

TERRITORIALITY IN *PACHYTRITON BREVIPES*

PATRICK J. WISNIEWSKI

Amphibian Breeding Centre, 38 Hesketh Road, Burscough, Lancs.

During 1986, large numbers of the aquatic urodele *Pachytriton brevipes* were imported into Britain from China under the rather ambiguous names of 'water salamander' or 'giant fire-bellied newt'. Many enthusiasts encountered problems in keeping these animals alive as they are, essentially, a cool mountain stream species, similar to *Euproctus asper* in general appearance, having a flattened head and body, though unlike *Euproctus* the skin is very smooth and slimy and the limbs short.

The coloration is unusually variable, the upperparts being either wholly brownish black or dark brown sometimes with gold spots or occasionally banded gold and mid-brown. The ventral surface is yellow through to brick red or pale blue with irregular darker markings. The tail is long, wide and paddle-shaped, being at its widest near the end. Its colour is also variable, sometimes having red on the underside while the sides are mottled or freckled, occasionally bearing large, pale blue spots. The differences between the sexes are difficult to detect.

My own specimens are housed in large tanks with 10cm depth of water and large numbers of rocks under which the animals spend part of the day, though they do occasionally leave the water. One interesting feature of their behaviour is tail-waving, the animals bending their tails around and gently waving them against the sides of their bodies. This behaviour may be sexual but is exhibited by all animals and it also lacks the vigour of the tail-fanning performed by, for example, the male Smooth Newt, *Triturus vulgaris* in sexual display.

Tail waving may serve to increase the flow of water over the body, thus ensuring a good supply of oxygenated water. This may be important when the animal is lurking beneath rocks where the environment might become stagnant, tail-waving serving much the same function as pulsating the body as seen in certain tube-dwelling marine worms.

Since tail-waving is also performed in open water it may serve another function, that of signalling territory in much the same way as a male Fiddler Crab announces his territory by waving his enlarged claw. Certainly the animals appear to space themselves out into territories, usually centred upon a large half-submerged rock, within the tank. Further evidence of territoriality is the attack response elicited by another animal approaching a tail-waver near to its 'favourite' rock. The occupant lunges at the newcomer grabbing and biting at the base of the latter's tail often holding on for several seconds and occasionally tearing the skin.

It is interesting to note that *Paramesotriton caudomaculatus*, another Chinese newt in which territorial behaviour has been noted, has a similar paddle-shaped tail.