

**SHELL MORPHOMETRY AND RADULAE ANALYSIS OF
FRESHWATER GASTROPOD GENUS *PALUDOMUS***

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Paludomus is the most common genus represented among freshwater gastropods in Sri Lanka. Of the 12 recorded *Paludomus* species, 10 are endemic to the country. Shell morphology is the major taxonomic feature that has been used for their identification. However, the identification of *Paludomus* species using shell features is ambiguous due to shell plasticity and homoplasy. One characteristic that can be reliably used in the systematic identification of gastropods is the radula, unique molluscs feeding structure. Five species of *Paludomus* were identified (*Paludomus chilinoides*, *P. bicinctus*, *P. decussatus*, *P. neritoides*, *P. sulcatus*) using shell morphology from 47 sampling sites spanning the Kandy, Matale and Nuwara Eliya districts. Different shell morphometries, i.e. Shell Height (SH), Shell Width (SW), Aperture Height (AH) and Aperture Width (AW), were measured using a digital Vernier calliper, and shell indices were calculated. A Principal Component Analysis (PCA) was conducted to check whether the species/morphotypes can be distinguished using shell morphometry. Furthermore, the median, lateral and marginal teeth of the dissected radulae were examined using Scanning Electron Microscopy for species characterization. According to the PCA, several of the *Paludomus* species clustered together (*P. chilinoides* and *P. sulcatus* together and *P. bicinctus* and *P. decussatus*), indicating that shell morphometry is not a reliable characteristic for species separation and identification. However, especially the pattern and shape of the cusps of the median teeth in the radulae varied and was unique to each of the species. Hence, the radulae teeth pattern can be used as a reliable character for identifying closely related *Paludomus* species.

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