

# Comparative morphology of the pars ventralis nucleus of lateral geniculate complex in some prosimian and simian primates

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## SUMMARY

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The progressive elaboration of the sense of vision, which is reflected not only in the perfection of the structural mechanisms of the eye itself, but also in the divergent modifications of the pre-existing neural components and circuits of the visual system in the brain. This concept gave the much needed impetus to study the morphology of the pars ventralis nucleus of lateral geniculate complex in graded series of primates.

The three species of prosimian primates and four species of simian primates were used in this investigation, to make a comparative survey of the external morphology of the pars ventralis nucleus using 2-dimensional and 3-dimensional reconstruction techniques.

Observations were made with reference to general configuration, size, positional relationship, migration and extent of the nucleus in various planes. All the investigations done on pars ventralis were also performed on pars dorsalis nucleus of each species, as the phylogeny of these two nuclei of lateral geniculate complex goes hand in hand.

The study shows that the pars ventralis is the more primitive element and as a dependency of the subthalamus with tectal connections, it becomes progressively superseded by the dominance of the pars dorsalis with its cortical connections. Thus this most important diencephalic centre of vision is destined to be reduced in higher mammals. Whereas the fate of pars dorsalis in the higher mammalian series, is a history of progressive elaboration which proceeds simultaneously with the development of the visual cortex of the cerebrum.

## INTRODUCTION

In man, the thalamus which forms a major part of the diencephalon, contains many nuclei. The lateral geniculate nucleus is one of the important thalamic griseum which serves as a relay station on the visual pathway. It appears as a small swelling of