Mr. Goldie found this fish very abundant in the Goldie River, about 100 miles by its course from its mouth in Redsear Bay, and about 30 miles in a straight line inland from the sea. He and his party used the fish as food for some time and found them excellent, as indeed all the *Mugilidæ* are. Very fortunately Mr. Goldie was, at the time he was engaged in collecting these Fishes, short of a sufficient number of other Fish to fill up a cask, and to that circumstance I am indebted for a much larger number of specimens of this Fish, than Mr. Goldie would otherwise have thought of preserving.

On some points in the Anatomy of the Uro-genital Organs in Females of certain species of Kangaroos.—Part II.

By J. J. Fletcher, M.A., B.Sc.

The organs of sixteen females referable to the following species have been examined :—

Rock Wallaby *(Petrogale penicillata)*	1 specimen.
Red-necked Wallaby *(Halmaturus ruficollis)*,	2 specimens.
Wallaroo *(Osphranter robustus)*	4 specimens.
Red Kangaroo *(O. rufus)*	2 specimens.
Dorsal-striped Wallaby *(H. dorsalis)*	2 specimens.
Black-tailed Wallaby *(H. ualabatus)*	1 specimen.
Grey Kangaroo *(Macropus major)*	4 specimens.

From fourteen of these specimens, sections were carefully cut, commencing at the last half-inch of the median vagina, and continuing until the appearance of the meatus urinarius. In none of the sixteen specimens is there a direct communication between the median vaginal and the uro-genital chambers, though with the exception of *M. major*, they all belong to species in which the direct communication is known to exist after parturition. This state of things is confirmatory of the view that the direct communication as a rule, is probably completed during pregnancy, or at parturition. But though the direct communication was not met with, there are various shades of approximation to it.

Excluding the specimens of *M. major*, it may be stated generally of the others, that the median vagina came to an end sometimes rather abruptly, but usually in a more gradual manner, and that this never took place until sections showing the uro-genital canal were met with. The sections after the disappearance of the median vagina were carefully counted until the meatus urinarius was met with, and from a comparison of the numbers, it would appear as a rule, that the more nearly full-grown the animal from which the organs came, the fewer the intervening sections, that is, the further back the cavity of the median vagina extends. The ridges in the uro-genital canal are as previously described.

Petrogale penicillata.—One specimen from an animal measuring 19 inches. It is very similar to the second specimen of the same species described in my first paper, except that fewer sections—twenty-eight as compared with forty-two—intervene between the disappearance of the median vaginal chamber and the first appearance of the meatus urinarius.

Halmaturus ruficollis.—Two specimens from animals, measuring 22 in. and 24 in. respectively, as compared with 25½ in. and 29 in. in the case of two females with young in the pouch, shot in the same locality. A complete longitudinal septum is present in both specimens. In one case the septum does not reach to the end of the chamber, whereas in the other, it still appears in sections which show the uro-genital canal. The sections intervening between the ending of the median vaginal chamber and the first appearance of the meatus urinarius were 47 and 54 respectively.

Osphranter robustus.—Four specimens of which two were from animals measuring 28 in. and 30 in. respectively. I have not the measurements of the other two, but judging from the size of the organs, one of them was slightly and the other considerably larger than the two first mentioned. In addition, I have cut sections of specimen *(d)* of my first paper. All five, except in the number of sections which intervene between the ending of the median part of the vagina and the first appearance of the meatus urinarius, do not materially differ from specimen *(c)*, described in the same paper.

The sections in question number 30, 46, 17, 11, and 28 respectively, as compared with 33 in specimen *c*. The sections of two of these show the longitudinal septum very well.

Osphranter rufus.—Two specimens from animals of which the dimensions are unknown to me, but judging from the size of the organs they were both very large for unimpregnated females, though this may in some measure be due to the fact that the animals were shot just about the commencement of the breeding season. In one case eight sections came between the ending of the median vagina and the first appearance of the meatus urinarius. The other specimen was carefully dissected, and shows the median vaginal chamber extending very far back, and ending blindly just in advance of the meatus urinarius. The two chambers are thus separated merely by the thin intervening portion of the ventral wall of the urogenital canal.

Halmaturus dorsalis.—Two specimens from animals of which I have not the measurements. The larger of the two gives sections of about the same size as the specimen of P. penicillata above mentioned. The other is evidently from a smaller animal. The sections which intervene between the ending of the median vaginal chamber and the first appearance of the meatus urinarius in these two cases are 13 and 28.

Halmaturus ualabatus.——One specimen from an animal measuring about 15 in. This example is similar to the first of the two unimpregnated specimens of P. penicillata described in my first paper. The cavity of the median part of the vagina extends very far back, but comes to an end in the usual way, while in sections which show the last part of its course there is seen below and distinct from it, another aperture, and this is found to be in communication with the urogenital canal and the place of communication occupies the usual position of the aperture of the direct communication as seen in animals which have produced young. The two passages overlap to a greater extent than in the specimen of P. p. alluded to above, but in both cases if they had been in the same straight line and in the same plane they would

have met, and the direct communication would have been formed. These two specimens would seem to show that the direct communication is completed independently of the median vaginal canal, and by the extension backwards of what has the appearance of being an involution of the urogenital canal. As this condition has been met with in two only out of fifteen specimens (excluding M. major) of which sections have been cut, though some of the animals from which they come were nearly adult, it would seem to be brought about, as a rule. probably during pregnancy and only exceptionally earlier as in the two cases in question. All my pregnant specimens so far have been from animals which had previously borne young and so throw no light on this point. The direct communication in virgin animals has been met with previously in two cases, namely by Lister in H. ualabatus and Brass in H. beunettii.

Macropus Major.—Four specimens from animals of which I am unable to give the measurements. From three specimens sections which were cut differ from those considered above, chiefly in the fact that the cul-de-sac came to an end sooner, and always before the urogenital canal appeared in section, in one case this happened thirty-eight sections before the urogenital canal appeared in section, and seventy sections before the meatus urinarius was reached. I am unable to give the number of sections in the other two cases.

Summary and Conclusion.—The eighty specimens treated of in this and in my first paper are here considered together.

1. The *post partum* existence of a direct communication between the median portion of the vagina and the urogenital canal has been verified in the case of three species—Petrogale penicillata, Halmaturus ruficollis, and Osphranter rufus.

2. Three species—H. dorsalis, Osphranter robustus and Onychogalea frænata have been added to the list of nine in which such a direct communication is known to obtain. The twelve species then are—Halmaturus benettii, H. ruficollis, H. billiardieri, H.

ualabatus, H. derbianus, H. agilis, H. dorsalis, Petrogale penicillata, P. exanthopus, Osphranter rufus, O. robustus, and Onychogalea frænata.

3. The remarkable condition presented by Macropus Major in which, unless very exceptionally, there is no direct communication even after young have been produced has been verified in twenty-eight specimens.

4. In virgin animals of H. ruficollis, H. dorsalis, P. penicillata, O. robustus, and O. rufus the direct communication did not exist, but in one specimen of P. p. and one of H. ualabatus the direct communication was in process of formation but still incomplete; and these two specimens seem to show that the aperture of communication arises probably not by a mere rupture of the intervening portion of the wall of the urogenital canal, but by an involution of the latter canal growing backwards to meet the cavity of the median portion of the vagina when the latter has reached its maximum backward extension. My own observations show that it is possible for the direct communication to exist in virgins, while those of other observers show that exceptionally this actually is the case; but more usually it would seem to be formed late in life, probably during pregnancy or at parturition.

The acquisition of this material would have cost me a vast amount of trouble but for the great kindness and ready help of a number of gentlemen, to whom my hearty thanks are due and are hereby accorded. Especially am I indebted to my friend and colleague, Mr. R. T. Baker, for much assistance in the field, and for the diagrams and drawings with which the reading of this paper was illustrated; also to my friend, Mr. E. Morley, for another donation of valuable specimens; also to George Hill, Esq., for an invitation to, and the most hospitable treatment at, his station, Mokai Springs; also to S. Cox, Esq., for an invitation to visit Rawdon; likewise to Messrs. Brown, A. Cox and Belcher for their guidance and help in procuring some good shooting, also to several gentlemen of whose proffered kindness I was unable to avail myself.

Finally, I should be very much obliged to any gentleman who can at any time give me notice of a "Kangaroo Drive" about to take place in any accessible part of the colony.

On Remains of an Extinct Marsupial.

By C. W. De Vis, B.A.

It most frequently happens that bones obtained from the Queensland drifts are confusedly scattered specimens, having indeed a certain value of their own, but often demanding of their specifier a large use of that "wise and well-founded conjecture" which is not always within reach. Every association of congruous bones is therefore of value—generally of sufficient value to be placed on record, however mistaken in his conclusions drawn from the bones themselves the recorder may chance to be. A belief in this, has prompted the following observations on a collection of fragments in a precisely similar state of preservation, and evidently belonging to the same individual, obtained together in Gowrie Creek, with much pains and patience by my friend, Mr. Henry Tryon. From these fragments, it has been found possible to reconstruct a few bones in portions, sufficient to guide us among the probable affinities of their whilom owner. Fortunately, one of the relics is a molar tooth—a deciduous grinder of a young animal, the epiphyses of whose long bones were as yet non-adherent. The tooth is 14 lines in length, 10½ lines in its anterior, and 9 lines in its posterior transverse diameter. Though worn down nearly to a level with the gum, the disposition of the enamel shows that it had two nearly equal transverse lobes, a strong tubercle opposite to the inner entry of the valley, no median or other link, no cingulum and no anterior valon. On the inner half of the hinder edge of the base, a sinus of enamel indicates that an accessory cusp rising therefrom, with an outwardly-directed and expanding concavity, was applied to the hinder lobe posteriorly, much as in the true molars of *Macropus Titan*. The fangs, partially absorbed, are two in number—the upper part of the front surface of the anterior and