The functional anatomy of the masticatory muscles of the Malayan pangolin, *Manis javanica*

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Abstract

The masticatory muscles of the Malayan pangolin, *Manis javanica*, were observed in dissection, and relative positions of the cranium and the mandible were examined under soft-X ray photographs. The *M. temporalis* was well-developed in the medial area of the zygomatic process of temporal bone. The *M. masseter* was found to consist of three large well-developed bundles between the zygomatic arch and the mandible. Based on these observations, it is suggested that the thin V-shaped mandible may act as a substantial support in the ventral portion of the oral cavity, and that the *M. masseter* and *M. temporalis* may serve to help fix the shape of mouth, when the pangolin uses the specialized tongue for feeding. We demonstrated that the *M. digastricus* is at least functionally able to depress and open the mandible. In addition, the well-developed *M. mylohyoideus* may contribute to the control of intraoral pressure during mastication.

Key words: digastric muscle, mandible, masseter muscle, pangolin, temporal muscle