Lourenço-de-Oliveira, R., Guimarães, A. E., Arlé, M., Silva, T. F., Castro, M. G., Motta, M. A. & Deane, L. M. (1989). Anopheline species, some of their habits and relation to malaria in endemic areas of Rondonia State, Amazon Region of Brazil. *Memórias do Instituto Oswaldo Cruz*, **84**, 501–514.

Marrelli, M. T., Branquinho, M. S., Hoffmann, E. H. E., Taipe-Lagos, C. B., Natal, D. & Kloetzel, J. K. (1998). Correlation between positive serology for *Plasmodium vivax*-like/*Plasmodium simiovale* malaria parasites in the human and anopheline populations in the State of Acre, Brazil. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, **92**, 149–151.

Naotunne, T. De S., Karunaweera, N. D., Giudice, G. Del, Kularatne, M. U., Grau, G. E., Carter, R. & Mendis, K. N. (1991). Cytokines kill malaria parasites during infection crisis: extracellular complementary factors are essential. *Journal of Experimental Medicine*, **173**, 523–529.

Natal, D., Barata, J. B. S., Taipe-Lagos, C. B. & Rocha, R. M. (1992). Nota sobre culicídeos (Diptera, Culicidae) da bacia do Rio Purus, Acre, Amazônia, Brasil. *Revista de Saúde Publica, São Paulo*, **26**, 129–131.

Oliveira-Ferreira, J., Lourenço-de-Oliveira, R., Teva, A., Deane, L. M. & Ribeiro, C. T. D. (1990). Natural malaria infections in anophelines in Rondonia State, Brazilian Amazon. *American Journal of Tropical Medicine and Hygiene*, **43**, 6–10.

Ponnudurai, T., Billingsley, P. F. & Rudin, W. (1988). Differential infectivity of *Plasmodium* for mosquitoes. *Parasitology Today*, **4**, 319–321.

Rosenberg, R. (1985). Inability of *Plasmodium knowlesi* sporozoites to invade *Anopheles freeborni* salivary glands. *American Journal of Tropical Medicine and Hygiene*, **34**, 687–691.

Rubio-Palis, Y. & Zimmerman, R. H. (1997). Ecoregional classification of malaria vectors in the neotropics. *Journal of Medical Entomology*, **34**, 499–510.

Rubio-Palis, Y., Wirtz, R. A. & Curtis, C. F. (1992). Malaria entomological inoculation rates in western Venezuela. *Acta Tropica*, **52**, 167–174.

Rutledge, L. C., Ward, R. A. & Gould, D. J. (1964). Studies on the feeding response of mosquitoes to infective solutions in a new membrane feeder. *Mosquito News*, **24**, 407–419.

Wirtz, R. A., Burkot, T. R., Graves, P. M. & Andre, R. G. (1987). Field evaluation of enzyme-linked immunosorbent assays for *Plasmodium falciparum* and *Plasmodium vivax* sporozoites in mosquitoes (Diptera: Culicidae) from Papua New Guinea. *Journal of Medical Entomology*, **24**, 433–437.

Zavala, F., Gwadz, R. W., Collins, F. H., Nussenzweig, R. S. & Nussenzweig, V. (1982). Monoclonal antibodies to circumsporozoite proteins identify the species of malaria parasite in infected mosquitoes. *Nature*, **299**, 737–738.

Received 4 March 1999; revised 4 May 1999; accepted for publication 7 May 1999

Book Review

Tsetse Biology and Ecology: their Role in the Epidemiology and Control of Trypanosomiasis. S. G. A. Leak. Wallingford: CABI Publishing, 1998. xxiv +568pp. Price £65.00 (US$120.00). ISBN 0-85199-300-1.

Leaving aside its notoriety as a vector of trypanosomiasis in Africa, the tsetse fly has been a most fortunate insect in that it has had some really lovely prose lavished on it over the years. Comparable texts (in historical order) of Patrick Buxton (1955), John Ford (1971) and Tony Jordan (1986) were all beautifully written and, for different generations of researchers, contained cornucopias of detail and opinion for the tsetse novice to sink his/her teeth into. Given the very high quality we are used to in books that have covered tsetse, how does this latest work shape up?

Buxton offered very robust views on other people's data and interpretation, which made his book such an enjoyable read. Ford offered a completely new slant on the history of trypanosomiasis and how it had shaped the history of Africa—a book often difficult to follow as John offered the reader little in the way of guidelines. Jordan gave us the nitty-gritty of control and introduced entomologists/parasitologists to the wonderful world of economics. Stephen Leak attempts to cover the territory of all 3 of his predecessors: tsetse biology, epidemiology and control and does this most successfully. The world of tsetse research has thrived on conflict but there is little hint in this book of the vitriol that this insect has inspired over the years. The author is very, perhaps too, even-handed with the literature, offering little in the way of personal opinion or reflection.

I have a few quibbles. How can anyone now seriously doubt that *Trypanosoma brucei rhodesiense* originated around Lake Victoria? 'To spray or not to spray?', that is the question on the lips of tsetse workers these days having witnessed the false dawn of 'appropriate technology'. Whither sustainability? How one would have relished a comparison of the, very different, Francophone and Anglophone approaches to tsetse and trypanosomiasis control. Stephen prefers not to come down off the entomological fence.

But these are trifles. Stephen Leak has spent most of his adult life working with tsetse, either killing or researching them, and it shows. This is Stephen's *magnum opus* and students of tsetse must be grateful that the publishers, in association with the International Livestock Research Institute, have allowed such a detailed book by a single author. The book is very comprehensive and up to date on techniques (from geographical information systems to polymerase chain reaction) and the literature (114 pages of references including 1998 publications). Here we have 568 pages of tsetse which will be a godsend for the field worker and PhD student alike and its wealth of detail will, no doubt, help resolve many coffee table rows (especially in my household).

Ian Maudlin

Division of Molecular Genetics
Institute of Biomedical and Life Sciences
University of Glasgow
Anderson College
56 Dumbarton Road
Glasgow G11 6NU, UK