EDITORIAL

Filarial periodicity has been one of the most interesting problems in connection with filariasis. Authorities have attempted to explain this phenomenon in part by the biting habits of the intermediary host. Thus, in Porto Rico, where the intermediary host is the Culex fatigans, periodicity is nocturnal-that is, there is a maximum number of microfilariae in the general circulation during the night. In the Pacific Islands this periodicity does not exist and there are equal numbers of microfilariae in the blood stream both day and night. This has been known as the non-periodic type though the adults of these microfilariae are indistinguishable from F. bancrofti and the intermediate host is a day biting mosquito Aedes variegatus. While these two forms of the parasite may be morphologically indistinguishable, still there may be biological differences between them which are not known at present. The phenomenon of filarial periodicity and the mechanism of the migration of the microfilariae from the parent worm to the blood stream is treated in an interesting paper by O'Connor in the current issue of this publication. According to O'Connor's observations there appears to be good evidence that the periodicity of parturition of the female is diurnal and probably takes place in the morning or the early afternoon and not during the night. The habits of biting of the intermediate mosquito host may after all have little to do with this question of periodicity.

The life-history of this parasite whereby the embryo develops into larval filaria in the thorax of the mosquito vector is well known. It is also known that conditions of temperature and moisture influence the time necessary for this development. In warm temperature and high moisture conditions, this requires from ten to fourteen days but cold weather may delay the completion of the cycle for a considerable length of time—even weeks or more. As a result of studies on the transmission of the filarial parasite by *Culex fatigans* at different seasons of the year in Porto Rico, O'Connor has found that there is a considerable variation in the time required for full development in the insect in the Winter when compared to the Summer months. In January and February development in *Culex fatigans* requires from twenty to twenty-two days while in July and August the same development is completed in from eleven to thirteen days.

840

EDITORIAL

From these observations it is obvious that liability to infection in Porto Rico is much greater in the warm months of the year than in the cold months. In the matter of prophylaxis then, greater protection against the mosquito should be obtained during the Summer in Porto Rico than during the Winter in order to lessen the incidence of this disease.

E. B. McK.

RESEARCH GRANT FOR NUTRITION

The Rockefeller Foundation has made a grant of \$36,000 to the School of Tropical Medicine through the department of chemistry of Columbia University for the study of nutrition in Porto Rico. Professor Henry C. Sherman will direct the research which will be carried on by the department of chemistry of the School of Tropical Medicine. The grant provides a sum of \$12,000 for the first and second years, \$8,000 for the third year and \$4,000 for the third year. Professor Joseph Axtmayer of the University of Porto Rico has been transferred to the department of chemistry of the School of Tropical Medicine to participate in this work.