A RECORD OF LIMNATIS MACULOSA (BLANCHARD) (HIRUDINEA: ARYNCHOBDELLIDA) TAKEN FROM THE NASAL CAVITY OF MAN IN SABAH, MALAYSIA

*by Jeffery L. K. Hii** *Spencer K. P. Kan*** *and K. S. Au Yong****

* Medical Entomologist, Vector Control Unit, Department of Medical Services, Kota Kinabalu, Sabah.

** Bacteriologist, Central Laboratory, Queen Elizabeth Hospital, Kota Kinabalu, Sabah.

*** Medical Officer, Queen Elizabeth Hospital, Kota Kinabalu, Sabah.

INTRODUCTION

A NUMBER OF reports on nasal leech infestation in man, domestic and wild animals in Southeast China, Ceylon, India, Vietnam, Malaya and Borneo have been made by Chin (1949), Audy and Harrison (1952), Walton (1955), Harrison (1953), Smythies (1960), De Silva & Anderson (1964) and Keegan *et al,* (1970). The species commonly responsible for this kind of internal infestation is *Dinobdella ferox.* This is a common leech species in Borneo where they are locally referred to as *"lingungud".* Species of several other genera of aquatic leeches have also been incriminated in internal hirudiniasis, but those which have caused the greatest variety of symptoms and have produced the most suffering are members of the genus *Limnatis* (Faust & Russell, 1964). One such infestation described in this report is probably the first known recorded case caused by a member of this genus of Hirudinea, to occur in man in Sabah.

CASE REPORT

A middle-age, small built Kadazan woman reported for medical treatment at the Queen Elizabeth General Hospital in Kota Kinabalu in early 1977. Her presenting complaints were bleeding from the right nostril which was the focus of all her complaints. There was no foul smelling discharge or hemoptysis, no difficulty in breathing and no past history of similar symptoms. She had these complaints for about a week before she came for treatment and during this time she had been working in the rice fields. The diagnosis was obvious when she was seen as the leech was already moving out of her right nostril. The leech was gently removed with forceps. After removal, bleeding stopped and the patient was not seen again. It was presumed that symptoms ceased after the leech was removed and the patient had recovered.

This single leech, which appeared to be well blood-fed is shown in Fig. 1 and has the typically large posterior sucker and possesses a groove extending from the mouth to the dorsal margin of the anterior sucker, and has salivary papillae on the jaws. The total length of this specimen was 40 mm. The diameter of the posterior sucker was 9 mm and the greatest width of the body was 12 mm. The greatest dorso-ventral thickness of the body was 3 mm. These measurements were taken after a longitudinal section was taken on the ventral aspect. After the

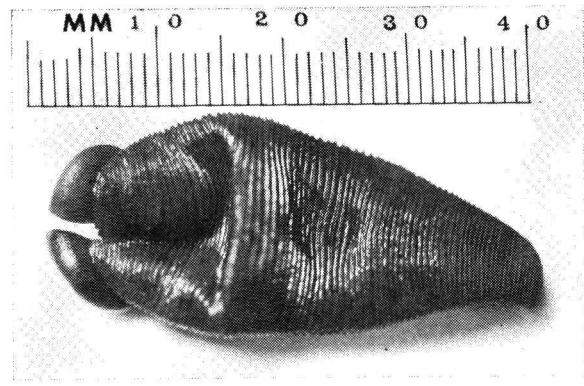

Fig. 1. Specimen of the leech, *Limnatis maculosa,* **taken from the right nasal passage of a woman in Sabah, Malaysia. Note the slit of the ventral aspect of the posterior sucker.**

section was made, the alimentary tract was filled with fresh blood. The reproductive organs were simple with rudimentary ducts. No trace of a color pattern was present in this specimen. The leech shown in Fig. 1 was grayish black when preserved in 4% formalin but was deep reddish when alive. Definite identification is not possible as the specimen was damaged. The tentative identification of this specimen is *Limnatis maculosa*.

DISCUSSION

This infestation was acquired in Kinarut, 24 km south of Kota Kinabalu in the west coast of Sabah. It was not unusual that the patient was aware of the leech in her nose. Our impression of the mode of infestation was that the leech attacked her while she was working in the rice fields and reached her nose from the legs or her head as she was bending down in her work or to drink from the streams. This is probably the first known record of a nasal leech infestation by *Limnatis maculosa* in man in Sabah.

A *Limnatis maculosa* which measured 8–12 cm long has also been reported from Singapore. It was picked up during the act of drinking and was localized in the pharynx or nasopharynx. It can also be found in the trachea (Dr. J.R Palmieri and Dr. Mak Joon-Wah,pers, comm., Faust and Russell, 1964). Another species, *Limnatis nilotica* has been reported to infest man in the Mediterranean region. Typical symptoms are illustrated by three patients seen by Levonian (1950) in Palestine. These individuals, all from Nazareth, gave histories of gradually increasing hoarseness accompanied by occasional expectoration of blood-tinged sputum. One patient seen by Cameron (1950) vomited blood. According to Keegan *et al.* (1969), this is apparently a rare occurrence with such infestations.

It was thought that the infestation had been acquired at least three to four weeks before onset of symptoms judging by the size of the leech. In studies made in Japan, young free-living specimens of *Dinobdella ferox* which averaged 7 mm in length and 1 mm in width, were allowed to enter the nostrils of a rabbit. When they were removed 30 days later, they averaged 45 mm in length and were 8 mm wide. They had also undergone a color change from milky white to grayish black (Keegan *et al.*, 1969).

ACKNOWLEDGEMENTS

We are grateful to Dr. Mechiel K.C. Chan, Director of Medical Services, Sabah for permission to publish this report. We would like to thank Dr. Mak Joon Wah, Filariasis Research Division, Institute of Medical Research, Kuala Lumpur and Dr. J.R. Palmieri, Hooper Foundation, Institute for Medical Research, Kuala Lumpur, Malaysia for their interest and for confirming the identification of the specimen.

REFERENCES

Audy, J.R. and Harrison, J.L. (1952). Field trials of repellents and poisons against aquatic and terrestrial leeches in British North Borneo, 1952. (A report of research investigations supported by funds supplied by the office of the Surgeon General, U.S. Army). Colonial Office Research Unit, typescript report.

Cameron, A. (1950). Haematemesis from leeches. *Br. Med. J.*, **2:** 679–680.

Chin, T.H. (1949). Further note on leech infestation in man. *J. Parasit.*, **35:** 215.

De Silva, P.H.D.H. and Anderson, A.A. (1964). A record of *Dinobdella ferox* (Blanchard) (Hirudidae, Hirudinea) taken from the nasal cavity of man. *Ann. Trop. Med. Parasit.*, **58:** 1–2.

Faust, E.C. and Russell, P.F. (1964). Clinical Parasitology. 7th ed., Lea & Febiger, London, 704–712 pp.

Harrison, J.L. (1953). Leeches. *Med. J. Malaya,* **8:** 180–185.

Keegan, H.L., Toshioka, S. and Suzuki, H. (1969). Blood-sucking Asian leeches of families Hirudidae and Haemadipsidae. Special report, 406th Medical Laboratory, U.S. Army Medical Command, Japan, pp. 1–130.

Keegan, H.L., Radke, M.G. and Murphy, D.A. (1970). Nasal leech infestation in man. *Am. J. Trop. Med. Hyg.*, **19:** 1029–1030.

Levonian, R. (1950). Leech in the nasopharnyx. *Br. Med. J.*, **2:** 1058.

Moore, J.P. (1927). The Fauna of British India. Taylor and Francis, London, pp. 175–185.

Symthies, B.E. (1960). Leeches of Borneo. *Sar. Mus. J.*, **8:** 279–294.

Walton, B.C. (1969). The "Nasal-Leech" *Dinobdella ferox* from Borneo and Malaya. *J. Parasit.*, **41:** 32.