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Abstracts

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of conflict resolution with various strategies, including consolation. Our data show that post-conflict affiliation towards the aggressor has an appeasement function by decreasing anxiety and arousal in the receiver and reducing the likelihood of an escalation of the aggression. Tonkean macaques mainly affiliated with the aggressors when they occupied low ranking positions. This fact demonstrates that post-conflict affiliation can include an accurate risk evaluation by the bystander. On the other hand, consolation is a phenomenon probably driven by an emotional involvement of the bystander. It works in improving not only the emotional state of the victim (lower self-directed behaviours) but also that of the consoler. Apparently this phenomenon relies on a mirroring emotional variation between the two interacting subjects. The observers not engaging in any post-conflict affiliation experienced the same emotional state as the victim. However, witnessing the consolatory event was not sufficient to reduce self-directed behaviours. This matching-state effect indicates that the bystanders are able to perceive the victim distress and, therefore, to respond with an "empathic" consolatory act.

Keywords: appeasement, consolation, tonkean macaques

14.50 VIBRATIONAL SIGNALS IN *POLISTES* PAPER WASP: DOES SOCIAL PARASITE AMPLIFY HOSTS SIGNALS

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Chemical communication has been traditionally considered the most important communication channel in social insects. Recently, however, substrate borne vibrations (SBV) have been shown to play crucial roles in many insect societies, from termites to paper wasps. Independent founding paper wasps, such as *Polistes* wasps, show conspicuous and frequent behaviours, mainly consisting of body oscillations, that produce SBV through the paper comb. Several functions have been proposed for these vibratory signals, such as adult-brood communication, regulation of dominance hierarchies and, more recently, modulatory effects on caste determination. The social parasite-host system *P. sulcifer*-*P. dominula* is a promising model to start disentangling these many, partially overlapping, adaptive functional hypotheses. The social parasite usurps and maintains control over host colonies especially by an exaggerated physical dominance and, instead of producing workers, it only produces reproductive individuals. Moreover, it shows a particular behaviour, which consists in beating the abdomen against the nest surface (Abdominal drumming, AbD) and which resembles an exaggerated version of the host SBV-producing behaviour (abdominal wagging, AbW). The first main aim of our study is to compare the fundamental spectral and temporal features of the host and the parasite's SBV, recorded with laser vibrometer, in order to evaluate if the parasite's signal is an amplification of the host's one. We then use behavioural observations and playback experiments to investigate the context and the timing of occurrence of both behaviours, in order to understand the potential receiver of these signals. Our results show that both species produce a broad-band spectrum vibrations characterized by a series of pulses and suggest that AbD might be an amplification of the host AbW. Moreover, we demonstrate that AbD is mainly directed toward larvae, which opens the possibility that it might be a way to bias caste fate determination.

Keywords: vibrational signals, social parasite, caste determination