The Alarm Calls of Barbary Macaques: A New Look

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Upon detection of disturbances in their surroundings, such as the appearance of a dog or a snake, Barbary macaques (Macaca sylvanus) living in the outdoor enclosure of Rocamadour, France, utter series of ‘shrill barks’. In some cases, the majority of group members react by running away or climbing up a tree. In many other instances, however, group members apparently ignore the calls. We conducted a set of playback experiments to identify the factors underlying subjects’ responses. In these experiments, we presented calls (a) given in response to dogs that had elicited escape responses, (b) calls given in response to dogs that had failed to elicit escape responses, (c) calls given to snakes and (d) calls given to the observer approaching the sleeping trees at night. An acoustic analysis of the calls presented in the playback experiments revealed significant differences among calls given to dogs, the observer approaching at night and snakes. However, it failed to detect differences between calls given to dogs in relation to whether or not they had initially elicited escape responses. Correspondingly, after playback of calls given to dogs, we observed no difference in subjects’ responses in relation to whether or not the calls had elicited escape responses in the first place. Subjects responded significantly more strongly to playbacks of calls given to dogs than to calls given to observers. Playbacks of calls to snakes failed to elicit specific responses. Our findings suggest that responses are dependent on the external referent, but that there is no clear-cut relationship between the information available to the listeners and their subsequent responses. This insight forces us to revise current approaches to identifying the meaning of animal signals. We will also discuss the similarities and differences in the alarm call system of other non-human primate species.

MHC Class I Sequences of a Prosimian Species (Microcebus murinus) from Madagascar

(Poster)

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The major histocompatibility complex (MHC) class Ia genes are highly polymorphic and ubiquitiously expressed. They encode membrane proteins capable of binding peptides and presenting them to CD8+ cytotoxic T lymphocytes (CTL). These peptides can be derived either from the host cell or a pathogen. Recognition of pathogen-derived peptides by CTL leads to cell destruction. In contrast, MHC class Ib genes show limited polymorphism, their expression is restricted to certain tissues and peptide presentation function has been shown in only a few cases. In great apes and Old World primates, orthologs of the MHC class Ia genes HLA-A and HLA-B and of class Ib genes HLA-E, HLA-F and HLA-G have been identified. The class Ia genes of New World primates identified are evolutionarily related to either HLA-B or HLA-G.