

ART. VIII.—*Note from the Biological Laboratory of the University of Melbourne, on the presence of Corpuscles in the Liquid discharged from the Apertures of the Nephridia and Oral Papillæ of Peripatus.*

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[Read June 12, 1890.]

Recently, while staying with Mr. H. R. Hogg at Upper Macedon, I obtained about a dozen living specimens of *Peripatus*, both the Australian species, *leuckartii* and *insignis*, being represented. The specimens were required by me for anatomical and histological research, and were brought alive to the Biological Laboratory. Not having time to continue my observations at once, I endeavoured to discover the most satisfactory method of killing and preserving the animals for future use. I found that death could be caused instantaneously by holding the animal over chloroform contained in a bottle, without allowing it to come in contact with the liquid. In animals thus killed, I noticed at once a number of drops of a clear transparent liquid which made their appearance at the bases of the legs, in the position of the nephridial apertures, and gradually increased in size. It occurred to me to examine some of this liquid (taken from *P. leuckartii*) microscopically, and on so doing, I was surprised to find that it contained very numerous small amoeboid corpuscles, resembling the white corpuscles of human blood, but perhaps a little more irregular in shape. These corpuscles measured not quite 0.015 mm. in diameter; some had numerous, short, slender pseudopodia protruding, some broader ones, and some exhibited a distinct nucleus. The liquid could only be obtained in small quantities, and soon dried up under examination; and, as I had killed nearly all my specimens and placed them in spirits before I began

to examine the liquid in question, I found I had not sufficient material for extended observations upon it. Seeing that the nephridia communicate directly with the body cavity, it seems to me most probable that the liquid containing corpuscles is really cœlomic fluid, expelled from the body cavity through the nephridia under the influence of chloroform, the expulsion being probably due to sudden and strong muscular contraction. We cannot imagine that amœboid corpuscles are a product of excretion, normally discharged from the nephridia, we must therefore believe that they belong properly to the cœlomic fluid, although I am not aware that they have been hitherto observed in the cœlomic fluid of *Peripatus*.

Prompted by these observations, I next, having now unfortunately only a single specimen (*P. insignis*) left alive, placed a drop of the liquid discharged from the oral papillæ of this animal under the microscope. This, also, I found to contain very numerous corpuscles nearly resembling those already described; but as this liquid very rapidly hardens into an enamel-like mass on exposure to the air, I had little opportunity of examining them in the fresh state. It seems probable, however, that these also are amœboid, and since the slime glands do not (so far as is known) communicate with the body cavity, the corpuscles are probably formed within the glands themselves.



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