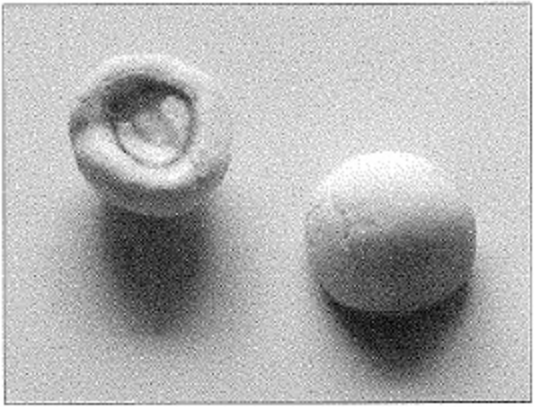
Bush detective

Marron Mushrooms?

These strange objects were collected on the edge of a farm dam near Collie. They are almost 3 cm across, made of chalky material, and shaped like button mushrooms. Alongside them was a decomposed carcass of a marron. Much smaller versions have been seen alongside dams where yabbies were being raised. What is the function of these 'marron mushrooms'?



Many thanks to Steve Newbey for providing this puzzle.

Tony Church, research officer with the Department of Fisheries at Pemberton, has the answer – they are 'gastroliths'. He writes:

"Growth in freshwater crustaceans is confined by the exoskeleton, so in order to increase in size, freshwater crayfish must moult (shed their outside shell). Coming up to a moult stage crayfish tend to cease to feed and activity decreases, with the crayfish moving into shallow water where there is less water pressure. Initially calcium is withdrawn from the exoskeleton and stored in the gastroliths (situated in the head region), which helps to increase flexibility and thin the exoskeleton. After the exoskeleton is shed the gastroliths drop into the crayfish's foregut where they are gradually broken down to allow absorption of the calcium for the new shell. The crustaceans also eat the discarded shell to gain the extra calcium required for their new shell.

Rapid hardening of the new shell is important in limiting vulnerability to cannibalism. Before the new shell underneath hardens, the crayfish swells by drinking water which is then replaced by flesh growth. The crayfish feeds heavily after moulting and later in its growth cycle it prepares a new shell prior to going through the moult process again. Often freshly moulted crustaceans on the waters' edge are mistaken for dead animals due to the fact that the whole exoskeleton is shed, including the legs, claws and whiskers."