

Comments and Study questions for Dugatkin Chapter 12. Communication

Ethology and Behavioral Ecology
Spring 2008

This chapter is very good for examples and a somewhat alternative way of looking at communication from the one that I will present in class.

1. Notice the slight difference in the definition Dugatkin gives for communication compared to the one that we consider in class. My critique of his definition is – how does one know that information transfer has occurred?
2. Know the "Clever Hans" example and how it was shown that subtle, unintended help was being received by the horse. Also note what Dugatkin says about the likelihood of coevolution of domestic-animal/human communication. Other examples of evolved interspecific communication abound.
3. We will not directly discuss Krebs and Dawkins' model of manipulation – in my opinion it has many useful points but I am one of those who believe that truly cooperative communication is far more common. Nevertheless, be sure you are familiar with their argument and can discuss it. We will talk about it briefly in class.

The remainder of the chapter has to do with a number of types of communication and it has a number of very interesting examples. Please pay close attention to the following:

- a. Chemical and vibrational communication in leaf-cutter ants. Know the basic biology of these ants and the examples of recruitment, leaf selection and minim recruitment. Know how communication was shown in each case (i.e., how was it demonstrated (see #1 above). Also reflect on the stimulus response nature of this communication – it almost reminds one of intracellular signalling. Why might that be the case in this example?
- b. What are play markers and what is their function?
- c. Note the Atlantic salmon system of dominance communication. Why should an invader fish be more likely to be subordinate (we will consider this later in the semester when we consider game theory)?
- d. What do raven yells communicate and what is their function from the point of view of the sender and intended receiver?
- e. The reconciliation section is especially interesting. Note the similarity in chimp reconciliation behavior to that in humans. What does this suggest? Also note reconciliation may not be culturally transmitted.
- f. Know the example of false distress calls in barn swallows – what happens and the significance of the calls.
- g. Read the section on bird calls carefully – you will need to refer to this section when we do our later field project on animal acoustic communication.
- h. I get sick of reading about whale calls – when will these people come up with something interesting?

The Zahavi interview is fascinating and deserves a very close read (yes, he is one of my favorite biologists). Use it to get a better understanding of the handicap principle from the man that announced it.