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PARASITES EFFECT ON HOST'S BEHAVIOUR
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This report discusses about the behaviors changes of the hosts by the various types of parasites. Parasitic manipulation of host behavior represents a pervasive and ecologically consequential phenomenon. Deconstructing the mechanisms underpinning parasitic control offers valuable perspectives on neurobiological processes, evolutionary trajectories, and the intricate dynamics of host-parasite coevolution. A rigorous examination of these complex interactions is paramount for elucidating the pathways of disease transmission and formulating targeted control strategies.

This report undertakes a synthesis of contemporary understanding concerning the diverse armamentarium of strategies employed by parasites to effect alterations in host behavior. The central focus lies on the neurochemical and molecular mechanisms that mediate these manipulations. By meticulously examining a range of representative examples drawn from disparate parasite-host systems, we seek to discern unifying principles and illuminate the profound complexity inherent in parasitic manipulation.

A wealth of empirical investigations compellingly demonstrates that parasites can exert dominion over host behavior through the direct or indirect modulation of neurochemical signaling cascades. For instance, parasitic helminths have been shown to influence the concentrations of serotonin and dopamine within the neural milieu of crustacean and piscine hosts. Similarly, insect parasitoids, nematomorphs, and the apicomplexan protozoan *Toxoplasma gondii* have been implicated in the induction of substantive changes in host neurochemistry. These perturbations often entail the disruption of intricate communication pathways between the immune and nervous systems, the secretion of bioactive substances that directly modulate neuronal activity via non-genomic mechanisms, or the instigation of widespread genomic and proteomic remodeling within the host brain.

Illustrative examples include the attenuated oviposition rate observed in snails infected with the trematode *Trichobilharzia ocellata*, the suppression of feeding behavior in lepidopteran larvae parasitized by the braconid wasp *Cotesia congregata*, and the behavioral alterations elicited by *Toxoplasma* in murine hosts, culminating in a paradoxical attraction to feline predators. Furthermore, the malarial agent, *Plasmodium falciparum*, orchestrates a sophisticated manipulation of mosquito feeding preferences, while trematodes belonging to the genus *Microphallus* induce alterations in the foraging behavior of gastropod intermediate hosts. Remarkably, larvae of the parasitic wasp *Hymenopimecis argyraphaga* are capable of injecting arachnid hosts with a complex cocktail of neuroactive compounds that precipitates a dramatic shift in web-building behavior.

In summation, parasitic organisms manifest an extraordinary ability to subvert host behavior, wielding a diverse repertoire of manipulative mechanisms that transcend mere morphological modifications. These intricate behavioral transformations are inextricably linked to the propagation of the parasitic life cycle, underscoring the nuanced and multifaceted nature of the interplay between parasites and their hosts. Future research endeavors should prioritize the comprehensive elucidation of the precise molecular and neurobiological pathways engaged in these processes, as well as the identification of the selective pressures that have fostered the evolution and refinement of these remarkable parasitic strategies.