

Timor-type *Microfilaria* found in Flores Island, Indonesia

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Since David and Edeson (1964, 1965) described a new type of microfilaria found in human blood in the Portuguese part of Timor Island, microfilaremia of this type have been also recorded in the Indonesian part of the island. During the survey in the Indonesian part, the microfilaremia were also found in people coming from at least two other islands, including Flores island. Thus it is expected that the parasite may exist in the island other than Timor (Sri Oemijati and Partono, 1971).

One of us (T. K.) traveled to Flores Island in December 1973 to survey mosquitoes and incidentally discovered some cases of elephantiasis among the local people in various villages¹. Subsequent to this finding, a preliminary investigation was carried out, with the cooperation of the local health authority, in a particular village.

The island of Flores lies at the eastern end of the Indonesian archipelago (latitude 8-9°S, longitude 119-123°E), approximately 200 km west of Timor Island. *Brugia malayi* have been reported from Flores island by a few authors and Sri Oemijati (1971) recently summarized these findings.

Survey Techniques

On December 20, 1973, blood film collection was carried out at Lekebei Health Center,

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Sikka, Flores, concentrating on the villagers living in the Lekebei area. This area is located about five km from the southern sea coast but it is isolated from the coastal area by a steep range of mountains.

Individuals from whom blood samples were taken were all more than 10 years old and most of them were indigenous to the area. From each individual 30 cmm of blood were collected in a hemoglobin pipet and three linear smears were made following the method of Sasa (1963). All the smears were made between the hours of 8pm till midnight.

The films were kept flat, dried overnight, hemolysed in distilled water and fixed in methyl alcohol. At the University of Indonesia in Jakarta the films were stained with Giemsa (pH 7.2) on the second day after the samples were collected. A part of the positive film was later restained with Delafield haematoxylin.

Results

Blood samples from 105 individuals ranging in age from 10 to 88 years were examined. Among them, 14 elephantiasis were detected and one of 14 cases (male, age 45) was positive for microfilaria. Clinically, the lesion did not extend above the knee, except one case which showed a slight enlargement of both forearms.

Of the 105 villagers tested, 12 (11.4%) were found to be microfilaria carriers. The youngest carrier was a girl 13 years old.

Table 1 Survey on filariasis in the village of Lekebei, Flores

Age	Male		Female	
	No. exd.	No. mf pos.	No. exd.	No. mf pos.
10-14	8	1	18	4
15-19	9	0	10	0
20-29	13	3	18	0
30-39	4	1	7	0
40-49	9	2	4	0
50-	4	1	1	0
Total	47	8	58	4

The highest count of microfilaria was 138 per 30 cmm of blood (Table 1).

Identification of the microfilaria was based on previously described morphological characteristics, and the specimens were compared with those formerly collected at Timor Island. Microfilariae of the present collection were identified as the Timor-type microfilaria. The sheath of the microfilaria is not visible after Giemsa staining. The cephalic space of each microfilaria was longer in proportion

to its width (2.5-3.3:1), the head was slightly blunted, and the threadlike tail contains two nuclei (Fig. 1). The body length of 38 microfilariae was measured and the mean length was 279.93μ (range=261-314, standard deviation=14.4556).

Discussion

The field survey provided evidence for the occurrence of the Timor-type microfilaria in a region of the Indonesian archipelago other than Timor Island. The authors feel that there is a need for an extensive survey of Flores Island since the other filariasis endemic villages are known to exist there.

Morphological studies of the microfilaria collected at Flores Island show a marked resemblance to those collected at Timor Island. The mean body length of these microfilaria was not significantly different from that of the Timor microfilaria (average 274.8μ ; standard deviation=16.2791) reported by Sri Oemijati and Partono (1971).

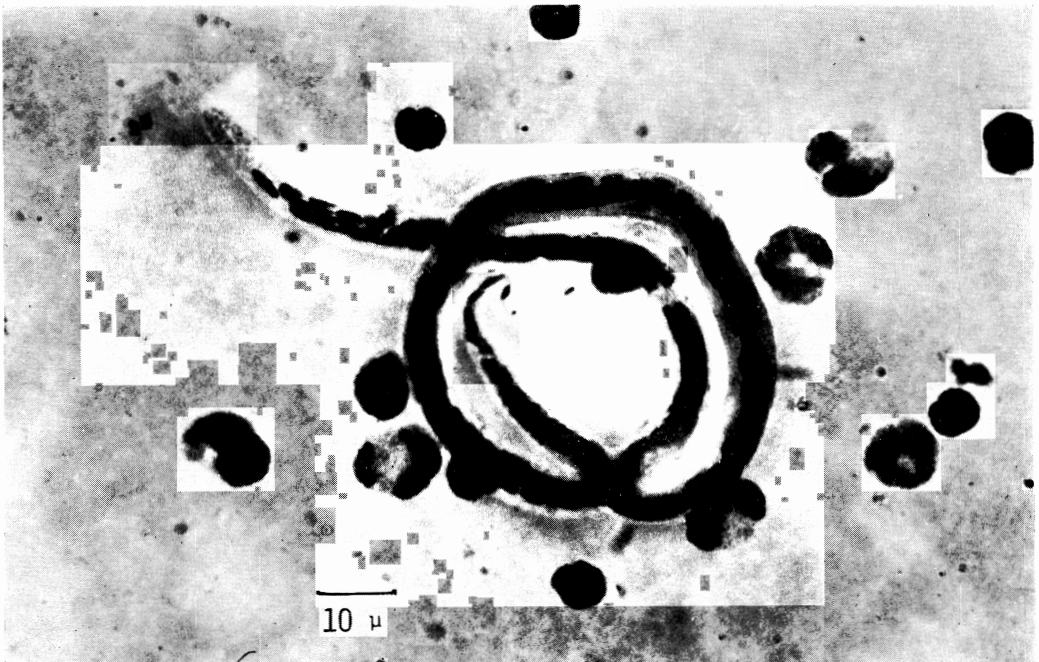


Fig. 1 The microfilaria collected in Flores (Giemsa's stain)

Summary

The Timor-type microfilariae were found in human blood samples obtained at Lekebei on Flores Island of the Indonesian archipelago. This type of microfilaria was previously found in Timor Island.

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Note: The abstract of the present paper was read before at the 16th Annual Meeting of the Japanese Society of Tropical Medicine held in September, 1974, in Naha, Okinawa.

インドネシア・フローレス島で見出した Timor-type ミクロフィラリア

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Timor 島において, David & Edeson (1964, 1965), および Sri Oemijati & Partono (1971) により記載された Timor-type ミクロフィラリアが, Flores 島にも土着していることが見出された。

1973 年 12 月に, Flores 島 Lekebei 部落で, 夜間に,

105 名を検血したところ, 12 名が mf 陽性であった。これらの mf の形態は, ギムザ染色により sheath が染まらず, Cephalic space が長大, 細長い尾部に鮮明に核が認められるなど, Timor-type と, よく一致した。