mate the tree and combined anthraquinones. Results are summarised in Table I. It is concluded that anthraquinones are present relatively in higher quantity in fruits than leaves of *Cassia alata* and hence fruits will exert more laxative action than leaves.

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DISCOVERY OF *ASCARIS LUMBRICOIDES* OVA IN PERIPHERAL BLOOD OF MAN

LINNAEUS[1] was the first to identify *Ascaris lumbricoides*, the biggest and the commonest round worm resident in human beings. In 1967, the World Health Organisation[2] Expert Committee on control of ascariasis estimated that approximately one out of every four people in the world population is infected with this parasite. However, in a recent survey carried out by Veerannan[3] around Madras, South India, the prevalence of *Ascaris lumbricoides* in a mixed population was found to be 10·62%. Much work on the epidemiology of ascariasis has been done, in view of the impact this disease has on the health of the population. Infection is effected by swallowing ripe eggs of *Ascaris* along with contaminated food or water. Infection may also occur by inhalation of desicated eggs in the dust reaching the pharynx and swallowed. Fertilised eggs measure normally 60–75 μ by 40–50 μ and are easily identified by characteristic mammilated albuminous outer layer, with a clear inner shell and the embryo inside, whereas, unfertilised eggs, measuring approximately 80 μ in length by 55 μ in bredth are highly irregular, opaque, narrower and eliptical without a definite shape as described by Lysek[4]. A detailed account on some abnormal eggs of *Ascaris lumbricoides* has been given by Matuda[5]. In view of the morphological abnormalities, unfertilised eggs are more difficult for a beginner to identify. It has been estimated by Brown and Cort[6] and Augustine *et al.*[7], that the eggs per gram of faeces for each adult female worm is not less than 2,000.

Though the normal habitat of *Ascaris lumbricoides* is the alimentary tract of man, adult worms and larvae have been found in unusual organs as well as in blood stream (Boettiger & Werne[8], Hotta & Delfim[9], Sprent[10], Phan[11], Costa *et al.*[12], Tiwary and Prasad[13]). However, unfertilsed ova and fragments of *Ascaris* ova were accidentally observed microscopically for the first time, in blood smears while screening the slum dwellers for microfilaria larva. Out of 400 samples of blood smears examined, only 2 contained unfertilised ova along with fragments, whereas, 39 showed the presence of fragments only. This will come as a great surprise to many and will constitute a valuable addition to the existing knowledge of Medical Parasitology.

The occurrence of unfertilised ova of *Ascaris* in blood was further confirmed by examining the stool samples of the suspected cases, during an intestinal parasitic and filarial survey of slum dwellers in Saidapet and Guindy in Madras, South India. In stool samples, unfertilised ova occurred along with fertilised ova in more than 75% of the positive cases, whereas, fragments and unfertilised ova alone were observed in blood smears examined for microfilaria larva. The unfertilised ova were without albuminous capsule and were identical with those illustrated by Keller[14].

On examining the available literature, it was found that so far there is no record of occurrence of *Ascaris* ova in the peripheral blood of man. In order to eliminate the possibility, that the occurrence of fragments and unfertilised ova in blood smear might be due to contamination of the left hand fingers, (from which blood samples were first collected by pricking with sterilised needle), blood samples were also collected by pricking the right hand finger as well as from the "cubital" vein. As was done earlier, thick and thin smears were prepared and stained with eosin. Microscopic examination of the blood samples collected both from the right hand fingers and the "cubital" vein also showed the presence of fragments and unfertilised *Ascaris* ova as illustrated in Fig. 1.

During the cycle of development of *Ascaris* in man, as described by Stewart[15], the larvae liberated by the hatching of the embryonated eggs in the small intestine are known to penetrate into portal circulation. After a brief sojourn in the liver, they pass through the right heart into the lung and undergo further development in the capillaries from there they pass to the air vesicles, up the trachobranchial tree, down the oesophagus into stomach and small intestine, where they develop into adult worms. Phan[11] observed *Ascaris* eggs in various stages of development in liver and he believed that adult *Ascaris* migrating from the inten-

stine to the liver deposit eggs there, which developed and embryonated and may give rise to the occurrence of larvae in the liver, lungs and heart. Therefore, it is possible that Ascaris ova observed in various stages of development in the different organs by Phan[11] might have entered the general circulation and reached the peripheral blood, as observed during the present parasitic survey. This belief is further confirmed by the findings of Zahawi and Ovanessian[16], who reported an interesting case, in that adult *Ascaris* worm changed its route and entered the general circulation. Similarly, Fulleborn[17] has shown that *Ascaris* larvae were disseminatel by the blood stream and that they reached the arteries from the veins, through the capillaries. Recently, Costa *et al.*[12] and Tiwary and Prasad[13] found adult *Ascaris* in the right ventricle and in common bile duct, respectively. It has also been observed that in very heavy infestation, the larvae may even be excreted in urine. Disturbances have also been reported due to the presence of *Ascaris* larvae in the brain, spinal cord and kidneys.

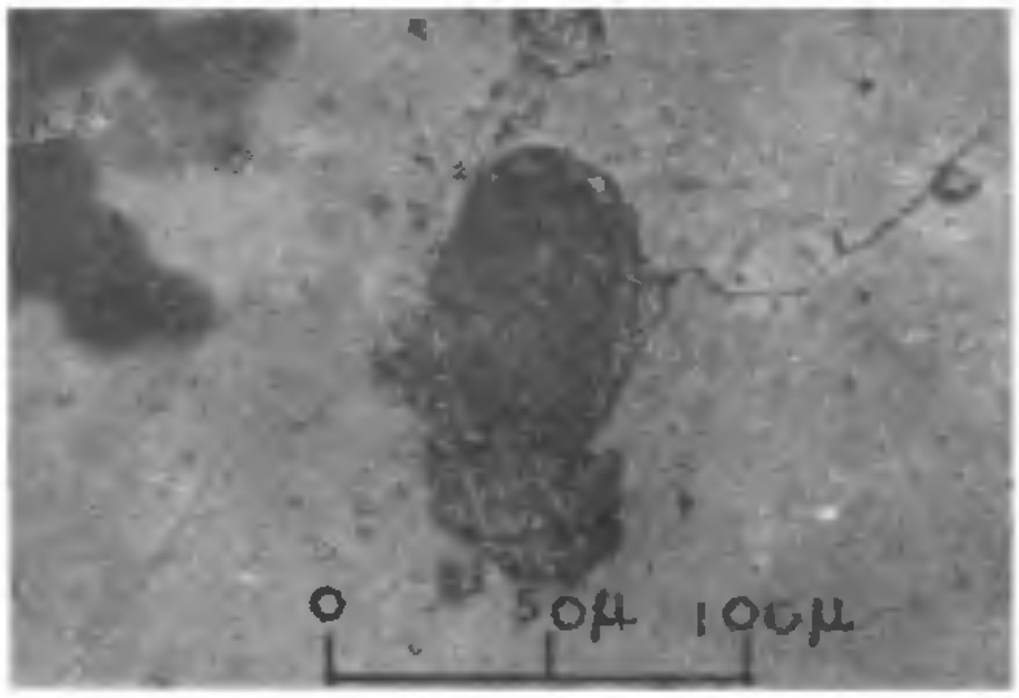

FIG. 1

In view of the fact that 39 out of 400 blood smears examined were containing fragments of *Ascaris* ova, these observations cannot be considered as stray occurrences. But it is not known, why fragments and unfertilised ova of *Ascaris* alone (unlike fertilised ova) are observed in peripheral blood of man. These observations may form the basis for detailed further studies to ascertain whether or not there is any regular life cycle of *Ascaris* in the blood of man. However, it is believed that the discovery of *Ascaris* ova in blood might throw some light in evolving new treatment methods to control the most common helminthic disease of man.

My sincere thanks are due to Dr. Jeyapaul Azariah, Lecturer in Zoology, Zoological Research Laboratory, University of Madras, for the help rendered in the preparation of microphotograph of blood smears.

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A NEW SPECIES OF *PHYLLACHORA* NKE IN FCKL.

DURING the course of collection of phytopathogenic fungi, the authors have collected infected leaves of *Madhuca indica* Linn. (Fam. Sapoaceae) from Pachmarhi (MP) during December 1976, with numerous, dark black, scattered colonies or tar spots only on the upper surface which coalesce later on (Fig. 1). On microscopic examination, it was found to be a species of *Phyllachora* Nke. in Fckl., which is hitherto undescribed. Since the speciation of *Phyllachora* is mainly based on the host[1,2] and there is no record of the fungus on *Madhuca indica*, the present fungus is described here as a new species, *viz.*, *Phyllachora madhucae*. The material was also examined by Dr. A Sivanesan of C.M.I., Kew, England, who confirmed the identification.