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J. R. Busvine: Insects and hygiene. *Chapman and Hall Publ., London-New York 1980, 568 pp. Price 22.50 £.*

Three decades after its first appearance (1951) Busvine's book has reached its revised third edition. The chapter on chemical control measures is completely re-written, keys and new figures are included in the appendix, and the bibliography and subject index are expanded. In order to meet the requirements of the publishers and to avoid the excessive scope of the book he omitted from this new edition three chapters (namely the chapters dealing with the morphology and classification, anatomy and physiology, and with ecology of insects).

The new edition is divided into 13 chapters. Chapter 1, representing an introduction, bears the same title as the whole book and is intended to inform the reader about the rich abundance of insect forms and about the significance of different groups of parasitic insects in the transmission of pathogenic agents and in the hygiene in general. Chapter 2 deals with the problems of preventive measures and pest control especially as regards Britain and the USA and some European countries, grouped as West-European (Denmark, France, the Federal Republic of Germany, Italy and the Netherlands) and East-European (Bulgaria, Poland, Yugoslavia) countries. The information on these problems was obtained by means of correspondence with various experts and as far as the countries and the contents are concerned the data are very fragmentary (e.g. only three lines are devoted to France, including the statement that "little further information has been obtained") and their value is thus considerably disputable.

Chapter 3 is concerned with mechanical, physical and biological control measures, while Chapter 4 deals with chemical control. In chapters 5 and 6 different pest groups are discussed: bloodsucking Diptera (Culicidae, Ceratopogonidae, Simuliidae, Phlebotomidae, Tabanidae and *Stomoxys*), synanthropic flies (Muscidae, Calliphoridae), Drosophilidae, Phoridae and Piophilidae. Chapter 7 sums up all parasitic arthropods discussed and is subdivided into three parts — the first reporting on parasitic insects, the second on parasitic and harmful mites, and the third on allergies caused by these parasites. Chapters 8—12 cover pests of foodstuffs, insects living in refuse, clothes moths, hide beetles and other fabric pests, wood-boring insects and poisonous insects. The last chapter entitled "Nuisances" is concerned with pests occurring in damp rooms, gardens and open terrain. The book is concluded with two appendices: chemical appendix, listing insecticidal substances supplemented with some basic physical data, and biological appendix, including brief keys to the insect groups discussed.

The general concept of the book, as seen from the mentioned arrangement of chapters, requires a few comments. In formal respect, the scope of the pest coverage is wider than implied by the title of the book. Along with insects also mites, spiders, scorpions are covered, namely the whole spectrum of arthropods of medical importance. Disputable is the inclusion of the chapter on

wood-boring insects which is rather a specific problem of wood technology than of public health.

As far as the subject matter is concerned, much of the information is incomplete, obsolete or incorrect. As an example may serve some notes on the most extensive chapter devoted to parasitic forms which are of paramount importance in hygiene. Thus on p. 284 *Demodex folliculorum* is mentioned in a separate paragraph as the only follicle mite parasitic in man, and the other species, *D. brevis*, is not included. On the other hand, in the subdivision "Animal mites sometimes attacking man" on p. 287 *Demodex canis* is included which does not concern man at all, (even occasionally). On p. 288 in the subdivision "The harvest mite or chigger" the chiggers are listed in the family Trombidiidae (no more valid listing since 1944, when the American acarologist Ewing gave reasons for the necessary separation of a distinct family Trombiculidae) and all mentioned species are included in the genus *Trombicula*. The most widespread European species attacking man actually belongs to the genus *Neotrombicula* (*N. autumnalis* is widespread throughout Europe and its occurrence "over most of northern Europe" is an error; it primarily attacks man directly in gardens, often very small gardens in close vicinity of houses, sometimes inside the urban area and consequently is molesting not only "rural workers and picknickers"); the vectors of rickettsioses in SE Asia are representatives of the genus *Leptotrombidium* etc.

The soft ticks of the family Argasidae are represented in the book only by the species *Argas persicus* and no mention is made of other species, of which *Argas reflexus* occurring on urban feral pigeons poses a frequent medical problem in a number of European cities. Likewise, of the tick family Ixodidae only one representative of the genus *Dermacentor* — *D. marginatus* is mentioned for Europe, with an incorrect zoogeographic range reaching the line Crimea-Don-Caucasus. No mention at all is made of *D. reticulatus* which ranges from Britain to the USSR and is an important vector of arboviroses, rickettsioses and bacterial infections.

The book also includes a number of unfortunate inaccuracies. For example on p. 4 the weight of a man is underestimated as 10^3 g; errors or misspellings are also to be found in some Latin names of organisms, e.g. *Dermacentor marginalis* instead of *marginatus* — p. 11); *Rattus norwegicus* (instead of *norvegicus* — p. 13); *Franciscella tularensis* (instead of *Francisella* — p. 14); *Eschericha coli* (instead of *Escherichia* — p. 14) etc.

Such inaccuracies or errors are numerous in the chapter "Parasites" and reduce the high value of the book. The last disputable question is the biological appendix, including brief keys which mark out certain characters taken from the whole complex. Only a specialist having a maximum of training in identifying the given group will be able to make a correct determination according to them. In order to avoid errors the investigator in a more general field must consult an expert or use specialized literature.

The publishers have given great care to the book, and its third edition is an evidence of its popularity among readers. In future editions, however, it should be borne in mind, that not only chemistry, but also biology is developing very rapidly and the text should be kept up-to-date accordingly.

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