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GIBBON FACIAL MUSCULATURE IN FUNCTIONAL AND EVOLUTIONARY CONTEXTS

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Gibbons are unusual among the hominoids in being almost completely arboreal, practicing brachiation as their major locomotor mode, and they are the only monogamous ape. These stark differences from other apes afford an opportunity to examine the evolution of social behavior and communication in the hominoid lineage. Recent work related to gibbon facial expression behavior has indicated a relatively rich facial display repertoire but little is known about the underlying facial musculature that produces these movements. The present study is designed to assess these muscles in two gibbon species, *Hylobates syndactylus* and *H. muelleri*, in order to 1.) provide an anatomical basis for comparisons to other apes, 2.) generate anatomical data in order to create a Facial Action Coding System (FACS) to use for gibbons, and 3.) build a framework of comparative muscular data for testing hypotheses related to gibbon social behavior and communication relative to other apes. Facial musculature from each specimen (one adult of each species) was dissected away from the skull for gross observation. Preliminary results indicate that the musculature in gibbons differs very little from that of chimpanzees or humans. However, the zygomatic muscle mass in gibbons appears to be relatively reduced and gracile in comparison with chimpanzees and humans. These preliminary results may indicate that these two gibbon species do not use lip corner retraction as intensively as other apes.

Keywords: *Hylobates*, siamang, FACS, anatomy