

Why are Humans so Afraid of Insects?

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ABSTRACT

Fear of wild animals have been considered as an evolutionary adaptation for long period, because most of them are potential predators to humans. But less known is whether insects elicit similar fear in humans. In this paper an attempt is made to examine, if fear of insects in humans were similarly justified, that is if the excessive stigma associated with insects and entomophobia were related to the danger insects posed to humans, or not. This hypothesis was tested by examining the human response of fear owing to either disgust or perception of danger; to real pictures of insects. The methodology followed in this study is critical analysis based on theoretical approach and survey by following the tools of questionnaire. Pictures of ten different type of insects were presented to 44 students who categorized each animal into one of the four groups based on the fear they had, fear of being bitten, fear of contamination, fear of infestation and disgust. In this research, systematic method is applied to find out the veracity of facts and their interrelations. Efforts are being made to attain relevant knowledge and to analyse research problem by means of collection, analysis, tabulation and interpretation of data, utilization of interdisciplinary approach by evaluation of behaviour and attitude of individuals by observation and pre-structured questionnaire. Apart from these, primary and secondary sources are utilized for this venture. The objective method has been applied for this perusal in order to expose the work, on a rational basis. The qualitative approach intensifies the nature of the methodology of this study. In sum, the study is analytical, and objective in nature. The results are analysed systematically and scientifically.

KEYWORDS: Fear of Insects, Entomology

INTRODUCTION

Entomophobia is a specific phobia characterized by an excessive or unrealistic fear of one or more classes of insect. The fear is relatively common in the urban setting where coming into contact with an insect is unusual because of the lack of interaction with nature. fear of spiders is the most prevalent form of entomophobia, though spider isn't an insect technically. Other commonly feared bugs include bees, ants, cockroaches and flies such as butterflies and moths. Our disgust with regard to certain arthropods is deeply rooted in our culture and psychology (Lockwood, 2013). Wasps, spiders, cockroaches, fleas, mites and flies are among the most reviled; they are the 'children of filth' (Lynd, 1921); God sends hornets as punishment in three books of the Bible (*New Jerusalem Bible*, Deuteronomy 7:20; Exodus 23:28; Joshua, 24:12). Reasons for our revulsion are likely to have an evolutionary basis: there is strong selection to learn to recognise, avoid and fear organisms that could inflict pain (stings or bites), spread disease, or kill. ¹

People with an irrational fear of insects have relatively limited insight into the irrationality of their fears. Through poor reasoning, myopic attention, selective memory, biased interpretation, resistant convictions, and misperceptions of size, speed and intentions, the entomophobe digs the hole of fear deeper.²

A survey of more than one thousand households revealed that 38 percent of the respondents disliked arthropods in their yards and 84 percent did not want them inside their

homes. ³The general public and farmers were found to view most invertebrates with aversion, anxiety, fear, avoidance, and ignorance. Far more positive and knowledgeable attitudes toward invertebrates and their conservation were observed among scientists and, to a lesser extent, among conservation organization members.⁴ Fear of predatory animals can be explained by evolutionary psychology. The fear of predators was a basic survival skill for our ancient ancestors. Large, powerful or venomous animals, were feared as they could easily overpower humans. But insects are feared for not the same reason as with the case of predator animals. There are several other reasons like, Fear of Contamination, Fear of Being Bitten, Fear of Infestation. Bugs, cockroaches and flies carry disease and hence sufferer is afraid of becoming contaminated. Feeling of disgust to these animals could also be a reason. Disgust is actually an adaptation which helps us to decrease the likelihood of being infected by pathogens. Fear of pain or illness caused by the insect bite is another reason. Bee and wasp stings, ant bites, cause allergies as do other venomous insects. People who worry about their homes or bodies becoming infested with insects are also seen to be entomophobic. However, these thoughts would rather be delusional than part of a phobia.

If we could solve this interesting riddle of a question of why we fear insects tremendously, we might be able to treat the millions of entomophobes and rewrite our perception of insects.

Discussion

Insects are known to destroy crops, cause epidemic. But majority of them are helpful or innocuous. But due to our illogical fears, we show exaggerated responses including

¹ Sumner Seirian, *Why we love bees and hate wasps*, Ecological Entomology Volume43, Issue6(2018) pp.836-845

² Jeffrey Lockwood, *The infested mind: Why humans fear, loathe, and love insects*, Oxford university press, New York, 2013, p.8

³ *Ibid*, pp.15-16

⁴ Kellert SR. Values and perceptions of invertebrates, *Cons. Biol.*, 1993, vol. 7 (pp. 845-855)

poisoning our homes, infesting environment, flipping out when they land on us and throwing away food. Thus, we have surely developed over the years, a dread towards insects which is funny and unreasonable.

According to some sources, 6% of humans actually have this phobia. In a study conducted by Chapman's university, the number of people who feared insects outnumbered the ones who feared becoming the victim of a violent crime, or even dying. So, why are these small harmless (mostly) creatures, so utterly terrifying?⁵

Our feelings of fear against insects are tightly mixed with equal feelings of disgust. Incredibly dangerous wild animals like lions, tigers and bears are feared but at the same time are fondly pictured in cartoons as cute creatures. On the other hand, less dangerous and mostly harmless insects are acknowledged with exaggerated fear and disgust and their representation in cartoons or films are gruesome. This has to do with something called the rejection response. Rejection response is a mechanism designed to keep us safe. Presence of insects over eons have been associated with the threat of sickness itself.

Another reason could be their weird physical forms with too many legs, exoskeleton and buzzy nature, which are drastically different from our own. We dread these creatures so much that often monsters or aliens resemble insects in our imagination. Another interesting reason behind our fear of insects is linked to psychology. We generally fancy clean and hygienic living spaces. The invasion of insects in that space serve as a subconscious reminder of how much unorderedly we are. According to psychologist James Hillman, the family cherished notions of individuality and independence gets threatened by a swarm of insects.

Some studies of Kellert⁶ and Plous⁷ have often highlighted 'similarity to humans' as a factor influencing human attitude towards a species.⁸ Knight highlighted the influence of perceived threat from a species, and also that of neoteny (sometimes referred to as the 'cute effect').⁹ Even if we know that they are harmless, the potent and primal fear is still there welling up inside. This could be an extreme form of disgust based on their exaggerated facial and bodily structures, the way they move, or that they are indicative of disease or death or could be something deeper embedded in our evolutionary history.

Methodology

Over a period of 1 week (February 2019) members of the public consisting of college students were asked to fill in an online survey. Labelled pictures of 10 insects were shown

⁵ B. M. Gerdes Antje, *Spiders are special: fear and disgust evoked by pictures of arthropods*, Evolution and Human Behavior, Volume 30, Issue 1, January 2009, pp. 66-73

⁶ Kellert SR., *The Value of Life: Biological Diversity and Human Society*, 1996 Washington Island Press

⁷ Plous S. Psychological mechanisms in the human use of animals, J. Soc. Issues, 1993, vol. 49 (pp. 11-52)

⁸ Kellert SR. Public perceptions of predators, particularly the Wolf and Coyote, Biol. Cons., 1985, vol. (pp. 167-189)

⁹ Knight AJ. "Bats, snakes and spiders, oh my!" How aesthetic and negativistic attitudes, and other concepts predict support for species protection, J. Environ. Psychol., 2008, vol. 28 pp. 94-103

and the students were asked to describe the fear they had towards that particular insect. The fears were categorised into four; Fear of being bitten, disgust, fear of contamination and fear of infestation. The insects selected were all the common ones; Ant, Bee, Wasp, Butterfly, Centipede, Beetle, Grasshopper, Cockroach, Ladybird, Dragonfly. To ensure uniformity and no bias, the pictures were all of the insects in a white background. The survey was shared via email and social media (WhatsApp) by the author.

Results

Overall, 44 people submitted responses online. Respondents were undergraduates under the age of 20. The potential danger of the chosen insects was analysed and compared with the amount of fear, the insect produced in people.

Serial no.	Insect	Danger Potential	% of fear due to perception of danger	% of fear due to disgust
1	Ant	Average	93.8	6.8
2	Grasshopper	Average	58.3	41.7
3	Wasp	High	100	0
4	Ladybird	Low	56.8	43.2
5	Dragonfly	Low	71	29
6	Beetle	Average	59.5	40.5
7	Bee	High	97.6	2.4
8	Butterfly	Low	72	28
9	Centipede	High	79.1	20.9
10	Cockroach	High (Infestation)	46.5	53.5

The table clearly points out that most people perceive danger in insects even when those insects are harmless. Ants, Dragonflies, Butterflies and Ladybirds have less danger potential. But they are perceived to be dangerous for its disgusting nature and feared for that reason among a good majority of people. Similarly, Cockroach which has high danger potential because of its ability to spread diseases and carry pathogens, are feared immensely among the people, but for the wrong reason. Cockroaches are feared more due to its disgusting nature than for its danger potential.

Conclusion

The results demonstrate that potential harmfulness alone cannot explain why insects are feared so frequently. The results show that we react more intensely to creatures that we find disgusting than we do to animals that may be more fundamentally dangerous. We lack quantitative assessment of the extent to which these stereotypes are upheld by the general public, and an evaluation of why certain are so socially maligned. Perhaps this is an evolutionary response to our ancestors' misunderstandings of disease prevention. Further studies can be done on the comparison between few insects' acceptance among humans.

References

- [1] B. M.Gerdes Antje, *Spiders are special: fear and disgust evoked by pictures of arthropods*, Evolution and Human Behaviour, Volume 30, Issue 1, January 2009
- [2] Kellert SR. , *The Value of Life: Biological Diversity and Human Society*, Washington Island Press, 1996
- [3] Kellert SR. Public perceptions of predators, particularly the Wolf and Coyote, *Biol. Cons.* , 1985, vol. 31
- [4] Kellert SR. Values and perceptions of invertebrates, *Cons. Biol.* , 1993, vol. 7
- [5] Knight AJ. "Bats, snakes and spiders, oh my!" How aesthetic and negativistic attitudes, and other concepts predict support for species protection, *J. Environ. Psychol* , 2008, vol. 28
- [6] Lockwood Jeffrey, *The infested mind: Why humans fear, loathe, and love insects*, Oxford university press, New York, 2013
- [7] Plous S. Psychological mechanisms in the human use of animals, *J. Soc. Issues* , 1993, vol. 49
- [8] Sumner Seirian, *Why we love bees and hate wasps*, *Ecological Entomology* Volume43, Issue6, 2018

