

# [Through the eyes of mantis shrimp: an intricate form of visual perception essay](https://assignbuster.com/through-the-eyes-of-mantis-shrimp-an-intricate-form-of-visual-perception-essay/)

[Science](https://assignbuster.com/essay-subjects/science/), [Biology](https://assignbuster.com/essay-subjects/science/biology/)

Through the Eyes of Mantis Shrimp: an intricate form of visual perception Kirsten E. Vogel BIO 218 Tuesday 12-3pm In general, most mantis shrimp are distinguished by the type of claws they possess.

They are either classified as spearers or smashers. The spearers are suited with small, spiky appendages used to stab their prey and pull it in towards the body. On the other hand, the smashers have club-like appendages with pointed tips, which act like hammers to smash their prey. The driving force behind their blow and the speed of the triggered reaction on their prey makes mantis shrimp very unique. “ The rapid succession of high peak forces used by mantis shrimp suggests that they use a potent combination of cavitation forces and extraordinarily high impact forces to fracture shells” (Patek and Caldwell, 2005). This ability grants the stomatopods a great advantage over the prey because of their powerful attack mode and quick response to take action.

Literature Cited: Cronin, T. W. , and J. Marshall. 2001. Parallel Processing and Image Analysis in the Eyes of Mantis Shrimps. Biology Bulletin 200: 177–183.

Cronin, T. W. , Yan, H. Y. , and K. D. Bidle. 1992.

Regional specialization for control of ocular movements in the compound eyes of a stomatopod crustacean. The Journal of Experimental Biology 171: 373-393. Fitzgerald, Kevin F.

2004 Stomatopoda (Mantis Shrimps). The Journal of Experimental Biology 160: 2391-2399. Kleinlogel, S. , and N.

J. Marshall. 2006. Electrophysiological evidence for linear polarization sensitivity in the compound eyes of the stomatopod crustacean Gonodactylus chiragra. The Journal of Experimental Biology 209: 4262-4272. Mazel, C.

H. , Cronin, T. W.

, Caldwell, R. L. , and N. J.

Marshall. 2004. Fluorescent Enhancement of Signaling in a Mantis Shrimp. Science 303: 209-215. Patek, S.

N. , and R. L. Cadwell.

2005. Extreme impact and cavitation forces of a biological hammer: strike forces of the peacock mantis shrimp Odontodactylus scyllarus. The Journal of Experimental Biology 208: 3655-3664.