America and previous to this has never been reported from the West Indies.

The following characteristics differentiate *A. pessôai* from our local *A. albitarsis*:

A. pessôai	*A. albitarsis*
ADULT FEMALE	
1. Smaller in size.	1. Larger in size.
2. Light wing scales pure white.	2. Light wing scales creamy white.
3. Lateral abdominal tufts present in segment two.	3. No lateral abdominal tufts on segment two.
ADULT MALE	
1. Mesosome more heavily chitinized.	1. Mesosome less heavily chitinized.
2. Mesosome narrower.	2. Mesosome broader.
3. Dorsal lobes of claspette truncated at tip with deep central notch; indented laterally below the apex.	3. Dorsal lobes rounded with shallow notch.
LARVA	
1. Inner clypeal hairs closely approximated.	1. Inner clypeals well separated.
2. Post-clypeal hairs long and single.	2. Post-clypeal hairs short and bifid.
3. Leaflets of inner hair of anterior submedian thoracic group with truncate tips.	3. Leaflets of inner hair of anterior submedian prothoracic group pointed.

Specimens of *Anopheles pessôai* from Trinidad have been deposited in the National Museum.

There is a strong indication that *Anopheles pessôai* was introduced to Trinidad by airplane. The following evidence is submitted. Previous reports from this area, notably that of Downs, Gillette and Shannon (1942–1943), did not list this species, and our organization, which has been identifying specimens from this area routinely for over a year, has never found it before. It made its first appearance in Trinidad about a mile from an airport.

While it can not be proven that *A. pessôai* was transported by airplane from the South American continent, the facts listed above are strong evidence of such an occurrence.

Anopheles pessôai is a relatively rare species and little is known of its ability to transmit malaria, however, the introduction of *A. darlingi,* whose distribution coincides in part with that of *A. pessôai,* would be of considerable significance. Mention need only be made of the establishment of *A. gambiae* in Brazil to show the importance of air transportation in the spread of new and often dangerous insects.

TAMARATH KNIGIN YOLLES
STANLEY F. YOLLES,
3d Lieutenant, Sn. C., AUS
DORWIN A. BYRD,
Sergeant, AUS

SCIENTIFIC BOOKS

HYPERTENSION

Hypertension and Hypertensive Disease. By W. GOLDRING and H. CHASIS. New York: The Commonwealth Fund. 1944. $3.50.

THE authors have made important contributions to the clinical study of hypertension and, more especially, with Homer Smith, to its renal functional aspects. This book is a monographic statement of their work, conclusions and impressions. It is not, as the title might imply, a comprehensive review of the topic, but rather fulfils admirably the authors' prefatory statement of intention. Its appeal and value will be greatest to those who have more than a passing acquaintance with vascular disease and who are especially interested in renal function.

One of the basic premises of the book is the view that experimental renal hypertension in animals is fundamentally different from essential hypertension in man. This view, which seems to ignore the greater probability of at least a partial similarity, is far from being generally accepted, and its adoption excludes much that is interesting and suggestive in the modern study of clinical hypertension. No better summary of the author's original studies of renal function in hypertension is available. Certain other chapters (Nos. 2, 6 and 8) are necessarily less complete. Thus, one wonders why a chapter on treatment, which consists largely of hints and general directions, was included.

Some statements do not coincide with generally accepted experience. Some of these are, "Uremia is defined as the abnormal elevation of blood urea resulting from intrinsic renal disease," and "Paroxysmal epigastric pain is part of the symptomatology of acute malignant nephrosclerosis in about 25 per cent. of the patients and may be the most prominent subjective symptom." Others are, Its symptoms (hypertension in pregnancy) result from widespread vasoconstriction" and, elsewhere, "Treatment of hypertensive disease is rational only when it is directed to the ultimate cause." The useful and sensitive index of renal function obtainable from observations of urinary concentrating power is rather summarily dismissed. The rationale of the author's control of thiocyanate concentration in the body by a determination of its residue (intake-excretion) is not apparent, since this substance is distributed within the widely variable

compartment of extracellular water. If, as seems the case, concentration in the blood is the determinant of toxicity, such an approach introduces the possibility of error which approaches 50 per cent. The authors' distrust of this drug is not shared by the majority of clinicians.

A similar nihilism underlies the approach to the treatment of hypertension in unilateral renal disease by nephrectomy. Their conservatism will, we hope, serve to counter the reckless optimism of certain surgeons. But, since it seems an unnecessarily extreme point of view, it may not be given the weight it should have.

An interesting chapter on peripheral resistance is included. The appendix includes succinct descriptions of the methods for its determination and for the study of renal function by the author's methods.

This is a provocative book which reflects and summarizes the author's experience. It is therefore welcome. Disagreement concerning some of its conclusions should, we trust, serve to stimulate efforts to resolve the areas of doubt.

VASCULAR RESPONSES

Vascular Responses in the Extremities of Man in Health and Disease. By D. I. ABRAMSON. Chicago: University of Chicago Press. 1944. $5.00.

DR. ABRAMSON'S book, "Vascular Responses in the Extremities of Man in Health and Disease," reviews his material in critical and comprehensive fashion. The richness of the bibliography is to be commended. After a detailed description of methods for studying peripheral blood flow, the physiologic responses of the blood vessels in different portions of the extremities are described. This is followed by consideration of the responses to various pharmacologic agents, of blood flow in abnormal states and in systemic disease, of peripheral vascular disease, and finally, by an evaluation of methods of treatment of peripheral vascular disease.

The sections on peripheral vascular disease are particularly good and may be read with profit by clinicians. They might be read first, the more so because the detail of the sections on methods and physiological variations might strain the average clinician's patience. The latter will prove especially valuable to physiologists.

In some places the author seems to stretch the interpretation of the results obtained by the plethysmograph. This instrument has not yet reached either qualitative or quantitative perfection. For instance, his results cast doubt upon the view that the arterial hypertonus in hypertension is generalized and is due to a circulating vasoconstrictor substance. Quite apart from the possibility of methodical error, more consideration should be given to the differences in response of peripheral and central arterial beds. Thus the evidence is inadequate indeed for such an important conclusion. But, on the whole, facts are critically, impartially and completely presented.

There is much to recommend books of this type in which a central theme, blood flow in the extremities, is used as the trunk on which to graft knowledge of both the physiology and pathology of the blood vessels. Abramson has done his task well.

IRVINE H. PAGE
A. C. CORCORAN

AQUARIUM ANIMALS

Guide to Higher Aquarium Animals. By EDWARD T. BOARDMAN. Cranbrook Institute of Science. 1944. $2.00.

IN 107 pages Dr. Boardman has tersely and thoroughly covered this subject. If you live in Michigan or thereabouts and wish to stock and maintain an aquarium or vivarium with fish, amphibians or reptiles this is your *vade mecum.* My guess is that at least 75 per cent. of the facts presented apply in general to an aquarist in New York or California as well. From lampreys to turtles all the better-known forms are represented by an illustration and brief paragraphs on appearance, size, habitat, breeding habits and food. Full credits are given for the good illustrations, the diction is authentic and clear, the type and format are excellent, and appendices deal with aquaria, their water and management, and hints as to parasites and some common diseases. This is a companion volume to the author's "Field Guide to Lower Aquarium Animals."

WM. BEEBE

SPECIAL ARTICLES

BULBAR INHIBITION AND FACILITATION OF MOTOR ACTIVITY[1, 2]

SINCE Sherrington's discovery of decerebrate rigidity in 1898, it has been known that the bulbar portion of the brain stem exerts an excitatory influence on neural motor systems, particularly those activating the extensor muscles of the body. That this bulbar region, in addition, contains a mechanism capable of exerting a general inhibitory influence on motor activity does

[1] Aided by a grant from the National Foundation for Infantile Paralysis.

[2] Grateful appreciation is expressed to Dr. W. F. Windle, director of the Institute of Neurology, for the loan of most of the apparatus employed in this study.