In ectothermic vertebrates, body segmentation is often linked to final body length. This thesis focuses on the realtionship between final body length, ecological (temperature) and genetic (sex) factors and the count of body vertebrae in the Paroedura geckos, closely focusing on the Paroedura picta species. Individuals of this species were exposed to three different constant rearing temperatures, where they achieved different final sizes. We tested the correlation between the number of presacral vertebrae and final body size and the effect of rearing temperature and sex on the vertebrae number. The data point to high genetic and enviromental canalisation of the vertebrae count. Large conservation in the number of presacral vertebae were found even across the genus Paroedura regardless of the considerable evolutionary changes in body size.