years of association with the subject—a combined total of 55 years. The amount of detail is truly amazing. A total of 463 references are cited in the text.

It included sections on the zoogeography of California; specimen preparation; morphology; keys to species for females, males and larvae; and keys to genus for pupae. In the treatment of each species four subjects are discussed: systematics, ecology, distribution, and disease transmission. The last three are thoroughly covered; however, complete species descriptions, such as may be found in Carpenter and LaCasse (1955, *Mosquitoes of North America*) are not included. The salient characters by which the species can be recognized in their various stages are given under systematics.

The second edition listed 40 species. Now 47 (48 taxa) are known from California. The species added are: *Aedes atropalpus* (Coquillett), *Ae. campestris* Dyar & Knab, *Ae. niphadopsis* Dyar & Knab and *Aedes schizopinax* Dyar, all detected in the extension of the Great Basin into the State; *Ae. deserticola* Zavortink and *Psorophora signipennis* (Coquillett) found in the southwestern desert zone; and *Ae. melanimon* Dyar, a widely distributed species, separated from *Ae. dorsalis* (Meigen) in 1955.

It should be noted that the authors have given the name *Aedes hemiteleus* Dyar to the California representative of the subgenus *Aedes* and have given differences between it and the related form, *Ae. cinereus* Meigen, widely distributed in the United States and Canada. Likewise, they have identified the California population of the species, formerly named *Psorophora confinnis* (Lynch Arribálzaga) as *Ps. columbiae* (Dyar & Knab). Prior to this designation, *Ps. columbiae* had been applied only to that part of the *Ps. confinnis* complex occurring in eastern and southern United States (See Belkin et al., 1970, Contr. Amer. Entomol. Inst. 6:137 and Bickley, 1976, Mosquito News 36:376).

The illustrations are grouped in the center 56 pages. Included are: parts of the adult females of 31 species, including full portraits of 4 species and dorsal view of the whole body of another 12; male genitalia of 8 species in 4 genera; parts of the pupae of all 8 California genera; and head and terminal segments of the 4th instar larvae of all California species, except *Ae. atropalpus*, presumably because that species is known to be in the State from collection of only a single female. The reader will encounter difficulty in referring to the illustrations because of their location, especially when using the keys, albeit the key characters are well illustrated. It would have been helpful had the authors placed the number beside each seta shown in the drawings of the larvae and pupae. The well-recognized setal nomenclature (Belkin, 1952, Proc. Entomol. Soc. Wash. 54:115 & 1953, ibid 55:318) was used to designate only a few setae in the larval drawings.

An interesting feature of the book is the key to adult females of California mosquitoes, starting on page 9. It is integrated, intergeneric, and not the usual generic key followed by a species key under each genus. The authors intermixed generic and specific characters. For example, all species with hind legs banded with pale scales are grouped together, regardless of genus. Thus, species of *Coquillettidia, Psorophora, Aedes, Orthopodomyia* and *Culex* fall in this category. It is this writer's opinion that once the users become familiar with this different approach to identification, they will find it quite useful.

There is no doubt that the work constitutes a major contribution to the knowledge of mosquitoes of the region and will serve California as well as surrounding states which share a similar fauna.

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BRIEFLY NOTED

PATHOGENS OF MEDICALLY IMPORTANT ARTHROPODS. D. W. Roberts and M. A. Strand (eds.). World Health Organization Supplement No. 1 to Vol. 55 of Bull, WHO. 1977. 419 pp.

At the Vth International Colloquium on Insect Pathology in 1973 the need for updating the Jenkins 1964 compilation was recognized, and WHO sponsored the project which resulted in the new lists. For each group of arthropods there is a Host-Pathogen List. References and Abstracts follow each list. Pathogen-Host Lists consume 74 pages. Nine authors have prepared Host-Pathogen Lists and Abstracts concerning Culicidae, 159 pages. Obviously this volume is indispensable to anyone interested in diseases of mosquitoes and other medically important arthropods.—W. E. Bickley.