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### Emerging role of Neuropeptide Y (NPY) in anuran adaptation to environmental stress

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Neuropeptide Y (NPY) has recently emerged as a novel peptide to antagonize various behavioral consequences of stress within the mammalian brain. Although the peptide has been localized in the brain of amphibians, its role in stress and anxiety related behavior has not been reported yet. The present study elucidates the possible involvement of NPY in the stress physiology of *Euphylyctus cyanophlyctus*-Indian skipper frog, which undergoes a wide range of stress patterns with the changing environment. When the animals are exposed to stress, the NPY-immunoreactivity undergoes significant amplification and NPY-ir perikarya appear in the pallium, medial septum, preoptic area of telenocephalon; ventromedial, central and posterior thalamic nuclei, suprachiasmatic nucleus, infundibulum and habenularis regions of diencephalon and, anteroventral mesencephalic tegmentum area of mesencephalon. All these regions have been reported to be associated with stress and emotional behaviors of mammals. Thus our results suggest the anti-stress activity of NPY to mediate the responses to hypoxia and mechanical stress in amphibians. Our findings also suggest that NPY might trigger the neuro-endocrine release of various stress hormones to modulate the stress responses in tadpoles.

#### Biography

Bhargava Shobha has completed her PhD at the age of 27 years from Rajasthan University, Jaipur and postdoctoral studies from Nagpur University, Nagpur. She has also done her post doctorate from Senior DAAD German Academic Exchange Fellowship from Germany. Besides, she has worked as a pool officer in University of Pune. She is presently working as an Associate Professor in the University of Pune. She has published more than 20 papers in reputed journals and is a reviewer for some of the reputed journals.

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