

THE CARE AND BREEDING OF THE COMMON BRITISH REPTILES AND AMPHIBIANS — PART IV THE PALMATE NEWT (*TRITURUS HELVETICUS*)

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INTRODUCTION

Although first identified as a separate species by the Swiss naturalist, Razoumowski in 1787, the Palmate Newt (*Triturus helveticus*) was not recognised as a distinct species in Britain until 1843 when it was identified by Bell after its discovery by a Mr. Baker near Bridgewater in Somerset. However, even as late as 1863 the authorities at the British Museum were of the opinion that "the Palmated Newt of Mr. Bell" was "merely a variety of the smooth newt" (Wood, 1865).

The males of the two species are quite distinct but the females are admittedly very similar in size and appearance; juveniles are virtually indistinguishable. Palmate Newts are more aquatic than smooth newts and I have found that in close confinement they remain in the water for most of the year.

DESCRIPTION, HABITAT AND DISTRIBUTION

The Palmate Newt is Britain's smallest amphibian, up to 9cm including the tail; females are marginally larger than males. The skin is smooth in texture and the head is shorter and slightly more rounded than that of *T. vulgaris*.

The basic colouration is olive or light brown above, frequently with small spots which sometimes form two distinct lines along the back, especially in females. The underside is pale yellow with a central yellow or light orange stripe; there may be small spots present but the throat is almost always immaculate.

Males in breeding dress have a very low smooth-edged dorsal crest. It is well developed on the upper and lower edges of the tail, being truncated and ending in a dark filament. The hind feet are dark and conspicuously webbed. The head and body are sprinkled with dark markings and there is a central orange band on the sides of tail bordered by two rows of large spots.

The Palmate Newt will breed in large or small volumes of still or running water, but appears to favour clear and acid water. It is often found in hilly or wooded country at altitudes up to 2500 metres. But these are not preferred habitats as it is equally at home in lowland areas down to sea level, being tolerant of brackish water. It is more of a rural dweller than *T. vulgaris* or *T. cristatus*.

Its distribution is confined to Western Europe and it is found only in West Germany, Belgium, Holland, France, Switzerland and Northern Spain. In Britain it is most plentiful in the North, West and South-West, but is absent from Ireland and very rare or absent altogether from the whole of East Anglia and Lincolnshire.

CARE IN CAPTIVITY

I first obtained a female and two males from a pond containing large numbers of breeding adults while on holiday during May 1982. The female laid eggs whilst in transit and continued to do so after being placed in its new home, an all-glass aquarium measuring 90cm x 30cm x 38cm. The tank contained water to a depth of 15cm, with an island consisting of a pantile placed on top of suitably sized stones. A thin layer of peat/sand mixture was spread in the trough of the pantile which was then planted with sphagnum moss and a couple of maidenhair ferns. Finally, a few pieces of bark were added for the newts to hide under should they wish to. A sheet of glass was kept over the top of the tank to prevent escape and also to provide a humid atmosphere which newts enjoy.

I discovered that water milfoil, willowmoss and Canadian pondweed were favoured sites for egg-laying by the female newt. These eggs were similar in size and colouration to those of the smooth newt as was the courtship procedure preceding egg laying which I discussed at length in the previous article.

The female continued laying eggs until mid-June when she became noticeably thinner and lighter in colouration. None of the three newts showed any desire to leave the water permanently at this time although they could often be seen at night sitting on the island. During August and September they would spend most of the time on land but by October they were back in the water again, hardly leaving it at all.

Meanwhile, the eggs, having been removed from the original tank to prevent the adults eating them on infusoria, graduating to *Cyclops*, *Daphnia* and bloodworms as they grew larger. newly hatched larvae were really minute, no more than about 8mm long. I started by feeding them on infusoria, graduating to *Cyclops Daphnia* and bloodworms as they grew larger.

By late August the first tadpoles were leaving the water, having grown to a total length of 25mm. I put a few in a vivarium, releasing the remainder in the garden in the hope that they would survive to be the pioneers of a breeding colony.

I placed a layer of peat and sand mixture on the floor of the vivarium to a depth of about 4cm, carefully planting turves of grass and moss on the surface. Whiteworms were introduced which multiplied in the soil providing natural prey for the newtlets. They were also fed on aphids plus a multitude of small creatures caught by hedge or grass beating.

Towards the end of November I brought their vivarium indoors (it had been kept in a shady part of the garden away from direct sunlight) in an unheated room where they were occasionally hand-fed on whiteworms and baby mealworms. The following spring I released these young newts in the garden; their sizes varied between 30mm and 35mm.

The adults were overwintered in an outhouse, where they spent the entire winter in the water. The males had developed full breeding attire before December was out and were first observed engaging in courtship display during mid February. Actual egg-laying commenced late in March lasting until the last week of June.

Feeding posed no problems through the winter months: *Daphnia* and *Tubifex* were introduced into the tank at regular intervals. During milder spells the newts would feed quite voraciously on these. In fact, I found they remained active even when the water was barely above freezing but ceased showing interest in food at temperatures below 2°. At no stage of the winter did they become completely inactive.

It would appear, therefore, that an aquatic set-up is satisfactory for Palmate Newts as they leave the water for only a short period in late summer, being happy underwater for the remainder of the year. They will readily breed in confinement; an individual female can lay up to 450 eggs each year of which a considerable number can be reared for subsequent release. I have liberated large numbers of youngsters in my garden since 1983 and have also received several more adult pairs from BHS members, most of which I placed in my large outdoor enclosure where I also have *T. vulgaris* and *T. cristatus*. Every year during late summer I collect all the newly metamorphosed newts I can find in the enclosure for release in the garden.

CONCLUSION

The Palmate Newt is an ideal species to keep, thriving in captivity and proving very easy to breed in confinement. The eggs and larvae have a high survival rate as do the young newts. The adults will live and breed in the garden where they happily co-exist with smooth or crested newts.

In my next article I will discuss our most widespread and common British reptiles, the Viviparous Lizard (*Lacerta vivipara*).

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CORRECTION TO BULLETIN 13

The third paragraph on Page 22, Bulletin 13 (D. Billings, The Care and Breeding of the Common British Reptiles and Amphibians — Part IV, The Palmate Newt, *Triturus helveticus*) should have read:—

“Meanwhile, the eggs, having been removed from the original tank to prevent the adults eating them, were developing well and began to hatch approximately four weeks after being laid. The newly hatched tadpoles were really minute, no more than 8mm long. I started by feeding them on infusoria, graduating to cyclops, daphnia and bloodworms as they grew larger.”