



TERMINAL SEGMENT

Pins, Poisons, and Psychology

John Acorn

Every year, around this time, I introduce my undergraduate students in “Wildlife Biodiversity and Ecology” to the methods and value of insect collecting. They seem fine with field ornithology and mist nets, field mammalogy and tranquilization, and field ichthyology and electrofishing, but when it comes to field entomology and collecting, there are always a few students who feel compelled to inform me that right-thinking people just simply don’t do such things any more.

I suppose just about everyone in entomology has encountered “the collecting debate,” and if you are wondering what possible new take I might be able to come up with here, I don’t blame you. The subject has been discussed *ad nauseum* on any number of entomological listservs, never with any clear resolution. But I do think that there is something we have collectively missed, and that is the possibility that attitudes toward insect collecting have less to do with biology and logic and more to do with predictable psychological propensities—three of them, to be precise: the two-mode theory of learning and cognition, the affect heuristic, and the loss aversion principle.

Cognitive scientists tell us that we possess two distinct modes of thought. One is very rapid and effortless, and it involves recall and valuation. This is the mode that one encounters most often among anti-collectors—they instantly label the entire activity as wrong. The second mode of thought is slow and effortful, and we use it every time we have to sort through a lot of detailed information in order to come up with an overall understanding of a complex subject. This is the mode that is needed in order for anti-collectors to change their minds and see the

value of collecting. They *must* go through a strenuous process of cogitation—quick and dirty arguments simply won’t do the trick. With students, exposed to the arguments for the innocence of collecting (ecological arguments about the difficulty of harming insect populations, and neurobiological arguments for not considering insects the psychological equivalent of birds and mammals), most come to see that the activity is more good than bad, and that insect collectors are not themselves evil people. It takes time, and they experience frequent pangs of doubt, but it does happen. If you need a good guide to the subject, the best summary I know of is Greg Pohl’s (2009) article, in which he makes the important but controversial argument that even insect conservation has more to gain than to lose through the promotion of collecting.

Resistance to collecting is especially puzzling to those of us old enough to remember when it was considered both innocent and wholesome, by everyone from schools to Boy Scouts to 4H. But there was always a bit of suspicion surrounding at least the butterfly collectors, with their habit of hoarding things that are both beautiful and dead. This is where the “affect heuristic” comes in. Heuristics are a type of thinking shortcut, characterized by propensities and rules of thumb. In particular, the affect heuristic is the tendency of the brain to make quick associations and label entire subjects as either good or bad, but never as a subtle mix of the two. The affect heuristic is the “foolish consistency” of Ralph Waldo Emerson that “is the hobgoblin of little minds.” More like *all* minds! Various aspects of insect collecting trigger the “bad” affect for many people, and the whole subject is thereby painted with

badness until and unless steps are taken to guard against it.

Speaking of which, I just finished Peter Laufer’s new book “The Dangerous World of Butterflies: The Startling Subculture of Criminals, Collectors, and Conservationists.” Laufer is a journalist, accustomed to writing about war and politics, who took a break from his usual fare to explore butterflies, hoping for a more peaceful subject but finding it not much of a change. Laufer uncovered quite a bit of human quirkiness in the process of researching this book, but despite his best efforts to remain objective and balanced, there are at least three aspects of butterfly collecting that he seems unable to see as anything other than “weird.” One is insect pins, one is poison gas, and the third is glass cases.

Pins bother a lot of people. They pierce, like a lance or a sword, and not only do they pierce, they also hoist the dead body in perpetual symbolic triumph. How unfortunate for entomology that this unintended symbol is so powerful! I find with students that it helps to actually demonstrate how the pin allows the specimen to be examined without damage under the microscope, and how handy pins are for associating labels with specimens as well. Don’t you think it is significant that we rarely see the same negative feelings expressed toward insects glued to points? It all has to do with the powerful image of a body run through by a shaft, and most newcomers to entomology are actually quite surprised to hear that we don’t actually kill the insect with the pin.

This, of course, brings up the need to discuss poison gas. If the symbolism of pins is bad, killing jars are worse, especially

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when well-known poisons such as cyanide are involved. This is, after all, how some societies put criminals to death, isn't it? The usual entomological response to this predictable revulsion is to offer the knowledge that the method of killing is "humane," but this simply opens up the possibility that it might be possible to kill insects in inhumane ways, which begs the question of whether insects are worthy of ethical concern on a neurobiological level. Sigh.

The third potentially distasteful aspect of insect collecting seems to be "glass cases." Not only do we impale corpses on pins, we display them as trophies—what other reason could there be for the glass? It makes the whole thing feel like a matter of gloating. Again, the counter-argument is obvious to any practicing entomologist—the glass helps distinguish one museum drawer from another, glass *display* cases are actually quite rarely used, and those on a budget store their specimens in opaque, wooden Schmidt boxes. Glass also seems much less offensive when the specimens are small and dull in color. The beauty of butterflies, and many other insects as well, of course, gives the impression that they are trophies when in fact they are not (at least for those engaged in serious study). Would any of this matter if we kept all of our specimens in jars of ethanol?

Assuming you are able to imagine how other people can feel these things (or perhaps you feel them yourself), the affect heuristic makes good sense as a general explanation for anti-collecting sentiment, especially in the face of the mass insecticide perpetuated by our species in the interest of

agriculture, horticulture, public health, and rapid transportation. I should add, however, that motive seems to matter a great deal in this regard. Trophy hunting is seen as an evil motive, while the need for positive identification, identification after the fact, or a return to the original specimen for more information are all more likely to result in support and understanding. Support and understanding, in turn, are both social phenomena, and it does help to work in a community of people who agree with the need for collecting.

Of course, some of you are probably thinking, "no one cares about my kind of collecting—only butterflies and flashy beetles cause controversy." I wouldn't be so sure. It may be that local culture, so to speak, allows collecting in some areas of entomology and not in others (much like hunting is a mainstream part of culture in some parts of North America, and considered barbaric in others) but this is the sort of thing that can change, and change rapidly, for exactly the reasons I am outlining here.

Finally, there is loss aversion. Cognitive scientists have shown that perceived loss is a much stronger motivator than perceived gains, and that this is another predictable pattern in the style of human thought. The result is that even though declines, extirpations, and extinctions due to insect collecting are somewhere between super-rare and nonexistent, it is still close to impossible to convince many of my conservation biology students that insect collecting is something you can do while still being concerned about the environment—you *might* do harm, and this is unacceptable. This is related to the

precautionary principle, which has been controversial for good reason ever since it was proposed.

The end result of all of this is a realization that the reaction against insect collecting is the result of human psychological tendencies, not science. When I reflect on my own position as a collector, conservationist, and entomophile, I see a reasoned and defensible set of beliefs. But I also feel those same automatic doubts that are so much more important to others, and I understand why they see insect collecting as a bad thing. Multiplied over time and over thousands of students, colleagues, and members of the general public, this will have a predictable effect, and the best we can do is to think about it carefully, anticipate anti-collecting, and respectfully lead others through our own deliberations on the subject.

References

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John Acorn lectures at the University of Alberta. He is an entomologist, broadcaster, and writer, and is the author of fifteen books, as well as the host of two television series.