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## Preface

**Parasites** threaten still today the health of humans and their animals, although considerable progress had been achieved within the last century. However, phenomena such as **globalization** with the daily transportations of millions of containers and humans from one end of the world to the other make it easy for agents of disease and their vectors to suddenly occur at places which were thought to be safe. Thus, it is not astonishing that worldwide so-called **emerging diseases** occur at a formerly unbelievable speed. The ongoing **climate change** additionally offers better conditions for many agents of disease and their vectors to enter and to settle in formerly untouched regions.

Therefore, it is needed to observe intensively the development and progress of such aggressive organisms. **Parasites** belonging to the groups of protozoans, worms or arthropods may harm humans and their animals directly by entering them or indirectly as blood suckers, which may transmit other agents of diseases such as “viruses, bacteria or even parasites.

Parasite-derived diseases cause still today a considerable number of deaths, endangering millions of humans around the world, since still today the measurements to control parasites are poor in many cases. The number of treatment failures even increases constantly due to the fact that resistances of the parasites against older medicaments are rising.

Parasitology is now an interdisciplinary science, since parasites are animals which attack humans and animals. Thus, parasitic problems have to be considered by physicians, veterinarians, biologists, pharmacists, chemists, epidemiologists, etc., in order to develop successful control measurements.

The German Rudolf Leuckart (1822–1898) (Fig. 1) was the first to propose that parasitology should handle all perspectives of parasites as an own interdisciplinary field of science and not as an addendum to human or veterinary medicine.

This textbook considers the problems of humans with parasites. In order to make it easy to find quickly the relevant information, each chapter on a parasite is subdivided into 12 sections:

1. Name
2. Geographic distribution/epidemiology
3. Biology/morphology



**Fig. 1** Medal showing Rudolf Leuckart (1822–1898), the “founder” of parasitology as a separate branch connecting the knowledge of physicians, veterinarians and biologists. The German Society of Parasitology honours internationally known scientists for their contributions in the fight against parasites by awarding the Rudolf Leuckart medal

4. Symptoms of disease
5. Diagnosis
6. Pathway of infection
7. Prophylaxis
8. Incubation period
9. Prepatency
10. Patency
11. Therapy
12. Further reading

More and detailed information is contained in the recently published 4th edition of Mehlhorn H (ed.) (2016) *Encyclopedia of Parasitology*, Springer, Berlin, New York. This book and an online version is a product of cooperation with more than 50 colleagues worldwide.

Düsseldorf  
April 2016

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Human Parasites

Diagnosis, Treatment, Prevention

Mehlhorn, H.

2016, XVII, 461 p. 221 illus., 215 illus. in color.,

Hardcover

ISBN: 978-3-319-32801-0