

THE PAINTED FROG “IZ-ZRING”

After the long summer drought come the first rains which herald the beginning of the wet season. As the cisterns, reservoirs and watercourses of our Islands begin to fill up, the frog, familiar to all Maltese as “Iz-Zring”, makes its appearance and all through winter the adults may be found hopping about wherever water collects, and any permanent or semi-permanent body of water will contain the young stages of the frog – the tadpoles, known in Maltese as “Marzebb”.

There is only one species of frog on our Islands, the Painted Frog, known to science as *Discoglossus pictus*. Although a familiar creature, not a great deal is known about the frog locally. The Painted Frog is a Mediterranean species which, apart from the Maltese Islands, is also found in Sicily, in the Pyrénées Orientales of Southern France and in the Iberian Peninsula. In Northern Africa it is found in Morocco, Algeria and Tunisia. In the Maltese Islands it is found on Malta and Gozo but it has not been reported from Comino and the smaller islets. The Painted Frog was first noted to live in the Maltese Islands in 1870 by Surgeon Andrew Leith Adams who was stationed here with the 23rd Foot Regiment around that time. Subsequent to Adams' report

numerous European and Maltese writers have mentioned the occurrence of this animal on our Islands in their works.

From a scientific point of view, the Painted Frog is an interesting animal indeed and it is actually quite surprising that it is able to live in the Maltese Islands at all. To understand this, one must look at the biology of frogs in general. Frogs, together with toads, newts, salamanders and their kin form a group known to biologists as the Amphibia. Amphibians were the first vertebrates (animals with a backbone) to have colonized the land and are thought to have been descended directly from fish. Modern amphibians retain many traces of their aquatic ancestry particularly in their reproduction. Thus, fertilization of the eggs takes place outside the body in the water and the eggs are not protected by a shell as are those of reptiles and birds. Most amphibians also have rather fish-like larval stages, the tadpoles. All this means one thing, amphibians need water in which to reproduce. While some amphibians, particularly toads, have managed to reduce their water requirements to the barest minimum and consequently are able to live in dry places, the Painted Frog, which is rather primitive, is not one of these.

The Painted Frog – *Discoglossus pictus* – Malta's only amphibian



The Maltese Islands have a dearth of freshwater and particularly year-round open bodies of it, yet the Painted Frog appears to thrive here – how does it manage this?

The answer is that the life-cycle of our frog population is geared to the particular climatic conditions of our Islands. During the summer drought the adult frogs seek hiding places under leaf-litter and rubble, deep in cracks, in soil, and anywhere else where it is shady and possibly more humid than the outside. Here, the animals enter a state of quiescence during which they do not feed and are dormant. This is called aestivation (“summer sleep”). With the coming of the rains in autumn the animals become active, emerge from their hiding places and start feeding and breeding. If the winter is a mild one, frogs probably continue to be active and breed throughout the wet season but if the winter is cold, then the animals again seek deep hiding places and spend the colder periods in a state of semi-dormancy until the coming of spring when there is a final burst of breeding activity before the summer.

Breeding takes place in any freshwater which is available: reservoirs, cisterns, watercourses, temporary pools, roadside ditches, and in such unlikely places as the deeper rainwater puddles and in cart-ruts! This ability to make use of all but the most transient of freshwater bodies, and the very rapid development of the larvae, is another reason why the Painted Frog is so successful on our Islands. Breeding males are immediately recognizable by the black pads of rough skin on the fingers of the fore-legs. These nuptial pads are also present on the chin and belly and are used by the males to grasp the females during mating. The female frog lays from 300 to 1,000 small eggs which are often plastered in a single layer on the bottom. After about three days these hatch into small tadpoles which develop rapidly. The whole cycle from egg to juvenile frog usually takes between two and three months, but may be as short as 40 days.

At first the tadpoles feed on microscopic aquatic vegetation but towards the end of their larval life they start taking animal food such as insects. The adult frogs feed mainly on insects and worms but they have also been known to take geckoes and occasionally their own young. In turn frogs are themselves hunted and eaten by snakes, hedgehogs, weasels and birds.

Although the Painted Frog is well adapted to live under local conditions and is by no means a rare animal, a note of caution must be sounded. Over the years the Maltese countryside has been diminishing and this has adversely affected the frog population. A greater danger, however, is the indiscriminate capture and killing of large numbers of frogs and even larger numbers of tadpoles for no apparent



Chadwick's Reservoir where frogs occur in large numbers



Typical habitat of the Painted Frog – a shallow weed-choked pool

reason. A popular winter-time activity seems to be frog-hunts by parties of children armed with dipnets and jam jars. This practice must be discouraged if the sole amphibian to be found on our Islands, the Painted Frog, “Iż-Żring”, is to survive.

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FURTHER READING

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