation of these gentlemen, the same whom Mr. Landsborough met on his return journey at the Warrego pushing on towards the Gulf, and whom he designates "the best of Australian Bushmen."

The Placental Mammals of this district are of course few. They belong to the Bats, (*Nyctophilus*, *Scotophilus*, *Rhinolophus*,) the Rodents, (*Hydromys*, *Hapalotis*, *Mus*,) and the Carnivora, which are represented here, as in the rest of Australia, by the Dingo alone.

#### CHEIROPTERA.

The Bats of the Murray and Darling all belong to the family Vespertilionidæ, as the large so-called "Vampire Bat" or "Flying Fox" (*Pteropus*) is not found in those regions.

Owing to the superstitions of the natives, who look upon every Bat as a departed friend and relative, who, according to their ideas with regard to the transmigration of souls, has seen better days among themselves, has thrown spear and boomerang, and feasted upon Kangaroo, Wallaby, and Emeu, the number of Bats collected during my journey was very limited indeed.

When at Gunbower Creek I caught the first of these creatures, and I was seriously informed by the natives, that it was "brother belonging to black-fellow, who kill lubra if you kill him."

Farther down the river this superstition vanished more and more; still they never assisted in procuring specimens of this family.

The following are the species collected:—

1. NYCTOPHILUS GEOFFROYI.

Geoffroy's Nyctophilus—

observed at various places between Gunbower Creek and the Junction of the Darling.

2. SCOTOPHILUS PUMILUS.

The Little Bat—

of which a single specimen was caught near Milldura, 20 miles from the Darling.

3. SCOTOPHILUS MORIO.

Chocolate Bat—

specimens of which have been captured on the Lower Darling. I have been informed that a "tailed Bat" was also an inhabitant of that part of Australia, but I did not succeed in securing a specimen. I suppose that it is a new species of the genus *Molossus*, of which only a single representative is as yet described from this country, discovered some years ago by the late Dr. L. Becker, in the neighbourhood of Melbourne.

4. RHINOLOPHUS MEGAPHYLLUS.

The Large-leaved Horse-Shoe Bat—

frequently observed near Gunbower Creek.

CARNIVORA.

CANIS DINGO.

The Dingo, Warrigal of the natives, is the only Australian representative of the large Group of carnivorous animals inhabiting every other part of the globe; and as our "Native Dog" has already established a reputation for himself, I shall be as brief as possible. In spite of the many enemies of the Dingo he is as plentiful as ever on the Lower Murray and Darling; neither the strychnine of the settlers, nor the guns or spears of the Aborigi-

nals could exterminate the breed: which no doubt is also maintained by stray shepherds' dogs—not all the so-called Dingos being of the pure "Warrigal" blood.

There is a black and tan coloured variety. Various litters taken by myself had generally four pups, sometimes a pair of each colour. The natives, who hate the Dingo most cordially for his living on the fat of the land, kill him on every opportunity and eat his flesh, which is by no means of ill flavour, though I have partaken of it under stress of hunger, and I will not vouch that I should sit down to roast Dingo with the same gusto now as ten years ago in the Murray scrub.

A question has been raised as to the origin of the Dingo in Australia, and several high authorities are of opinion that the dog was introduced there by man; if so, this must have been at a very remote age, as the first molar tooth of a dog has been found with other fossil remains in the breccia of the Wellington caves.

In those days of *Diprotodons*, not only did the Dingo exist, but also some of the animals now restricted to the island of Tasmania, as *Thylacinus* and *Sarcophilus*, teeth of which I have discovered in the same breccia, and which are now on view at the Australian Museum.

## RODENTIA.

The third group of the Australian Mammalia consists of the Rodents, which are largely represented, and, to some extent, partake of the structure of the Kangaroo; many having their hind limbs much elongated, and moving by a succession of jumps, in which they use the hind legs only. A few (4 species) are aquatic (*Hydromys*), expert swimmers and divers, and a great many are arboreal, and apparently the representatives of the squirrels in Australia.

All the species observed by me on the Lower Murray, are strictly nocturnal, and all bring forth 4 young ones (born blind) at a time.

### 1. HYDROMYS CHRYSOGASTER.

#### Golden-bellied Beaver Rat.

All the specimens of this rat procured by me are from Gunbower Creek and Lake Boga, where this animal is very plentiful.

It is strictly nocturnal, and was often observed after sundown, gambolling upon the shores of that beautiful lake. The Black Snake is a sore enemy to the young progeny of this *Hydromys*; for I captured a specimen, which, upon being opened, proved to have swallowed a full dozen young Beaver Rats, about the size of new-born kittens.

This Rat is not found on the Lower Darling, at least, I was assured by the natives that they had never seen it.

## 2. HAPALOTIS CONDITOR.

Building Hapalotis.

Koel or Kohl of the natives.

Captain Sturt described this animal first, though Sir Thomas Mitchell mentioned it before him.

It is one of the many species which will soon be extinct, as I found that it had already retreated before the herds of sheep and cattle across the Murray. Only a few empty nests were occasionally met with south of that river. The few specimens collected were captured by the natives about 10 miles north of the Darling Junction; though many empty nests, or rather huts, were met with, occupied by *Hapalotis apicalis*, which, it appears, often takes a fancy to the roomy structures of the building *Hapalotis*, and ejects the original inhabitant. I kept both species together in a box, but they never agreed, and, though the building *Hapalotis* is much larger in size, it could never hold its own against *Hapalotis apicalis*. They feed on various seeds, bulbous roots, insects, and the smaller species of *Hapalotis*, or birds' eggs, &c., and bring forth 4 young at a time.

## 3. HAPALOTIS APICALIS.

White-tipped Hapalotis.

Tillikin of the natives.

Mr. Gould figures this species, of which he mentions merely that he received it from South Australia. I observed the first specimens in the neighbourhood of Euston, and found it in great numbers upon Sir Thomas Mitchell's old track on both sides of the Murray. It also occurs on the Darling, and I have no doubt

that the late lamented Explorers called Rat Point (in the neighbourhood of fort Bourke) after this *Hapalotis*.

They are gregarious in their habits. I have dislodged as many as 15 specimens from a single tree, and kept large numbers in captivity. They became quite tame; and many which had escaped would return to join my frugal supper at night, and help themselves, to damper especially. This is a very graceful animal, strictly nocturnal in its habits, and its flesh white, tender, and well-tasted.

#### 4. HAPALOTIS MITCHELLII.

Mitchell's Hapalotis.

Kahlpere of the natives—

is another animal which the late Sir Thomas Mitchell first discovered. I have no doubt that it is widely distributed over the Australian continent, but I was not able to procure specimens at Gunbower Creek, or at the Junction of the Loddon. The first pair obtained were brought to me by natives in the neighbourhood of the Murrumbidgee. This animal is very plentiful on the Darling: and as many as 50 specimens were often procured by the native women in an afternoon. It burrows into the ground, and is dug out by them. *Hapalotis Mitchellii* is strictly nocturnal in its habits, and the female produces 4 young at a time. Though they are easily kept in captivity, they often kill each other, if not well supplied with food; they also have a disagreeable habit (to the naturalist, at least) of gnawing each others tails off.

#### 5. MUS SUBRUFUS?

Dusky mouse.

Pethack of the natives.

Apparently an undescribed species (for which I would propose the name of *Mus subrufus*) is found in large numbers between Gol Gol Creek and the Darling; it is nocturnal and gregarious, and, like *Hapalotis Mitchellii*, burrows into the ground; 4 young are produced at a time by the female.

All the Rodents are eaten by the natives, but only in case of no other food being at hand, as a large number of these little creatures are wanted to satisfy the hunger of a black-fellow.

This closes the list of the Placental Mammalia, which I had

an opportunity of observing. But there are, no doubt, still many species of Rodents new to science ; in fact, several skins of *Hapalotis* were received through native tribes living some 100 miles further north, but all were in such bad preservation, that it was found impossible to give a correct description of them.

### MARSUPIALIA.

By far the larger number of animals inhabiting the extensive plains on the Murray and Darling are marsupial ; and with a few exceptions truly *nocturnal* in their habits.

This accounts for the apparent scarcity of animal life ; and often do travellers mention, that except an occasional Kangaroo, they have never met with any mammalian animal in the interior of the country.

Two-thirds of the smaller mammalia collected and examined by me on the Murray were new to many old residents, and even the natives, who, in many parts, have acquired habits different from their former mode of life, had almost forgotten the existence of some of these species. With the aid of the Messrs. Williams and the natives, I succeeded in procuring every species known to exist in that part of Australia ; and in finding also a number of animals of this order which hitherto had been only known to frequent Western and South Australia.

The following are the different genera :—

Dasyuridæ	{	<i>Dasyurus.</i>
		<i>Phascogale.</i>
		<i>Antechinus.</i>
		<i>Podabrus.</i>
		<i>Myrmecobius.</i>
Peramelidæ	{	<i>Chæropus.</i>
		<i>Peragalea.</i>
		<i>Perameles.</i>
Phalangistidæ	{	<i>Phalangista.</i>
		<i>Belidæus.</i>
Macropodidæ	{	<i>Macropus.</i>
		<i>Onychogalea.</i>
		<i>Lagorchestes.</i>
		<i>Bettongia.</i>

I may also mention the Genus *Phascolomys* (the Wombat), as I know upon reliable authority that *P. latifrons* has been killed in the neighbourhood of the "North-west Bend" on the Murray.

The two genera *Petaurus* and *Phascolarctos*, the so called "Flying Squirrels" and "Native Bear," are not represented; both frequent the rocky and mountainous districts only.

#### 1. DASYURUS GEOFFROYI.

Native Cat or Tiger Cat of the Settlers.

"Kettrie" of the Natives.

This is the most blood-thirsty of the Marsupial animals inhabiting the Murray scrubs, solitary in its habits, strictly nocturnal, and the terror of the feathered tribe, particularly of the yellow crested Cockatoo. Afraid of nothing, it will, when hungry, attack any other animal; a mother will eat even her own progeny, if she has nothing else to fall back upon.

I have often detected the lair of this *Dasyurus* by the heap of feathers and bones generally collected at the foot of the tree upon which it dwells; it is eaten by the natives. The female is not furnished with the usual pouch, and in June or July brings forth often as many as 6 young at a time, so that every teat is occupied, 6 being the number of mammæ generally observed in this species. The Native Cat of our neighbourhood (*Dasyurus viverrinus*) is somewhat smaller in size, with a more bushy tail, and the female furnished with 6 teats; this may not be constantly the case, though I am informed by my friend, Mr. E. P. Ramsay, that various specimens examined by him had not more than 6 teats, only 4 of which were in milk. Owing to the absence of a pouch, many of the weak young drop off, and only a few, generally 3 or 4, reach maturity.

All my attempts to domesticate the young have proved fruitless; they never learnt to recognise the hand that fed them, and though I kept a pair nearly six months, at the end of that time they were found only more ferocious than ever; having made their escape at last, they kept near the huts and tents of the camp, completely clearing the place of mice and other vermin. Wherever a spot is infested with mice or rats in the bush (and some of the stations are overrun with them) there

is no better remedy than to procure a few young *Dasyuri*, which having been kept on the ground for a few months, and turned out into the store-house, will soon "effect a clearance."

The range of this species extends, according to Gould, as far as the West Coast.

The Natives inhabiting the country near the junction of the Darling, have some superstitions regarding this animal, and "Jacob," an old chief on the River, often assured me, that "Kettrie make rain and rainbow." As his kinsmen are not fond of rain, I suppose they kill as many Kettries as possible.

## 2. PHASCOGALE CALURA.

Handsome tailed Phascogale.

Kultarr, (native name.)

This is without doubt the most handsome species of the genus. It is ashy grey above, white underneath, with long bushy black tail, the upper half of the basal part of which is of a rich chesnut colour.

The few specimens which have found their way to Europe were procured at the Williams River, Western Australia; but when the intervening country between the Murray River and the West coast is better known to Naturalists, it will probably be found that the range of this beautiful creature extends over the larger half of the continent. The few specimens brought to me by the natives were generally found in hollow limbs of trees. I kept several alive for a considerable time, feeding them with live mice or small birds. Their movements were cat-like, but very graceful; like all the members of this genus they are strictly nocturnal in their habits. A female specimen, caught in the beginning of June, had 8 very small young ones attached to the teats, which were 10 in number: no regular pouch was observable, the long hair only covering the young progeny.

My specimens were captured near Williams' Station, Gol Gol Creek, about 10 miles from the Darling Junction.

## 3. PHASCOGALE PENICILLATA.

Brush-tailed Phascogale.

This species, nearly allied to *P. calura* is, no doubt, still more widely distributed. It is occasionally found in the neighbour-



hood of Sydney, and extends its range right across the continent to the west coast. On the Murray River, it is exceedingly rare; the only specimen I found was secured in the neighbourhood of Mount Hope. I have subsequently received specimens through the natives, when at Port Lincoln; and examined some which had been captured at Albany on King George's Sound, and have found them to be identical with the original Tapoa-Tafa of White.

The only female specimen I saw had no pouch, but 10 teats covered with long hair. I suspect that, as in the other species, a large number of young is brought forth; but how many reach maturity must yet be left to be determined.

#### 4. PHASCOGALE LANIGERA.

Woolly Phascogale.

Kultarr (native name.)

Two single specimens of this little *Phascogale* were obtained through the natives at Gol Gol Creek: one a female with 10 teats and 7 young. The hind legs in this species are long and slender, and the natives informed me, that it lived upon the ground, unlike the other species of this genus; most of which are arboreal.

The little creature, which I kept alive for several weeks, was fond of flesh, and, when put into a box with a number of Rodents, attacked the frightened mice immediately.

The natives informed me, that the animal was very rare; in fact, they had a dispute about its name, and called it "Kultarr," just as they did with *Phascogale calura*, while some asserted they had never seen the animal before.

Though I offered high rewards for another specimen, I did not succeed in procuring any more than these.

This species is also strictly nocturnal in its habits.

#### 5. ANTECHINUS FLAVIPES.

Rusty footed Antechinus,

Warum (native name.)

This lively little animal is the most abundant of the *Antechini*, and, though nocturnal, is often seen during the day time. Its

range extends from the east to the west coast. It used to be so common near the camp on the Murray, that I have often captured several specimens whenever a load of wood was brought in. I kept many alive and always found that, like the species of the *Phascogale*, it would attack and kill any number of mice, if put into the same box. The shallow pouch of the female is provided with 10 teats, and as many young are sometimes attached to them. I find several entries in my diary corroborating these facts:—

Aug. 17.	1	female	<i>Antechinus flavipes</i>	with	10	young.
„ 19.	1		ditto		9	„
„ 20.	1		ditto		9	„

Several females procured in September had only 6 young, of much larger size, attached to the teats.

This animal is common on the North Shore, Sydney.

#### 6. ANTECHINUS ALBIPES.

White-footed Antechinus,  
Tram-Trammit (native name.)

One of the smallest of this genus, and widely distributed over the whole of the southern part of the continent from Swan River to Port Jackson. The specimens I obtained on the Plains of the Murray are identical with specimens from this Colony, and with those inhabiting South and Western Australia.

The female is furnished with a rather shallow pouch containing 10 teats; and in specimens captured in July and August, from 6 to 9 young, of the size of a pea. The Natives caught this species frequently on the Sand-hills near our camp, in King George's Sound. *A. albipes* frequents rocky places, and is often found under stones. I have also found specimens under stones near Manly Beach.

It bears captivity very well. I have lately found several specimens, and succeeded in keeping them about six weeks alive; they thrive very well, and I killed them only on account of their rather strong odour, if fed on flesh. Though small, they are very ferocious, and they will attack mice of double their size, without fear.

7. *PODABRUS CRASSICAUDATUS*.

Thick-tailed Podabrus.

Mondellundellun (native name.)

All the specimens of this species ever sent to Europe came from the West coast of this continent; but as I have obtained specimens from various parts of the Murray River, I doubt not that it inhabits the intervening country between the Swan River colony and New South Wales. I have never seen this handsome little Podabrus from the eastern part of Australia, though a species with a much longer tail (*Podabrus macurus*) occurs in the neighbourhood of Brisbane, and further north. I have kept several specimens alive for months, but always found it necessary to separate them on account of their ferocity. I have more than once lost a number of valuable Rodents through inadvertently adding a *Podabrus*, or any species of *Antechinus* to them; they fall upon the poor mice immediately, and kill many more than they can possibly eat. If not supplied with food, they attack and devour each other.

Females, which the natives brought in July and August, had from 6 to 9 young ones in the rather shallow pouch. The number of teats is 10; and, as I found several with the whole number in milk, I believe that as many as 10 young are brought forth at a birth.

All the species of the genus *Antechinus* are rather sensitive to cold; and, when the thermometer fell as low as 30° a great many perished.

Beyond a hoarse screech, I never noticed any voice. A singular peculiarity in all the *Dasyuridæ* is, that they carry their ears folded down, never erect, when alive: and, though I do not want to find fault with Gould's beautiful work, I must say, that, in this respect, the representations he gives of this tribe of the animals of Australia are not over true to nature.

8. *MYRMECOBIUS FASCIATUS*.

Banded Myrmecobius.

This singular animal which also inhabits the Plains bordering on the Murray and Darling, is not found close to the first

named river: and, as far as my inquiries among the natives went, has never occupied that part of the country. It does not now inhabit any part of Victoria, and I think the Murray may be taken as its southern boundary. A quarrel existed between the Darling natives and the tribe which accompanied me, so that I was not able to procure any live specimens of this singular animal, but its existence is proved sufficiently. I have been informed by Mr. Scott, the owner of a Station at Tapio, about 80 miles from the Darling Junction, that the Banded *Myrmecobius* is by no means rare; and that the natives could procure specimens for me; but a few bad skins were all I obtained.

How many young ones the female produces, and with how many teats she is furnished, I am unable to say; the only fact proved is, that the range of *Myrmecobius fasciatus* is not limited to the West Coast, and, that according to the natives, it is not nocturnal in its habits.

#### 9. CHÆROPUS OCCIDENTALIS.

The Eastern Chæropus.

Landwang (native name.)

This singular animal which Sir Thomas Mitchell first discovered in his expedition to the Darling, June 16, 1836, is still found on the plains of the Murray; though it is exceedingly rare, and is disappearing as fast as the native population. The large flocks of sheep and herds of cattle occupying the country will soon disperse those individuals which are still to be found in the so-called settled districts, and it will become more and more difficult to procure specimens for our national collection.

During a period of six months, I encamped not far from the spot where Sir Thomas Mitchell secured his tail-less animal. I had the greatest difficulty in obtaining a few specimens, but succeeded at last, and as I believe that nobody has ever been able to observe the habits of this singular creature in a state of nature, I will quote from my diary, October 4th, 1857:—

“After returning from a short excursion into the scrub, I fell in with a party of natives who had succeeded, at last, in securing a pair of the *Chæropus*, (male and female.) They wanted all manner of things for them, from a pair of blankets to a cutty

pipe; and as I was very anxious to sketch them from life I emptied my pockets there and then; and promised a grand entertainment for the night with plenty of damper and sugar and tea."

On arrival at the camp, the two animals were secured in a bird cage; and I was busy for several hours sketching my charges in different positions.

Gould's figures of *Chæropus occidentalis* are spiritless, being taken from dry skins. I was in the habit of showing a copy of Sir Thomas Mitchell's tail-less specimen to the natives, urging them to procure animals of that description; of course, they did not recognize it as a "Landwang," and I was furnished in consequence with a large number of the common Bandicoot (*Perameles obesula*) minus the tail, which, to please me, had been screwed clean out.

About sun-down, when I was about to secure my animals for the night, one of the nimblest made its escape, jumping clean through the wires of the cage.

At a quick pace it ran up one of the sandstone cliffs, followed by myself, all the black-fellows, men, women, and children, and their dogs.

Here was a splendid opportunity for observing the motions of the animal; and I availed myself of it. The *Chæropus* progressed like a broken down hack in a canter, apparently dragging the hind quarters after it; we kept in sight of the fugitive; and, after a splendid run up and down the sand hills, our pointer, who had been let loose, brought it to bay in a salt bush.

A large tin case was fitted up for the habitation of these animals, and provided with coarse barley grass, upon which, as the natives informed me, they feed. Insects, particularly Grasshoppers, were also put into the box, and, though they were rather restless at first, and made vain attempts to jump out, they appeared snug enough in the morning, having constructed a completely covered nest with the grass and some dried leaves.

During the day time, they always kept in their hiding places, and, when disturbed, quickly returned to them; but, as soon as the sun was down, they became lively, jumping about and scratching the bottom of the case, in their attempts to regain

liberty. I kept these animals upon lettuces, barley grass, bread, and some bulbous roots, for six weeks, until the camp was broken up, when they were killed for the sake of their skins.

I think that about 8 specimens of this species were secured during our stay; several of which, proved to be females with good sized young ones in the pouch, which is very deep and runs upwards, not like that of a Kangaroo. All were provided with 8 teats, and bore 2 young ones, only one pair of teats being drawn.

I may mention here that the *Chæropus* drinks a good deal of water, but will neither touch meat nor attack or eat mice, as the other members of this family do.

Their dung, which I often examined when out hunting, was entirely composed of grass, very dry, about the size of sheep's trundles, but much longer, so that I believe, that in a state of nature, they feed principally upon vegetables. They are very good eating; and I am sorry to confess that my appetite more than once over-ruled my love for science; but 24 hours upon "pig face" (*mesembryanthemum*) will damp the ardour of any naturalist.

The young which I took from the pouch of several females, never exceeded 2 in number, and were so far advanced, that I conclude that the breeding season is in May or June. It is a curious fact, that the third toe in the fore feet of the *Chæropus* is much more developed in the young than in the adult animal: in fact, the former looked more like a young *Perameles*, than a *Chæropus*; the limbs being short and strongly made—the basal half of the tail, which in the adult is covered with long black hair, is of a dark purple colour in the nude young animal. The eye of this species, which is very large and brilliant, is represented much too small in Gould's figures.

#### 10. PERAGALEA LAGOTIS.

Rabbit Rat.

Wuirrapur, (Murray natives.)

Jecko, (Darling tribes.)

This beautiful animal, like many other species, has long ago retreated to the north of the Murray. It is social, not gregarious,

in its habits, only found in pairs scattered over the wide plains formerly the sole domain of the Kangaroo and Emeu. It digs into the ground, forming a burrow like a rabbit, but with only one entrance, and differs herein from *Bettongia Graii*, the burrows of which are provided with several outlets, and may easily be distinguished from those of the *Peragalea*.

As this "Rabbit Rat" often prefers entering the ground on a hill side, and as hills, even of very slight elevation, are often scarce on these extensive plains, it will sometimes happen, that the *Peragalea* takes advantage of the mound raised upon a departed black-fellows grave, providing for itself a habitation beneath the natives weary bones. Upon this ground an investigator asserted, some years ago, that this animal dug out the dead bodies of the natives and fed upon them. I think that every naturalist that has the slightest knowledge of the habits of this animal, will agree with me, that it is no resurrectionist, and if it takes advantage of the "mound," it is only for convenience sake, and not for criminal purposes.

It is nocturnal in its habits, feeds upon grass, roots, insects, &c., and always retires before dawn. Its flesh is very good eating, though the fur has a peculiar sweetish smell which is retained for years after the skin has been cured.

The natives seldom unearth the animal; the holes being very deep, and often found to be uninhabited. I procured a few specimens only, among which, was an adult female, with a very deep pouch, 8 teats, and two large young.

All the spots which, in the adult, are covered with black hair, were of a purple colour in the nude young specimens, which appeared to be about four months old; so that, according to my diary, their breeding season will be about the beginning of May. The pouch runs upwards.

#### 11. PERAMELES FASCIATA.

Banded Perameles.

Thill, (native name.)

Moncat (do. do.)

One of the many animals whose range extends from the east to the west coast of the Continent, it is common on all parts of

the Murray River, and is also found in Victoria, in South Australia, parts of Western Australia, and in the immediate neighbourhood of Sydney.

Though provided with strong claws it seldom burrows, except in search of its food, which consists of insects, bulbous roots, various herbs, &c. Nocturnal and social in its habits, the striped (so called) "Bandicoot" seeks shelter, during the day time, in hollow logs, or under stones, although sometimes it constructs a sort of nest like the *Chæropus*.

This animal bears captivity well, and becomes very expert in catching mice. I had several about the camp; and they proved as useful as cats.

I was in the habit of feeding the specimens kept in a large tin case with various kinds of Rodents, which they killed with astonishing quickness.

The *Perameles* would tumble the mice about with its fore paws, break their hind legs, and eat generally the head only. I have seen a single individual kill as many as twenty mice in a very short time, breaking their bones successively, after which it would begin to satisfy its hunger.

During the months of May, June, July, and August, female specimens provided with 8 teats, and containing from 2 to 4 young were captured by the natives. Those obtained in August, had grown to the size of a young rat; fur, cream coloured, without the markings upon the haunches, which appear at a more mature age.

The flesh is palatable. The pouch runs upwards.

## 12. PERAMELES OBESULA.

Short-nosed Perameles.

Bandicoot of the settlers.

Pirrikin, Murray natives.

This animal is the most common of the *Peramelidæ*, inhabiting the whole of the Southern part of the Continent and Tasmania. How far its range extends to the north, I have been unable to ascertain, though I know that it is frequently met with on the Clarence River.

The flesh is delicious, especially when *done* in the native style,



that is, the hair removed, and the game roasted upon the coals. From May to September, females with from 2 to 3 young ones in the pouch were frequently captured. In October or November, the young progeny begin to shift for themselves.

The pouch is very deep, the entrance upwards, and contains 8 teats.

### 13. PHALANGISTA VULPINA.

Vulpine or Brush-tailed "Opossum"—

So well known to everybody, that I shall not enlarge upon it; but merely remark that this species is the staff of life to the natives.

I often admired my native friends, when after a hard day's unsuccessful hunting they dropped in at the camp empty handed; how carefully they would examine the large flooded Gum-trees (*Eucalyptus rostratus*), fringing the river banks, how nimbly they would get a footing upon some hollow limb, and with what perseverance "Possum" was dislodged, and perhaps, accidentally dropped into the river, whence it had to be rescued by the black-fellow's better half: for it was the question of "to eat or not to eat."

How often the *Phalangista vulpina* produces young, I am not able to tell with certainty. I think, judging by the large numbers in every forest, several times a year. The female is provided with only 2 teats, and seldom carries more than one young one at the time.

### 14. PHALANGISTA VIVERRINA.

Ring-tailed Opossum.

Pirrath of the Murray natives.

A rare animal on the Murray and Darling. I secured no more than two specimens during my stay there. It is much lighter in colour than the species inhabiting the Swan River colony. The pouch in the female is provided with 2 teats.

It is one of the characteristics of the flat country traversed by the Murray and Darling, that no other species of the *Phalangistidæ* are found there.

The first *Belidæus* I captured on my return, at Mount Ida,

McIvor Range, 80 miles distant from the Murray, is, according to Gould, a new species, and is figured by him in part XI. of his *Mammalia*, 15, as "*Belidæus notatus*."

As I made many enquiries of the Natives about the genus *Petaurus*, and found that these animals are not known to them, I do not hesitate to consider their range to be restricted to the mountainous coast districts.

All the members of this family are nocturnal, and the female is provided with one pair of mammæ only. In the "Flying Squirrels" the number of young is sometimes 2; but the Koala or "Native Bear" never produces more than a single young one at a time.

I now proceed to the Kangaroo, whose form and habits seem to have struck the discoverers of Australia with special wonder. Large Plains are admirably adapted to the habits of these animals, and the low lands of the Murray have once swarmed with their numbers as they do now with cattle and sheep. At the present time, large flocks of Kangaroos are a rare sight; and though I have seen as many as sixty or eighty together, I think that this is the exception, not the rule.

The most formidable, and no doubt the handsomest species of the whole tribe is,

#### 15. OSPHRANTER RUFUS.

The Great Red Kangaroo.

Bullucur of the Murray natives.

Which has become very scarce upon the left bank of the Murray, but is still found in considerable numbers in New South Wales and South Australia. The range of this species to the eastward does not extend much beyond Mount Hope.

This large beautiful animal, about which a great deal has been written, ought to be well known to every colonist, and yet it is only a few months ago that the very existence of such a creature was doubted by an enlightened "critic," who was pleased to designate this species as ante-diluvian; indeed it must sound like a fable to people who know little or nothing about such matters, if they are informed that the male of this species is of a foxy red, and the female of a bluish grey colour.

The Red Kangaroos, like the great Kangaroo, (*Macropus major*) feed in flocks, and, when disturbed, the old males cover the retreat of the fleet females who are off first, so that specimens of the latter sex are rare, the dogs generally stopping the progress of the rear-guard of the red "old men."

In wet weather, when the chalky top soil of the "Malley scrub" is softened, these Kangaroos are easily captured: they sink deep into the ground, and any black-fellow's cur, trained for such work, will stick to the tail of the Kangaroo until his master is able to come up and crack its skull, or run a spear through it.

The female produces one young at a time, which she carries in her pouch until it is of considerable size. As in all the other members of this family, the number of mammæ is four.

The flesh is very palatable—I prefer it to that of *Macropus major*.

#### 16. MACROPUS MAJOR.

The Great Kangaroo.

Bullucur of the Murray natives.

A much more common species than the preceding, and similar in its habits, the female producing only one young one at a time. The pouch has 4 teats.

Dr. James C. Cox has lately presented two young of this species to the Museum, which were *both* taken from the same pouch. I mention this as being of very rare occurrence; they are about  $\frac{1}{2}$  inch long.

#### 17. ONYCHOGALEA FRÆNATA.

Bridled Nail-tailed Kangaroo.

Merrin of the Murray natives.

The most common of all the smaller species of the Kangaroo tribe; often seen out during the day-time, though, when observed in captivity, much livelier at night; gregarious, the female producing one young at a time, generally in the beginning of May; pouch containing 4 teats. Its flesh is white and well tasted.

## 18. LAGORCHESTES LEPOROIDES.

Hare Kangaroo.

Turatt of the Murray natives.

Common upon the level country between the Murray and Darling; strictly nocturnal and solitary in its habits; it is seen during the day-time only, and is generally found asleep under some salt bush, or in any other sheltered locality. The Hare Kangaroo is the fleetest of the whole tribe, and will, when hotly pressed, take leaps more than 8 feet high.

A single young one is produced at a time; pouch furnished with 4 teats. This species is easily tamed, and I have kept several at the camp, which lived well on biscuit, bread, or boiled rice.

Its flesh is delicious, in fact some of the best meat I ever tasted.

## 19. BETTONGIA RUFESCENS.

Rufous Bettongia.

Kangaroo Rat.

This animal, so common in the neighbourhood of Sydney, has not been observed by me to the westward of the Murrumbidgee, where *Bettongia penicillata* appears to take its place. Not a single specimen was procured by the natives during my stay at the Darling Junction; so that I have no doubt about the extent of its range. This animal is easily tamed, and I have kept a young one about the size of a large rat for several weeks. The little animal often followed me upon my excursions, seeking shelter upon the approach of danger by creeping between my boots and trousers.

Only one young is brought forth in June, though the pouch contains 4 teats. The flesh of this animal is also very palatable.

## 20. BETTONGIA PENICILLATA.

Pencil-tailed Bettongia.

Pattuck of the Murray natives.

The smallest of the whole family, nocturnal in its habits. Those occasionally seen during the day time have been disturbed.

It is not very quick, and is easily caught, even by common dogs. I have from time to time kept numbers of these animals in captivity in an enclosure of pine logs about seven feet high, which they used to climb with a nimbleness truly astonishing, and thus often escaped. During the day time I always noticed these creatures crouching into some corner; the tail brought forward between the hind legs, the head between their paws; fast asleep. I noticed that they are very partial to the thick clusters of *Polygonum* scrub so frequent on the Murray.

Female specimens, with never more than 1 young attached to one of the 4 teats, were frequently brought to me by the natives. Single specimens, with a white brush at the end of the tail, occur occasionally.

This *Bettongia* and *B. Ogilbeyi* appear to be so closely allied to each other that I should consider them the same species.

## 21. BETTONGIA GRAII.

Gray's Jerboa Kangaroo.

Booming of the Murray natives.

This burrowing *Bettongia* has long retreated before the herds of cattle with which the plains bordering on the Murray are now stocked; and it is no longer to be found south of that river, so, at least, the natives assured me, and whenever we went out hunting for it, we always had to cross to the New South Wales side.

Not a single specimen of my collection was procured in Victoria. Although this species is constantly furnished with a brush of white hairs at the end of the tail, I consider it identical with Gould's *B. Graii*, in which the white mark is wanting.

It is a truly nocturnal animal, which always leaves its burrow long after the sun is down, in fact, never before it is quite dark. I often watched near their holes, gun in hand, listening to their peculiar call; but I always had great difficulty in procuring specimens, as they are very shy, and hardly to be distinguished from the surrounding objects.

The best plan is always to dig them out; an operation in which the black-fellows are very expert, though it is rather tedious work; the holes running into each other, and being

sometimes ten feet deep ; and several shafts may have to be sunk, before a couple of "Boonings" can be secured.

I have often seen several acres of ground covered with their holes.

I have no doubt that this, and, perhaps, many of the other species, breeds several times during the year, but brings forth one young only. The pouch of the female is furnished with 4 teats.

It is difficult to keep them in captivity, as they are very wild indeed ; and either escape by a burrow, or kill themselves in running their heads against the enclosure.

These are all the Marsupial animals proper which I have observed ; it will however be necessary to say a few words about the sub-class of the Marsupial Group, the Monotremata, which is represented by the following species.

## 22. ORNITHORHYNCHUS ANATINUS.

### The Duck-billed Platypus.

This singular animal does still exist in most of the tributaries of the Murray, as the Loddon, Avoca, Campaspe, &c. It is extremely shy, and little is yet known about its habits and economy. It burrows into the river bank from below the water level, and according to Bennett, brings forth 3 young ones at a time ; some found by that naturalist were one inch and seven-eighths in length. Its food consists of fresh water worms, mollusca, worms, insects, &c.

This is about all we know of the *Platypus*, and cannot I do better for the benefit of science than draw attention to Professor Owen's remarks in his elaborate paper on the monotremata ; The great anatomist says :—

"The principal points in the generative economy of this paradoxical species still remain to be determined by actual observation.

1. Manner of copulation.
2. Season of copulation.
3. Period of gestation.
4. The nature and succession of the temporary structures developed for the support of the foetus during gestation.
5. The exact size, condition, and powers of the young at the time of birth.

6. The act of suckling.

7. The period during which the young requires the lacteal nourishment, and the age at which the animal attains its full size."

Knowing that many gentlemen in the country take great interest in Natural History, and have frequent opportunities of observing the *Ornithorhynchus*, I beg to draw their attention to the questions yet to be solved.

#### 24. ECHIDNA HYSTRIX.

##### The Spiny Echidna.

This singular animal, of which I have seen two preserved skins at Mount Hope, is almost less known than the Platypus. Its geographical range does not extend far into the flat country, and it is generally found in mountain ranges among rocks and stones; a shepherd at Mount Hope assured me that the animals which he had preserved were captured at the mount; the natives further down the river did not appear to be aware of the existence of such an animal as the Echidna; their food is said to consist principally of ants and their eggs, though I have kept many in captivity and offered them the food mentioned, but without success. Upon hen-eggs they subsist for some time; they also like bread and milk, but seldom live longer than two or three months in captivity. I have reason to believe that, strange as it may appear, the Echidna lives upon grass also, as I have examined several which had the intestines full of digested grass or herbs.

Of the generation of this species nothing is as yet known, nor have I ever seen a very young Echidna, none at least less than six or eight inches long.

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#### REPTILIA.

To investigate the Reptilian fauna of a country, a longer stay than six months is necessary, and the species which I am going to enumerate must be considered as but a small portion of the reptiles inhabiting those districts. The country consists of large plains without a stone upon them, studded with salt-bush,

pine forests, or mallee scrub, affording the agile reptiles unusual facilities for escape during the summer. In the cold season these creatures, owing to the nature of the country, retreat into the ground, so that they can only be obtained with great difficulty; and this is the cause that the collection made during my sojourn on the Murray was but a scanty one.

Those which were observed belonged to the following genera :—

CHELONIA.		1. <i>Chelodina</i> .
	a. Leptoglossæ.	2. <i>Hydrosaurus</i> .
		3. <i>Pygopus</i> .
		4. <i>Lialis</i> .
		5—7. <i>Hinulia</i> .
		8. <i>Mocoa</i> .
SAURIA.	b. Geissosaura.	9. <i>Siaphos</i> .
		10. <i>Trachydosaurus</i> .
		11. <i>Cyclodus</i> .
		12. <i>Tropidolepisma</i> .
	c. Pachyglossæ.	13—15. <i>Diplodactylus</i> .
		16—18. <i>Phyllurus</i> .
		19—22. <i>Grammatophora</i> .
	not venomous.	23. <i>Morelia</i> .
		24. <i>Acanthophis</i> .
OPHIDIA.	venomous	25—26. <i>Diemenia</i> .
		27—28. <i>Pseudechis</i> .
		29. <i>Hoplocephalus</i> .
		30. <i>Limnodynastes</i> .
BATRACHIA.		31—33. <i>Hyla</i> .
		34. <i>Pelodryas</i> .

## CHELONIA.

### I. CHELODINA LONGICOLLIS.

The long-necked Tortoise.

This aquatic reptile is found in considerable numbers in the Murray and its tributaries. It affords food to the natives, especially during the summer, when the lagoons are dry, as it can



then be procured in large numbers without difficulty. Their eggs, which are deposited in the beginning of January, amount to 15 or 20, perhaps even more, as the natives, who consume them in quantities, informed me.

Like all tortoises, the present species is very tenacious of life. On one occasion, a specimen was brought to the camp pierced by a spear: for the sake of experiment, it was put into a case, and kept for a few months, at the end of which, the wound was found completely closed, and the animal as lively as if nothing had happened to it.

## S A U R I A .

### 2. HYDROSAURUS VARIUS.

#### The Lace Lizard.

I believe the present striped species, and the large spotted or Gigantic Lace Lizard (*H. giganteus*) to be identical; this is one of the most common forms on the plains of the Murray; so common, in fact, that I have often captured half a dozen of them on my return to the camp; they were generally found basking in the sun, close to their holes, down which they disappeared with extraordinary swiftness when disturbed. They grow to a large size, as much as 7 or 8 feet long, and feed upon carrion, as well as upon living animals; on various occasions several pounds of bones, and once a large "opossum" was taken from the stomach of one of these reptiles.

Their eggs, of which they deposit some 10 or 15, are large, covered with a tough leathery membrane; the young lizards being more than 10 inches long, at the time of birth.

The present species is well distributed over almost every part of Australia.

### 3. PYGOPUS LEPIDOPODUS.

#### The Pygopus.

This, at first appearance, snake-like form, is occasionally met with, but not so frequently as other Lizards: its flat tongue, the two rudimentary limbs near the anus, and its ear-holes, easily distinguish it from a true snake.

The number of eggs deposited by the present species, seldom exceeds 3 or 4, they are of very elongate form, 3 or 4 times as long as they are broad, and are generally hatched by the powerful rays of the sun in 3 or 4 weeks. This lizard also has a very wide distribution.

There has been a second species of *Pygopus* observed on the Murray, marked with much more brilliant colours than any hitherto known; but owing to the mutilated state of the specimen which was captured by the natives, it was found impossible to preserve it or give a correct description thereof.

#### 4. *LIALIS BURTONI*.

Burton's Lialis.

This is another snake-like form, with pointed muzzle, a single specimen of which came under my notice; its range is very extensive, as I have at various times received specimens from the Clarence River, and from farther north. Sir George Grey mentions its occurrence in Western Australia. In its habits, it is similar to the *Pygopus*.

#### 5. *HINULIA ELEGANS*.

Elegant Hinulia.

#### 6. *HINULIA AUSTRALIS*.

Australian Hinulia; and

#### 7. *HINULIA TENUIS*.

Slender Hinulia.

Are three species of Scincoid Lizards, occasionally observed. The first is generally found beneath the rough bark of trees. I believe that there are many more representatives of the genus *Hinulia*, but owing to their nimbleness, it was impossible to capture many of them. The number of eggs deposited by these Lizards has not been ascertained correctly; perhaps they are viviparous, and if so, may bring forth 10 to 12 young.

#### 8. *MOCOA TRILINEATA*.

New Holland Moco.

This widely distributed small Lizard has been frequently

captured, it is very common under bark, or among dead leaves or branches. Its eggs are deposited among decomposed leaves in moist places, and are from 10 to 16, and perhaps more in number. I have often taken as many as 50 out of one of these breeding places, but I believe that they were the produce of several lizards.

In the neighbourhood of Sydney, where *M. trilineata* is very common, the eggs are generally laid between the fronds of the so called "Staghorn fern."

#### 9. SIAPHOS EQUALIS.

##### The Siaphos.

This is another small Lizard, with very short three-toed limbs ; it frequents shady or dark places, and lays but a limited number of eggs.

#### 10. TRACHYDOSAURUS RUGOSUS.

##### Rugose Stump-tail.

A large, lazy, and very common kind of Lizard, generally known as the "Sleeping Lizard," which frequents open sandy plains, and may be captured in large numbers during a hot summer's day.

The number of young produced, seldom exceeds 4, those dissected by me had 2 embryos only. I believe these Lizards do not inhabit the east coast, at all events they are not found near Sydney, or at the Hastings or Clarence Rivers.

In Western Australia, particularly in the neighbourhood of King George's Sound they are very common.

#### 11. CYCLODUS GIGAS.

##### Giant Cyclodus.

Whether this species is identical with the large *Cyclodus* of the east coast I cannot at present determine. Peters has described a *Cyclodus* from South Australia, and Dr. Schomburgk who discovered this new species informs me that our common Giant *Cyclodus* does not exist near Adelaide ; if this is correct, the *Cyclodus* found on the Murray, would be referable to Peters' *C. occipitalis*.

One or two specimens of this Lizard were captured by the natives.

I had been always under the impression that these reptiles produced 2 or perhaps 3 young only, but not long ago I dissected a large female specimen and took therefrom fifteen well formed young, each about from 5 to 6 inches long.

This species is prized by the natives as an article of food.

## 12. TROPIDOLEPISMA KINGII.

### King's Tropidolepisma.

This species, (the smallest of the genus) is alone found on the Murray, its range extends almost from the east to the west coast, though in the immediate neighbourhood of Sydney it does not occur.

The number of eggs or young produced by this Lizard has not been ascertained.

## 13. DIPLODACTYLUS VITTATUS.

### Yellow Crowned Diplodactyle.

This little Gecko is rather rare, as not more than 5 specimens were procured through the natives during my stay on the Murray; its distribution is very extensive, and, in fact, includes almost every part of Australia. The Australian Museum is in possession of specimens from the North East Coast, from the Murrumbidgee, and from South and West Australia. Near Sydney this species is tolerably common. It is oviparous, producing about 6 eggs.

## 14. DIPLODACTYLUS ORNATUS.

### Beautiful Diplodactyle.

I do not think that there is another species of Lizard, so common and so widely distributed as this; every tree along the river banks harbours large numbers of them, and wherever a piece of dry bank is removed, this little Gecko is sure to be found beneath, in company with various species of Coleoptera, Blattæ, and spiders. In stony localities it frequents the shady side of rocks, &c. In its habits this Lizard is truly nocturnal.

15. *DIPLODACTYLUS OCELLATUS.*

## The Eyed Diplodactyle.

Of this rare Lizard a few solitary specimens were captured, and these were in bad preservation and scarcely to be recognized. The Museum has, however, lately received well preserved specimens from the Murrumbidgee, through the kindness of Mr. William MacLeay, M.L.A., so that I am able to enumerate this Gecko, as inhabiting the Murray Plains.

16. *PHYLLURUS PLATURUS.*

## Broad-tailed Gecko.

17. *PHYLLURUS INERMIS.*

## Spineless Gecko.

18. *PHYLLURUS MILIUSII.*

## Thick-tailed Gecko.

Have been obtained in the McIvor ranges and near Mount Hope; on the Murray Plains, no specimens were observed, though they may exist there. These three Geckos are common near Sydney and at the Clarence and Richmond Rivers; the last mentioned species also occurs in Western Australia.

19. *GRAMMATOPHORA CRISTATA.*

## Crested Grammatophora.

The distribution of the present species does not extend, as far as my experience goes, beyond the mountainous districts; upon the dividing range specimens were frequently observed, but in the plain country they disappeared. The natives informed me that this lizard existed near Mount Hope, but they never captured it.

Near Sydney, where this species is common, it is generally found in the neighbourhood of water, diving into it when disturbed and remaining at the bottom for a considerable time. Specimens which I have in captivity, would lie at the bottom of a water vessel for hours without coming to the surface to breathe. I have watched one under water for more than forty minutes, I was then called away, but on my return half an hour afterwards I could not see the least indication that the lizard had stirred;

again I watched it for some twenty minutes longer, and gave it up at last, the reptiles being apparently under no necessity to breathe.

20. GRAMMATOPHORA MURICATA.

The Common Grammatophora.

This is a well-known and very common species found in nearly every part of Australia. It is fond of basking in the sun, and may be frequently observed sitting motionless on old stumps upon road side fences, &c. From 5 to 8 eggs are generally produced, and deposited in the sand.

21. GRAMMATOPHORA ORNATA.

Yellow spotted Grammatophora.

This species is found in large number upon all the open plains, every tuft of grass and every salt bush sheltering several of these gaily coloured creatures; they vary considerably in their markings, more so even than the previous species *G. muricata*. The number of eggs produced amounts to about 8.

22. GRAMMATOPHORA BARBATA.

Bearded Grammatophora.

This formidable looking reptile is better known under the name of "Jew Lizard." It cannot be considered a common form on the Murray, but its distribution extends from the East to the West Coast; how far it ranges North I have not been able to ascertain, I know however that it occurs at Wide Bay, and is probably found all over the continent.

The number of eggs produced by this reptile is most likely from 6 to 8, perhaps more.

OPHIDIA.

23. MORELIA VARIEGATA.

The Carpet Snake.

I am inclined to think that the Carpet Snake and the Diamond Snake are identical, varying in colour in different localities; Carpet Snakes occur in every part of Australia, the

South East Coast excepted ; they differ from the Diamond Snake in nothing but their markings, which consist of a series of brown blotches with darker margins, whilst the Diamond Snake is of a glossy bluish black, with a bright yellow spot in the centre of nearly every scale.

The Carpet Snake does not appear to be so common on the plains or in the mountain districts, and a single specimen only was secured ; this snake feeds upon birds, small mammals, &c., and produces a large number of eggs ; from 20 to 30 as the natives informed me.

#### 24. ACANTHOPHIS ANTARCTICA.

##### The Death Adder.

Of this highly venomous snake, I obtained but a single specimen at Lake Boga ; it brings forth about 10 or 12 young ones.

#### 25. DIEMENIA PSAMMOPHIS.

##### Grey Diemenia.

The present species so common near Sydney is not often met with on the Murray, only one specimen being secured during 6 months ; its bite is not considered dangerous, causing only a slight irritation, not as bad as the sting of a bee ; the total length seldom exceeds 3 feet.

#### 26. DIEMENIA SUPERCILIOSA.

##### Brown Snake.

A species, which like many others, ranges from the East to the West Coast, and perhaps extends over the whole continent, as I have received specimens from Cape York. Near Sydney, and along the East Coast, the young are distinctly black, banded with a black patch upon the head ; but the young found on the Lachlan and in other localities to the westward are not banded. I have received specimens from Adelaide which are plain coloured with black patches upon head and neck, but without bands. In a few years these bands and black spots disappear more or less, and the adult snake is generally of an uniform brown color ; there are some individuals on the coast, however, in which the bands may be traced when full grown. In the specimens taken on the Murray no bands or black marks could be detected.

This snake is highly venomous, and produces some 20 eggs, which are deposited in the sand under some bramble or decayed leaves ; it is frequently confounded with the following species.

27. *PSEUDECHIS AUSTRALIS*.

Yellow-bellied Brown Snake.

Hitherto considered to be a variety of the Black Snake, from which it differs in nothing but the colour, being brown above and yellow or orange beneath. This Snake does not occur near Sydney ; but it appears to be common as far north as Port Denison, from whence specimens have been obtained.

It is highly venomous.

28. *PSEUDECHIS PORPHYRIACUS*.

Black Snake.

One of the most common and most venomous Snakes, distributed over almost every part of Australia, common on the Murray, and producing some twenty young annually.

29. *HOPLOCEPHALUS CURTUS*.

Brown-banded Snake.

This, the most vicious of all our reptiles, closely allied to the Indian Cobra, is very common on the plains, in particular in the reed-beds near Swan Hill, and in other swampy places ; the natives appear to be in great dread of this reptile, and assured me that its bite was certain death.

This species is also found in almost every part of Australia.

These are all the Snakes actually observed by me, but no doubt they do not represent all the species which exist in these extensive plains.

B A T R A C H I A .

F R O G S .

Of this order not many species were collected.

30. *LIMNODYNASTES DORSALIS*.

Striped Swamp Frog.

In a reed-bed near Lake Boga a single specimen was



obtained. It is a common species near Sydney, on the Clarence River, near Rylston, and in many other localities.

31. *HYLA AUREA*.

Common Golden Tree Frog.

This species, widely distributed over Australia, is the most common of all our Batrachians: the natives when pinched for food capture large numbers of it by the light of a torch at night; a supply of this frog can always be secured wherever there is fresh water near.

32. *HYLA PERONII*.

Yellow-Legged Tree Frog.

This species, which ranges also over a great part of the continent, is generally found during the day-time under the bark of the "Flooded Gum" (*Eucalyptus rostrata*).

33. *HYLA ADELAIDENSIS*.

Adelaide Tree Frog.

This species is not common on the Murray; its range extends as far as Western Australia.

34. *PELODRYAS CÆRULEUS*.

Great Green Tree Frog,

The largest of our Batrachians, found in every part of Australia, and in New Guinea. I have seen specimens as large as a man's fist. This species feeds upon almost every living object that can be swallowed: lizards, frogs, all kinds of insects, and young birds—for I have once taken the nestling of a small honey-eater out of the stomach of one of these insatiable reptiles.

This concludes my notice of the reptilian fauna of the Lower Murray, which, as before mentioned, will prove much richer both in genera and species than it appears at present to be. I could enumerate some 5 or 6 more species, but these were in such bad preservation that it was found impossible to determine their character with certainty.