

sides with an inconspicuous tubercle. Elytra oblong, shoulders prominent, but the apex of the cone largely truncated, with the posterior edge of the truncature projecting; surface coarsely punctured, blackish, streaked with reddish tawny, behind the middle tawny streaked with black, the tawny part separated from the anterior darker portion by a pale-ochreous fascia. Body beneath tawny, middle of abdomen black. Legs tawny, sprinkled with black, base of claw-joint reddish.

Pará.

[To be continued.]

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XI.—*On the Occurrence of Limopsis Belcheri, Corbula sulcata, and some other recent Shells in the fossil state in Miocene Tertiary Beds near Melbourne.* By FREDERICK M'COY, Professor of Natural Science in the University of Melbourne, and Director of the Melbourne National Museum, &c.

HAVING occupied myself lately, in my capacity of Palæontologist to the Geological Survey of Victoria, with the investigation of the Tertiary fossils collected by the Survey Staff from the strata of Bird-Rock Bluff, near the mouth of Spring Creek, about fifteen miles south of Geelong, I was much struck with the geographical distribution of the very few recent species found associated with the large majority of extinct species in a rich fossil fauna unmistakably of the Lower Miocene age. The whole facies of the fossil contents of these beds resembles closely that of the Lower Miocene beds of Doberg (near Bünde, Westphalia), Malta, and some other European beds of the same age, as well as the so-called Upper Eocene North-American beds near Vicksburg on the Mississippi; and many of the genera, as well as the great majority of the species, are extinct. Amongst the extinct genera of shells, *Aturia* amongst the *Nautili* may be mentioned as conspicuous; and amongst Fishes, *Carcharodon* may be mentioned as an abundant Upper Eocene and Miocene genus of Sharks, not more than one species of which is found in our present seas, represented by the two best-known and most widely distributed Eocene and Miocene species found abundantly in such strata in England, Germany, and other parts of continental Europe, and in North America, namely, the *Carcharodon megalodon* (Ag.), specimens of which occur in our Spring-Creek beds (though not very commonly) perfectly identical with those from Malta or England, or the supposed Eocene beds of South Carolina, or the Miocene beds of Virginia and Maryland,—and the *Carcharodon angustidens* (Ag.), which occurs abundantly in our Australian beds so perfectly identical with specimens from the Lower Miocene of Doberg near Bünde, that,

when compared side by side, it is impossible to distinguish them by the slightest difference; and as this species, according to Prof. Agassiz's recently published opinion, includes the Sheppey London-Clay *C. Toliapicus* amongst other varieties, I need only say that the best-marked Eocene and Miocene varieties found in Europe and America are perfectly represented, on comparison of specimens, by the different varieties in our Bird-Rock Bluff beds.

It is, I think, a very curious result of the careful comparison I have made between the fossil species of the Bird-Rock Bluff Mollusca and their nearest allies, that I can with certainty announce one of the commonest of them to be specifically identical with the *Limopsis Belcheri* of Adams and Reeve, of which the few known specimens were brought up alive from a prodigious depth by Admiral Belcher, off the Cape of Good Hope. The identification, I should say, does not rest on an examination of the published figure and description, which would not have been sufficient for the purpose, but, having been fortunate enough to procure a living specimen for the National Museum which I take a pleasure in forming during my residence in Melbourne, I have perfectly satisfied myself of the complete identity of our Miocene Tertiary abundant shell with the hitherto very rare recent one by direct comparison.

The *Limopsis aurita* (Sassi), perfectly identical with specimens which I have used for comparison from the Coralline Crag of Suffolk and many Miocene localities in Germany (which Mr. Jeffreys has lately dredged from 85 fathoms off Unst, in Shetland), is also common, though not so abundant in the Australian beds as the *L. Belcheri*.

The third living species of the *Arcidæ* in these beds is the *Pectunculus laticostatus* (Quoy & Gaimard) of New Zealand, occurring just as abundantly as the others.

The last bivalve I shall mention in this communication is an extremely abundant *Corbula*, which I can safely pronounce identical with the *C. sulcata* now living on the west coast of Africa. Lest it might be supposed that, judging from figures or descriptions, I had mistaken the North-east Australian *Corbula tunicata* or other allied forms for the *C. sulcata*, I should state that this is not so, but that, in working out the palæontology of our Australian deposits, I have thought it my duty to science to take the precaution of procuring every recent species I refer to for comparison before assuming an identity.

The commonest *Dentalium* in these beds I believe to be a mere variety of the Upper Eocene *D. Mississippensis* (Conrad) from Vicksburg.

Melbourne, May 25, 1865.



McCoy, Frederick. 1865. "XI.—On the occurrence of *Limopsis Belcheri*, *Corbula sulcata*, and some other recent shells in the fossil state in Miocene Tertiary beds near Melbourne." *The Annals and magazine of natural history; zoology, botany, and geology* 16, 113–114.

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