GABAergic regulation of the cardiac response to visual danger stimuli in the crab *Chasmagnathus*. Localization and structure of the cardiac ganglion.

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Histological and immunohistochemical methods were used to examine the localization of the cardiac ganglion and of γ-aminobutyric acid (GABA) within the cardiac system of the crab *Chasmagnathus granulatus*. Hematoxylin-eosin and Masson's trichrome staining of cardiac tissue facilitated the identification of a distinct region compatible with the cardiac ganglion where a few large neurons could be easily visualized. GABA-like immunoreactivity (GABAi) in this region originates from a single fiber that enters the ganglion giving rise to varicose fibers that surround the somas of large neurons. In addition we investigated the regulation of the cardioinhibitory response before sensory stimulation in the presence of GABA antagonists. The administration of the non-competitive antagonist of GABAA receptors picrotoxin and the competitive antagonist of GABAA receptors bicuculline weakened the heart arrest usually triggered upon the presentation of dangerous visual stimuli. Taken together, these findings support the idea that GABA mediates extrinsic inhibition in this system.