Germ free (axenic) animals are individuals reared under specific conditions preventing their contact with surrounding microorganisms. Some of the features observed in these individuals vary from those observed in naturally colonized counterparts. These differences probably reflect the influence of presence of a complex intestinal microbial population in the intestine, which influences important physiological functions of the host body by various mechanisms. Thus, nature of these differences allows to study relationship of the host, vertebrate in this case and its microbiota, which evolved into a complicated system of interactions providing relatively stable coexistence. Germ free research of this relationship is focused on interactions between microbiota and host's immune system, metabolism, morphology of digestive tract and behavior. This thesis provides summary of research outcomes on previously mentioned topics.