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THE TROPICAL CHIGOE IN CALIFORNIA

Tunga penetrans (Linnaeus), a tropical and subtropical siphonapterous pest, commonly known as chigger, jigger, chigoe or sand flea, has heretofore remained unreported as adult from the continental United States,[1] except for one case from New Orleans.[2] Thirteen gravid females[a] were recently (April 7, 1942) recovered from the eyelids of a Pacific horned owl (*Bubo virginianus pacificus* Cassin), at Oceanside, San Diego County, California, by Kenneth Stager.

The life history and etiology of this flea[3] are of special interest in the present emergency. Its habitat is essentially warm, dry, sandy places. Although considered free living as larvae (with the one reported exception[2]), adults attack not only birds, but also other warm-blooded animals, including man. Though not known to be a vector of pathogenic organisms, its entry beneath the epidermis and invasion of the stratum lucidum produces irritating skin ulcers which are frequently complicated by secondary invaders.

Southern California is known to have many outdoor camping grounds. Camp directors should therefore be on the alert for its possible appearance in infested areas. Also, with the erection of many open-air military camps in the southwest, it seems particularly desirable that special studies as to the distribution in this country be made, and precautions taken to prevent its spread.

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ON NUMBERING BOOK ILLUSTRATIONS

I AM reading a book on meteorology, and I come upon this sentence, "Fig. 50b shows the typical features of a towering cumulus (see also Fig. 25)." Now Fig. 50b is right under the eye; but Fig. 25? Evidently it is somewhere in the fore part of the book. I am at page 81, and I make a chance dive into the earlier pages and come upon page 47. It happens to carry Fig. 32. So I thumb my way back page by page until I come to Fig. 25 on page 32. This happens to be a small book; in one of 600 pages it would be a longer chase. Now this all takes time, interrupts the attention and, with me, gives rise to an emotional turbulence which may eventuate in profanity. I am sure that many others have had the same experience, barring perhaps the emotional turbulence. "A law ought to be passed," not against the use of profanity under such circumstances, but against the use of a separate series of numbers for illustrations.

For there is no logical reason for a separate numbering of the illustrations. They are not regularly spaced as are the pages. One can not at once turn to a numbered figure in a distant part of the book, as he can to a numbered page. Their use is time-consuming and irritating.

Besides, there is a better way of handling the matter. Figures in the text should be referred to by their page number. Fig. 25, above, would then be Fig. p. 32; or even Fig. 32. One could then turn to it at once. If there were more than one figure on a page they could be distinguished as A, B, C, etc.

This suggestion concerns especially text-books in physical science and technology. It is addressed to the writers and publishers of such books. It is the duty of author and publisher to reduce the effort of the reader in every possible way; and here is one way. Any unnecessary taking of the reader's time and energy is larceny, stealing; is immoral.

Some of the best texts are already dropping the serial numbering of figures. Smith and Phillips's splendid "North America" (Harcourt, Brace and Company) is one: it omits the numbers, and when there is more than one illustration on the page it distinguishes them by letters. The use of the old system of consecutively numbered figures hangs on because of inertia and lack of imagination. Writers of text-books on science ought to be able to climb out of this rut.

LEWIS G. WESTGATE

SCIENTIFIC BOOKS

TOPOLOGY

Algebraic Topology. By SOLOMON LEFSCHETZ. vi + 389 pp. Vol. 27. Colloquium Publications of the American Mathematical Society. 1942. $6.00.

Analytic Topology. By G. T. WHYBURN. x + 278 pp. Vol. 28. Colloquium Publications of the American Mathematical Society. 1942. $4.75.

THESE two mathematical volumes, written by lead-

[1] I. Fox, "Fleas of Eastern United States," p. 12. Iowa State Coll. Press, Ames, Iowa, 1940.

[2] E. C. Faust and T. A. Maxwell, Report of a case, *Arch. Dermat. Syph.*, pp. 94–97, 1930.

[3] P. H. Manson-Bahr, "Manson's Tropical Diseases. A Manual of the Diseases of Warm Climates." Eleventh edition. Williams and Wilkins Company, pp. 700–703, 1940.

[a] After proof was received, a communication (in litt.) from the U. S. Health Service in Montana suggests this might be *Hectopsylla psittaci*, a nearly related flea from South America. Without males certain identity is difficult.