

DURDEN, L. A., AND J. E. KEIRANS. 1996. Nymphs of the Genus *Ixodes* (Acari: Ixodidae) of the United States: Taxonomy, Identification Key, Distribution, Hosts, and Medical/Veterinary Importance. Entomological Society of America (Thomas Say Publications in Entomology); Lanham, MD. iv + 95 p. ISBN 0-938522-57-4. Paperback. \$13.20 (ESA members), \$22.00 non-members, from ESA Sales, 9301 Annapolis Rd., Lanham, MD 20706-3115. Add \$2.50 per volume for postage and shipping (\$3.50 to foreign addresses).

There are about 670 species of hard ticks (Ixodidae) belonging to 13 genera. Out of those, more than a third—234 species—belong to a single genus—*Ixodes*. Members of this genus are distributed world-wide and include documented and suspected vectors of an extensive list of viral, bacterial and protozoan agents of human and animal diseases. Also, several species of this genus can cause tick paralysis in their hosts. All *Ixodes* ticks that have been tested so far appear to be capable of acquiring and transmitting agents of animal and human diseases. Therefore, one can say that the genus *Ixodes* have the highest epidemiological and veterinary significance among Ac-

ari. It attracted profound attention by the medical and scientific communities in the late 1930's, at the time of the discovery of Russian spring-summer tick-borne encephalitis. Our knowledge about the importance of diseases transmitted by *Ixodes* spp. to public health has grown greatly since then. Concurrently, it has been recognized that closely related species of ticks possess markedly different susceptibility to certain tick-borne pathogens, and play different roles in their natural circulation. Yet, those species that are capable of acquiring and transmitting pathogens in turn differ in their aggressiveness toward humans, and therefore have dissimilar significance as a source of infection for humans and domestic animals.

In the late 1950's, it was found that one of the major vectors of Russian tick-borne encephalitis (TBE), previously considered to be a single species, indeed presented a complex group. There are several species of ticks phylogenetically close to *Ixodes persulcatus* which dwell in a huge territory of Southern Siberia, Far East, and Middle Asia. One of those species—*I. pavlovskyi*—appears to have a wide geographical range, and sometimes reaches a high abundance in active foci of TBE. Still, because of its ecological peculiarities *I. pavlovskyi* plays a notably different role in epidemiology and epizootiology of TBE than *I. persulcatus*. In the USA, ticks *I. dentatus*, *I. spinipalpis*, and *I. neotomae* are competent vectors of the Lyme disease spirochete. However, they rarely attack humans, and therefore pose a lot lesser threat to human health than *I. scapularis* or *I. pacificus*. These are just a few of the available examples of the importance of careful identification of tick species for both practical and scientific purposes.

The reviewed book presents the first practical guide for identification of the *Ixodes* spp. nymphs since 1945. It includes all 34 species of the genus *Ixodes* considered to be resident in the United States. The authors introduce their book with a short morphological description of an *Ixodes* sp. nymph which makes the usage of the guide possible for an inexperienced person. The following comprehensive key to nymphal stages of all U.S. species contains references to scanning electron micrographs for further help with the identification. In the species accounts, the authors have included micrographs of characteristic features of each species, chronological listings of synonymies, geographical distribution, and known host records. They also provide synopses of the known medical and veterinary importance in the United States of each species. The 148 cited references alone present valuable information to those interested in learning about tick distribution, and tick-borne diseases in the U.S. The format and concise information included in this book make it useful to medical and veterinary practitioners, as well as to specialists studying ectoparasites of vertebrates.

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