

lungs cannot be regarded as being conclusive, it is indicated that *Angiostrongylus cantonensis* is probably an Oriental form which has spread southwards and become established in both the wild rats *Rattus norvegicus* and *Rattus rattus* in eastern Australia.

I wish to thank the staff of the Infestation Control Division of the Ministry of Agriculture, Fisheries and Food for co-operation in the collection of rat's lungs for examination; also Mr. F. R. N. Pester for his discussion on his previous observations.

The survey was carried out while holding an Ida Smedley MacLean Fellowship for 1954-55 and an Ohio State Grant for 1955-56 awarded by the International Federation of University Women, and also a grant made available by the trustees of the Science and Industry Endowment Fund of Australia.

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The African Freshwater Jellyfish *Limnocoñida tanganyicae*

THE freshwater medusa *Limnocoñida tanganyicae* has been known for more than seventy years from the lakes of East, West and Central Africa. Until very recently, no evidence had been found for the existence of a hydroid stage, and it was generally considered that development must proceed from the egg through some larval form direct back to the medusa, which can also reproduce asexually by budding.

In 1954, Bouillon¹ discovered the hydroids attached to the stems of reeds in Lakes Tanganyika and Mohasi, and observed their development from fixed elongated larvæ. He also followed the development of medusæ by budding from the hydroids. The events between the laying of the eggs and the fixation of the larvæ, however, had not been observed; in fact, it was not known whether or not a free-swimming planula larva is produced.

On September 22 at about 6 p.m., we were lucky enough to sail into a swarm of sexually mature medusæ off Kazi on Lake Victoria. They were swimming close to the reeds on the lee side of an island in dead-calm water. Both eggs and sperms were shed in dishes in the laboratory, and we were able to observe cleavage as well as development and subsequent fixation of the free-swimming larvæ, and thus to complete our knowledge of the main events in the life-history.

Active sperms were seen among the eggs, which were about 90 μ in diameter, and 2- and 4-cell stages appeared during the first four hours. After 16 hr. spherical morulae 90-110 μ in diameter were developed with a few long cilia insufficient for propulsion. In 28 hr. many of these had, without increase in size but with further cell division, become spherical free-swimming larvæ propelled by a large number of cilia. Some of these had just begun to elongate. After 42 hr. many had settled on the bottom and sides of the dish and in 60 hr. all were fixed, were elongated and had lost their cilia. The approximate dimensions of this stage were 130 μ \times 50 μ . Hydroids were first seen after five days. These were flask-shaped, without

tentacles, about 150 μ long and 70 μ in maximum diameter.

The temperature of the laboratory was 20-23 $^{\circ}$ C.

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¹ Bouillon, J., *Bull. Acad. Roy. Sci. Colon.*, Tome 1, fasc. 2, 229 (1955).

Rabbits in Africa

A STATEMENT on the distribution of the common rabbit, *Oryctolagus cuniculus* L., in "The Rabbit", by H. V. Thompson and A. N. Worden¹ (see p. 59 of this issue), calls for comment and correction. On pp. 4-5 it is reported that the rabbit is able "even to live successfully in Central Africa within two degrees of the Equator". On p. 16 this is amplified by a reference to the late Prof. Hale Carpenter's claim² to have found a well-established colony of European rabbits at Masindi, Uganda. On p. 17 the distribution map shows Masindi as the only locality in tropical Africa for the common rabbit. Although the origin of the colony was said to be unknown, and the local natives gave the animals the same name as the indigenous hare of the genus *Lepus*, Hale Carpenter suggested that these animals were descendants of European rabbits said to have been imported and released in 1881 by Emin Pasha, then governor of Equatoria Province, Sudan. It seems that the identification of the animals as European rabbits was not based upon critical examination of specimens. I am not aware of any other report of European rabbits in tropical Africa, and the following facts indicate that Hale Carpenter's record should be removed from the literature on the common rabbit.

In 1928 Capt. C. R. S. Pitman, then game warden of Uganda, collected a series of rabbit-like animals at Masindi. He described them as being abundant along grassy roads at night. The specimens formed the basis of the description by J. St. Leger³ of a new lagomorph under the name *Lepus marjorita*. The characters of skin and skull separated it clearly from other hares and rabbits. Later, St. Leger⁴ raised the new species to generic rank, *Poelagus*, on the basis of skeletal characters. Later, St. Leger⁵ reported another race of *P. marjorita* from south-west Sudan, near the Belgian Congo border, and Hatt⁶ has recorded it from north-east Belgian Congo on the evidence of specimens collected in 1912. Superficially there is a resemblance to the European rabbit; but closer examination shows that its characters are perfectly distinct.

In view of these facts, it seems that Hale Carpenter's report of European rabbits in Uganda was based on a misidentification of *Poelagus marjorita*, and this misleading claim should now be rejected.

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¹ Thompson, H. V., and Worden, A. N., "The Rabbit", *New Naturalist Series* (1956).

² Hale Carpenter, G. D. H., *Nature*, **116**, 677 (1925).

³ St. Leger, J., *Ann. Mag. Nat. Hist.*, **4**, 292 (1929).

⁴ St. Leger, J., *Proc. Zool. Soc. Lond.*, **1**, 119 (1932).

⁵ St. Leger, J., *Ann. Mag. Nat. Hist.*, **16**, 598 (1935).

⁶ Hatt, R. T., *Bull. Amer. Mus. Nat. Hist.*, **76**, 555 (1940).