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## SIZE OF PARASITIC INSECTS AND HARRISON'S LAW

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Over fifty years have passed since L. Harrison (1915) published the results of his observations on the body size of some *Mallophaga* species and their hosts. It was no earlier than in 1951 that Glay and Timmermann provided further proof for basing the view which Timmermann termed "Harrison's Law". It states that in *Mallophaga* body sizes of species of a genus infesting nearly related birds are roughly proportional to the dimensions of their hosts.

The evidence of this law comprises: a) rough proportionality of the whole body size of a Mallophagan to the size of its host found out in a few species (Harrison, Timmermann); b) similar regularity concerning some parts of the Mallophagan and the host's body (Clay); c) recently, Piotrowski (1967) added the *Anoplura* to this evidence. He examined the dimensions of the bodies of nearly half the genera comprising at least two species, among others *Schizophthirus* with six species *Eulinognathus* with 14 species and *Enderleinellus* infesting *Sciuridae* of the groups *Sciurus* and *Tamias* with 26 species. He found out that the accordance with Harrison's law reflects even the systematic division of the hosts into families.

The causes of the aforementioned regularity are so far unknown. Harrison's law proves itself true for *Phthiraptera* infesting the members of the host families from various continents and oceans all over the world. This rule is evident only with ectoparasites not leaving their hosts' bodies, but so far it failed to confirm itself in *Siphonaptera* even when they lead a fairly stationary life during their imaginal stage (e. g. *Tunga penetrans*, *T. travassosi*, *T. terasma*, *Echidnophaga aranka*, *E. cornuta* — Piotrowski, 1968, unpublished).

All this suggests that the factors regulating the size of the parasitic insect should be looked for in the cooperation of the organism of the parasite with that of the host. However, neither the process of adaptation of the *Phthiraptera* claws to the structure of the hair and feathers, nor the dependence on the density of the host body covering, or possible different body temperatures characteristic for the hosts, occur, in the case of related species, with an intensity justifying the differences observed in the size of parasitic insects. Also, it can hardly be supposed that these factors should act in a direct way. It rather seems probable that the size of a parasite's body is regulated by hormones, much the same as it happens in the organism of the host. What more, the previously presented argumentation seems to clearly point at the host as the source of the compounds indispensable for the regulating of the size of parasitic insects.