

Importance of Parasitology 12. 1 Introduction: The Goodness of Parasites? Lincicome and his co-workers performed numerous experiments using various protozoan and nematode parasites of rats and mice that are summarised in Lincicome (1971). For example, the rickettsia *Anaplasma phagocytophilum* enhances the survival of its tick vector, *Ixodes scapularis*, by inducing the expression of a gene that codes to produce antifreeze glycoproteins (Neelakanta et al. 2010). Another instance of parasites enhancing the survival of their host is that of worker caste ants of *Temnothorax nylanderi* infected with the larval stage of the tapeworm *Anomotaenia brevis* (Beros et al. 2021). Within this chapter, we will consider some of the ways in which parasites are useful to us. For example, some helminths have potential for the treatment of certain autoimmune diseases whilst blowfly larvae and leeches are commonly employed in biosurgery. The term 'the goodness of parasites' was initially coined by David Lincicome whilst he was Professor of Zoology at Howard University, Washington, DC, USA. Nevertheless, it is increasingly apparent that parasites sometimes prove useful to their hosts and that low parasite burdens may help maintain a healthy immune system. He observed that the parasitised animals often performed better in terms of body weight gain, longevity, and certain physiological parameters than those that were parasite-free. *Anaplasma phagocytophilum* is an intracellular parasite that infects humans, dogs, and various other mammals. Parasites are also potentially useful sources of novel pharmacologically active substances. Parasites have even been implicated in criminal investigations and some workers have seen fit to coin the term 'forensic parasitology'.