

DITCHFIELD'S LITTLE WONDER BOOKS No 23



POPULAR PETS

For
ALL AGES

TWENTY
ILLUSTRATIONS

Including
MICE
CAVIES
RABBITS
SQUIRRELS
HEDGEHOGS
TORTOISES
LIZARDS
NEWTS
GRASS SNAKES
SALAMANDERS
FROGS & TOADS
ETC.

TORTOISES AND OTHER REPTILES



Including
Lizards.
Newts. Frogs.
Toads & Salamanders.

**DITCHFIELD'S
LITTLE**



**WONDER
BOOKS**

TO PET LOVERS

AND SPORTSMEN

In placing these little books on the market at such a very low price, our greatest difficulty is not to persuade the reader to buy his or her second or third book, but only the first. The price is the trouble—it is difficult to believe such marvellous value is possible, but there's only one thing cheap about these books and that is the price.

Dear reader, we want you to know that every book in this series of 31 Little Wonder Books is produced by pet lovers or sportsmen, from the manuscripts to the dealer who hands you this book, every one is interested in sports or pets.

The authors, the artists and the printers are all pet lovers or sportsmen. The books are sold by pet or pet supply stores, seedsmen, fishing tackle dealers and booksellers. Do you wonder they are so good?

Absolutely no expense has been spared to place on the market books containing the most thorough and reliable information—and given in a concise and straightforward manner, they are a joy to read. Printed in clear type on good paper, simply and neatly bound by wirestitching instead of elaborate binding, we are able to offer a little book that can not be even equalled at several times the price of this one. Tell your friends about them and obtain your supplies from your local dealer—he will be glad to get you any book on the list when he orders next time.

Printed and Published in Great Britain by Ditchfield's
British Books Ltd., Dunkirk Lane, Leyland, Lancs.

Copyright in All Countries.

TORTOISES AND TERRAPINS

Please Note: —
No. 13 Book, Tortoises, etc., is now out of print, but the whole book, every word and every picture, IS given in THIS Book, only in smaller type. This new book completely covers. **POPULAR PETS** general management of both land and water tortoises (terrapins), their food, housing and hibernation.

DITCHFIELD'S LITTLE WONDER BOOKS No. 23

POPULAR PETS

For ALL AGES

TWENTY ILLUSTRATIONS

Including

MICE

CAVIES

RABBITS

SQUIRRELS

HEDGEHOGS

TORTOISES

LIZARDS







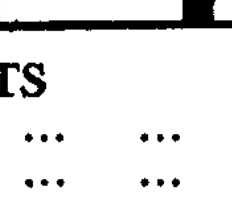
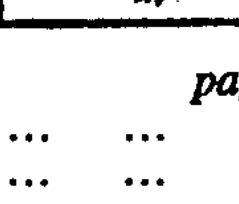
NEWTs

GRASS SNAKES

SALAMANDERS

FROGS & TOADS

ETC.

CONTENTS

	<i>page</i>
Rabbits	5
Cavies	7
Mice and Rats	7
Reptiles, General Management	12
Tortoises	17
Lizards	21
Snakes	23
Newts and Salamanders	23
Frogs and Toads	29

Printed and Published in Great Britain by
DITCHFIELD'S BRITISH BOOKS LTD.
 DUNKIRK LANE — LEYLAND — LANCs.

INTRODUCTION

The first thing for the young would-be pet keeper to remember is that to manage any animal successfully you must be prepared to devote a regular amount of your spare time to its comfort and well-being. Pet keeping is the most interesting of all hobbies, but it is not one which can be enjoyed just at the whim of the owner. An animal under your care is entirely dependent on you for its existence. You have it in your power to make its life a happy one or an existence of misery if you neglect it.

Most boys and girls are natural animal lovers, and the care of pets is a great help in the formation of characters, bringing out, as it does, a sense of responsibility, attention to detail, kindness and care for others.

Many parents discourage their children's quite natural desire to keep pets, imagining that animals necessarily mean smelly hutches and dirt everywhere. It is up to the children themselves to disprove this by looking after their charges in such a way that their presence is never noticed by other members of the household. Remember that not all people have perhaps the same enthusiasm for your pair of white mice as you have. Therefore give other people some consideration, and aim to care for your pets so well that they will become a source of pleasure and interest to all who see them.

A healthy, well-fed creature with a glossy coat or perfect plumage reflects great credit on its owner. It is the outcome of his own personal efforts, and is something of which to be proud; just as a neglected pet is something of which to be ashamed.

If your parents are against your keeping a pet, suggest to them that they allow you to give it a trial, on condition that you promise to get rid of it if it causes any unpleas-

antness. Then, if permission is given, it is up to you. Don't, whatever you do, buy an animal or bird in a burst of enthusiasm only to tire of it after a few days or weeks, and leave the burden of looking after it to someone else. That way lies trouble and possibly suffering to the pet. If you get tired of it, give it away at once to someone who wants it and is prepared to look after it properly.

Most of the animals touched on in this booklet are more fully dealt with in others of the same series. The main idea of this one is to give young people some idea of the sort of pets they can keep, with some general notes on management, feeding and housing. Then, if they become sufficiently interested in a certain species or variety, they are recommended to purchase one of the excellent books of this series, specialising in their own particular choice, which will give them further information.

GENERAL MANAGEMENT

Whatever sort of animal you decide to make a pet of there are certain broad principles of management which apply in every case. The particular type of accommodation and food required by each kind will be given under the appropriate chapters.

The need for cleanliness cannot be over-stressed. Clean out all hutches and cages as often as you can — daily if possible. The only exception to this is when a female animal has young ones. Then her nesting quarters should be left alone. Most animals lick themselves clean, while birds bathe in water. In certain cases, like bantams, they dust themselves in sand, but the more often a bird can bathe, whether in water or sand, the better will be the condition of its plumage. This applies particularly where a bird is kept indoors and therefore cannot get the rain on its plumage — a thing which most birds like to do, by the way.

The handling of pets is an important point. Correct handling is the surest way to gain an animal's confidence. Always be gentle and slow in your movements, when picking it up. Never grab it suddenly, or squeeze it when you have hold of it. In the case of a wild or nervous specimen, gentle stroking with the fingers before actually picking it up, allowing it to see and smell your hand first, will go a long way to make the job easier. Confidence in yourself will impart confidence to the animal in the same way that you can transmit nervousness or fear to it. Birds should never be handled except for a specific reason, like transferring them from one cage to another. By all means encourage them to perch on your finger or shoulder, but actual handling ruffles and breaks their feathers unless done by an expert. Scaly reptiles, like snakes and lizards, can be handled as much as animals and soon get to know the touch of their owner's hand, but "wet" reptiles, like frogs and salamanders, don't like the feel of a hot human hand so are best touched as little as possible.

The same remarks apply to fish, which, of course, should never be touched. When transferring them from one tank to another a net should always be used — never the fingers, which destroy the protective covering they have on their bodies.

Your fondness for your pets should be practical rather than sentimental. You will always find that a practical livestock fancier keeps his charges in far better health and condition, and therefore far happier, than the sentimentalist, who professes to love his pets but is too lazy to regulate their feeding and management properly.

In a book of this size, little can be said about diseases. If pets are looked after properly, disease should not come their way. Signs of health are liveliness, bright eyes, glossy coats and plumage, and an air of general well-being. In the case of sick animals and birds, warmth is the greatest sin-

gle factor which will help towards recovery. Place the patient in a cage near a fire or radiator where the temperature can be maintained at about 75 deg. F. for an animal, and 85 deg. F. for a bird and very often it will get well of its own accord.

Syrup of buckthorn in the drinking water will help to cure constipation. Castor oil given in bread and milk (a food most animals and birds love) will often get rid of diarrhoea.

EVERY PET NEEDS FRESH WATER FOR DRINKING CONSTANTLY AVAILABLE. ALL MAMMALS, BIRDS AND REPTILES DRINK AT SOME TIME OR OTHER. DO NOT BE MISLED BY THOSE WHO TELL YOU THAT THIS IS NOT SO.

ANIMALS

Rabbits

Almost every boy or girl keeps rabbits at some time or other. If you want to get the best out of a pet rabbit don't keep it permanently shut up in its hutch. Allow it out in the garden for a run sometimes, provided your garden is fenced in, and you will be surprised how amusing and intelligent a rabbit can become.



Always give it as large a hutch as you possibly can. Rabbits are naturally active animals, and it is cruel to keep them permanently cooped up in small boxes scarcely large enough for them to move round in, and is so often done. If you cannot let your rabbit loose in the garden, try and make a moveable wire-netting run which can be put on the lawn. The rabbit or rabbits can be placed in

this on dry days, and will take exercise as well as feed themselves on the grass, incidentally helping to keep it down short for you. Hutches should be of wood, with part of the front of wire netting and part of it closed in with wood, thus providing the occupant with shelter from wet and cold. In the case of breeding does, this closed-in part should be divided off from the rest of the hutch by means of a partition, leaving just an entrance hole for her to pass in and out. Hutches kept out-of-doors should be covered with tarred felt, or some similar waterproof material. Rabbits can stand cold, but not damp. Hutches should be cleaned out at least twice a week, or even daily if you have time. Rabbits are the cleanest of animals and will not smell if their quarters are kept sweet and clean. Use sawdust for floor covering and hay or straw for bedding.

Rabbits should be fed morning and evening. **CLEAN DRINKING WATER SHOULD ALWAYS BE BEFORE THEM.** Each meal should consist of some wet food and some dry. Wet food consists of mashes, made of boiled vegetables dried off with bran and middlings, bread and milk, greens of all kinds, like cabbage, lettuce, dandelion, grass, clover, carrot tops, etc., and root vegetables like carrots, turnips, swedes and mangolds. Never give green food which is not absolutely fresh. Dry food consists of hay, bran, middlings, oats and corn of all kinds, dry bread crusts, or biscuits, or any of the proprietary brands of rabbit foods.

Males are called bucks and females are known as does.

Young rabbits are born blind and naked and should not be looked at until they begin to run about.

To pick up a rabbit: with one hand grasp the loose skin on the shoulders and place the other hand under the tail to support its weight.

Cavies



Cavies or guinea pigs are too well known to need description. They should be treated and fed almost exactly like rabbits, but, being smaller animals, they can live happily in smaller hutches, although, here again, the more room they can have for exercise the better they will thrive. They are happier when kept several together. Do not place more than one full-grown male in a hutch or they will fight, but a male and several females will get along splendidly.

Males are called boars and females are known as sows.

They should always have fresh, clean water to drink.

Even more than rabbits, cavies are liable to chills from dampness, so always make sure that their quarters are absolutely dry.

On fine, sunny days, they benefit from exercise on the grass in a moveable wire netting run and will save you the trouble of gathering green food for them.

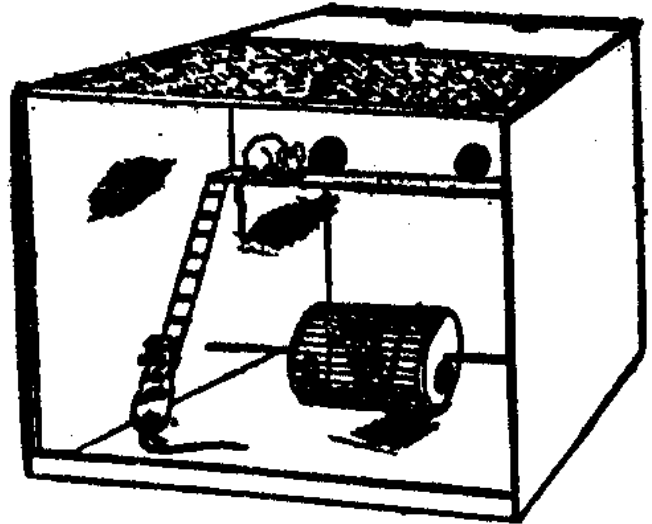
Young guinea pigs are born perfect little miniatures of their parents, and begin to run about and nibble solid food within about 24 hours.

Fancy Mice and Rats

These, being small creatures, are easily accommodated in almost any handy-sized wooden box with a glass or wire front. About one foot square does for mice and two feet

square for rats. If glass is used, part of the roof should be of perforated zinc or wire gauze to allow for ventilation.

There are some excellent mice and rat cages on sale at most pet shops, but the little cages with a revolving wheel, sold for mice are too small. Be sure that all cage doors fasten securely, because although tame specimens can be allowed out when their owner is there to watch them, if they escape when nobody is about they will disappear and join up with wild rats and mice.



Rats are more enterprising than mice and even more cunning at escaping, so watch for signs of their trying to gnaw their way out and cover any such spots with strips of zinc or other metal sheeting.

Do not pick the animals up by the tip of the tail and let them dangle or they may bite. Grasp them gently round the body and steady them in the palm of the hand by holding the tail near the root. With rats in particular, gently stroke the animals before picking them up.

Use sawdust as floor covering, and hay, wood-wool or straw for bedding. Cages must be cleaned as often as possible if you wish to avoid any unpleasant smell.

Fancy mice and rats will eat practically any household scraps except meat or animal fat. Bread and milk, biscuit, dry bread crusts, scrapings from milk pudding dishes, and all sorts of corn and bird seed are excellent foods. Feed

morning and evening, or you can leave dry food like seed or dog biscuits always before them and feed once a day on some moist food like bread and milk. Always leave fresh water before them for drinking purposes.

Do not keep more than one buck in the same cage or they will fight. Several does and a buck will agree all right.

When the babies are born do not disturb the nest until they are seen running about, which they will do at four weeks old.

Squirrels

Although these are much larger animals than doormice, their feeding and management in many ways is the same. Naturally their cages must be a great deal larger, and, being very active animals, they require plenty of space. Minimum dimensions for a squirrel cage should be four feet long, two feet wide and three feet high, but one larger will be made full use of. Several branches should be fixed about the cage for your pet to jump and run about on. A nest box about nine inches square should be up in one top corner.

Use hay or straw for bedding and sawdust for floor covering.

Food consists of grain and nuts of all kinds with fruit such as apple or cherries or any wild berries like hips and haws and blackberries and, of course, constant clean drinking water.

There are two kinds of British squirrel—the red and the grey. Both make excellent pets if caught young. Tame

specimens are very intelligent and amusing. They may be allowed out in a room and will soon learn to come on your shoulder for a nut.

The Grey Squirrel requires a Ministry of Agriculture permit to keep as it is now classed as a pest.

Unless reared as babies squirrels usually bite a lot.

Hedgehogs

These make interesting pets and quickly become used to their owner. When you first acquire a hedgehog, dust him liberally with insect powder as they nearly always have fleas, which can easily be got rid



of in this way. At first, whenever you pick him up he will probably roll into a prickly ball, but after a time, if you are gentle with him, he will cease to do this and allow his prickles to lie flat, almost like fur, so that you can pick him up and nurse him just like any other animal. When he has reached this stage you can allow him out for walks in the garden where he will find insects and other things to eat, but don't let him out of your sight or he will assuredly disappear. Hedgehogs are great burrowers and will tunnel their way under a fence in no time.

A hutch for a hedgehog should be about three feet long, eighteen inches wide and twelve inches high, with a sleeping box nine inches square in one corner.

Hedgehogs are insectivorous and meat eating animals so their diet should consist of any creepy crawly things you can produce — beetles, caterpillars, snails, worms, dead mice and sparrows. They love bread and milk and raw butcher's meat cut up small, as well as rabbit and chicken heads or giblets.

Hay, straw or wood-wool make good bedding materials and sawdust or peat moss litter should cover the floor of the hedgehogs cage. Always give plenty of fresh drinking water.

TORTOISES AND OTHER REPTILES

The very mention of the word, "Reptile," has an unpleasant ring in the ears of the average person. It conjures up a vision of some loathsome creature to be avoided at any cost. But this prejudice is entirely without any foundation at all.

Reptiles are the cleanest of all animals; they do not carry fleas, nor do they have any smell. So, we say to parents, when your children evince a desire to keep reptile pets, let them do so. There is no better way for young people to learn the wonders of nature than to keep as pets some of the harmless and attractive members of the great family of reptiles.

Reptiles have the advantage as pets that they are cheap to buy and can be kept for practically no expenditure at all. Some of them will not come to grief if they receive no food for days on end, for fasting is natural to many reptiles. This does not mean, of course, that children should be encouraged to neglect their charges. The object of this little book is to guide those who have no knowledge of reptiles in the right way to maintain in health and comfort the more commonly kept species.

GENERAL MAINTENANCE

Before purchasing reptiles or amphibians of any kind one must have somewhere suitable to keep them. This sim-

ple truth is very frequently overlooked, particularly by younger enthusiasts, who eagerly purchase some fascinating creature from a pet shop without having the least idea of where to keep it.

As a consequence, the reptile is given an unsuitable home and probably pines away in a short space of time. This is unsatisfactory from the point of view of both the unfortunate reptile and its well-meaning but uninitiated owner!

The various reptiles and amphibians (Frogs and Toads, etc., are called amphibians, as they live on land and in water) are quite hardy and can live out of doors all the year, but it is only safe to do this with temperate species. They need only suitable accommodation for hibernating in winter. Others are delicate, and have to be kept indoors or in a warmed greenhouse during the colder months.

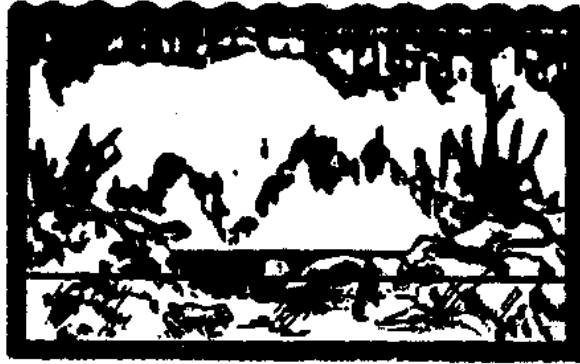
The various reptiles and amphibians differ so much in their habits and natural environment that if you are going to keep a collection of different kinds, you cannot hope to house them in the same type of vivarium. A vivarium is the term given to the place of whatever kind, in which reptiles are kept in captivity.

Some of your pets may be of the climbing type, while others will be unable to scramble up a short slope without as many setbacks as King Bruce's famous spider. Some sorts will only take live food; some only feed at night. Certain kinds want dry conditions—as Lizards; others, like Newts and Frogs, want dry land and water as well. A few, like the Axolotyl, live entirely in the water.

All these things have to be considered when setting up a vivarium.

HOUSING

Glass-fronted vivariums for reptiles and amphibians are of many designs, and for those who want to keep a few small species these are ideal. Those commonly sold in pet stores are made of metal, with a glass front, and perforated zinc for free cir-



ulation of air. There are a number of designs, but the most popular is shaped like a school writing desk, with a lid of glass. The glass fronts usually lift out for easy cleaning.

When larger vivariums are required—and the larger the better for active reptiles—these may be constructed from wooden boxes from the local grocer. The actual design can be simple or elaborate. But the main requirements are a strong bottom, glass to allow plenty of light, and perforated zinc or gauze to admit air.

The whole of the inside of the vivarium should be painted with cellulose enamel. The floor covering should consist of a layer of sand. This should be covered with dry sphagnum moss—as sold by florists—if the vivarium is to contain reptiles. Pine needles or even dry leaves can also be used for floor coverings.

A most popular type of vivarium, and one which looks most natural and attractive, is one constructed like the old-fashioned fern case, and arranged with growing plants. Such a fernery and reptile abode combined is easily made and, if well arranged, certain reptiles and amphibians will live contentedly therein throughout the year.

The bottom of such a case should be lined with a sheet of zinc, or else be heavily coated with pitch. A small pipe for drainage is an advantage, or several small holes can be

bored underneath and the structure supported on short legs, a dish being placed underneath to catch excess water.

Good ventilation is necessary. The best plan is to have a piece of glass which slides over the perforated zinc, so that the supply of air can be regulated.

Before planting the ferns, cover the bottom about 2in. deep with coarse cinders, pieces of coke, pebbles or stone broken up to about the size of a walnut. On this foundation, which forms the drainage system, lay either a sheet of perforated zinc cut to fit inside the case, or a layer of moss or bulb mould. The object of this covering is to prevent the mould being washed away when watering the plants.

Ferns will not flourish in any sort of earth. It is wise to purchase specially prepared mould for fern-growing from a horticultural supplier. You can, however, make a good substitute by mixing equal parts of loam, leaf-mould and sand.

There is a large variety of ferns suitable for the vivarium. Here are a few to choose from: The Maidenhair (*Adiantum*), the Spleenwort group (*Asplenium*), the Hare's Foot Ferns (*Davallia*), the Boss Ferns (*Lastrea*), and the Hart's Tongues (*Scolopodium*). Even more attractive kinds are the Filmy Ferns (*Hymenophyllum*), which are especially suitable for growing in vivariums, as they like a close, moist atmosphere. Ferns can be bought from leading horticulturists.

Many reptiles and amphibians will not live happily in the damp fern vivarium. So for these a drier type of vivarium will be needed, and there are quite a few plants which will grow in this. In a large, well-lighted vivarium you could plant the Houseleek (*Sempervivium*), which looks like a flattish Cactus, London Pride or any other rockery Saxifrage, or the Stonecrops (*Sedum*). One of the best species of plants for a reptile vivarium is the Spiderwort (*Aradescantia*), which will grow easily almost anywhere.

With tree-frequenting species, such as Tree Snake, Tree Frogs, Chameleons, etc., such plants as Fuchsias, Geran-

iums and Myrtles, with woody stems, should be grown in pots and stood in the vivarium.

Planted vivariums must, of course, have plenty of light, and the best place to stand them is in a glass-roofed conservatory or greenhouse. Be careful, however, that the sun does not strike directly on the glass for any length of time as the rays are contracted by the glass and the inside of the vivarium will become much too hot for the inmates.

Apart from plants, the vivarium should have a small pie-dish sunk in the mould to the rim and filled regularly with fresh water for drinking purposes. Many creatures like a nook to hide in at times. A small wooden box with a hole in its side, like a miniature dog kennel, is ideal for the purpose, and lighter than natural rocks. If desired, it can be disguised with cement and stones as a small rockery.

Outdoor vivariums are very popular nowadays. These can consist simply of suitable positions wired in with netting. Such is ideal for tortoises. If it is desired to keep some amphibians in a garden lily pond, a strip of $\frac{1}{2}$ in. wire netting about 18 in. high must be buried and staked all round the pond. But, of course, small amphibians will squeeze through this.

A more elaborate plan is to build a small wall about 2 ft. high around the rockery. The top of the wall should consist of breeze blocks, as sold for paving, and they should overlap on both sides, thus preventing reptiles getting out, or rats, etc., getting in. Such an enclosed rockery must have a small pool, or better still, a moat all round, so that the rockery is virtually an island.

An old greenhouse can be easily converted into an ideal home for reptiles. It will be necessary to divide it up into sections and make each section escape-proof. The roof should be painted, or partly painted over in summer with whitewash, to avoid direct sun in hot weather. Some reptiles, such as Green Tree Frogs, can be kept in a greenhouse in ordinary use. But cover over the water tank in

case any creatures get drowned in it. Most creatures in a good-sized greenhouse will find much of their own feed, and some may even breed under such conditions. See that they have access to drinking water at all times.

FOOD

As a general rule, most amphibians and some lizards, will only eat live food, such as insects and their larvae, worms, slugs, etc. The particular feeding of individuals is dealt with under the separate species, but the general subject of food may be broadly dealt with here.

Mealworms are the main standby and can be bred, but it is a slow business. The larvae may take up to three years to pupate, so the rotation is slow. Most mealworms sold over here are bred on the Continent as a long term policy on a big scale and can be purchased from Pet Shops.

The worms change to pupae and do not move at this stage. Then the beetles hatch out and are very active, so see that the lid is on firmly. The beetles mate and the females lay their eggs. For this purpose, put a layer of old sacking on top of the meal mixture. The eggs are laid between the folds of the sacking. It is best to put the pupae in a separate box, and keep your breeding stock separate. Only the worms are any use for feeding your pets.

Gentles are the maggots of the blowfly, and they can be purchased from dealers in anglers' requirements, as they are used as live bait. They can be bred by hanging up a fish-head in an old meat safe or some such place, and a box of fine sawdust put underneath to catch the maggots. If a few bluebottles are put in the cage they will breed quickly enough in summer. Insects of various kinds, white butterflies, moths, chrysalises, etc., found in the garden are useful, but do not give those small red worms found in manure heaps, as they are said to be poisonous to reptiles.

TORTOISES

Tortoises are the most popular of reptile pets, particularly with young people. They are easily kept, hardy and long-lived. There are two types, the ordinary Land or Iberian Tortoise and the Terrapin. This latter is the Water Tortoise or Pond Tortoise of pet dealers.

Tortoises of all kinds are ranked among the most highly intelligent of reptiles, in spite of their slow-going habits. They quickly learn to recognise their owner, and have keen eyesight, though their hearing is usually very poor indeed.

The Iberian Tortoise

This is the ordinary Tortoise sold by pet dealers, with the familiar yellowish shell, blotched with brownish. We must make it clear at the outset that the Tortoise is a strict vegetarian; he definitely will **not** clear the garden of slugs or any other insects. There is nothing a Tortoise enjoys better than a nice row of juicy young lettuces!



However, this one unfortunate element in the Tortoise's character need not deter anyone from keeping it as a pet. But you must make arrangements for its accommodation in the garden, so that it cannot get at vegetable seedlings. Tortoises are much better kept out of doors, as they are more lively and interesting under open-air conditions.

In a flower garden, provided it is small and has no openings from which it could escape, a Tortoise can do no harm. If there is a small lawn from which it can forage, it will live happily enough.

The chief objection to keeping a Tortoise loose in the garden is that sooner or later it is likely to disappear. In any case, it will have to be caught up and confined towards the autumn, or it will bury itself for hibernation and may

not be seen again. The best plan is to enclose a small corner of the garden with a fence of wire-netting. A cool greenhouse makes an excellent home for a Tortoise.

Tortoises are heavy feeders, and must be fed on lettuce, cabbage leaves, dandelions and sow thistle, tomatoes, chickweed, and so on. Do not overlook water; a shallow dish or saucer of this must always be accessible.

It is not a good plan to keep a solitary Tortoise, for these creatures are sociable in disposition. It is much better to have two, a true pair being ideal. Their sex may be determined by inspecting the breastplate; that of the male being concave, and that of the female flat. A pair is much more likely to remain loose in the garden than a solitary one, which would be anxious to wander away in spring.

The Land Tortoise is purely a diurnal creature, unlike the Water Tortoise, which is most active at night. When kept loose in the garden, a Tortoise should be fed at the same spot every day, and it will soon get into the habit of coming there regularly for meals.

Where a pair is kept it is no uncommon thing for the female to lay eggs; always in a hole about five inches deep, scraped in loose soil with her powerful forefeet. After laying her clutch, she carefully covers them and then levels the topsoil so neatly that it is practically impossible to find the "nest," unless she has been watched. In North Africa, where the Tortoise is found wild, the heat of the sun is sufficient to incubate the eggs, but this is not the case in this country.

If you wish to hatch the eggs as an experiment, remove them very carefully indeed, keeping them the same way up as they were laid and re-bury them in exactly the same position in some fine damp sand. This should be placed in a garden frame or greenhouse, where a temperature of about 80 degrees can be maintained during the day. Unless it is a cold, sunless summer the eggs should hatch any time from four to eight weeks.

The young Tortoises should be kept in a vivarium or fern case, with a saucer of water sunk in one corner. They should not be removed from the greenhouse or frame until they have got into the way of feeding regularly, and then they must be hardened off by leaving the lights open by day and bringing them into a conservatory or indoors at night. Their only food should be young, tender lettuce or dandelion leaves. Do not give bread and milk.

The baby Tortoises are pretty little creatures, with soft shells like putty, about the size of a ten-penny piece.

In winter, Tortoises hibernate. This they do by burying themselves in the ground. But ordinary garden soil is too cold and too hard for these creatures, so it is best to lodge your Tortoise in more suitable winter quarters.

The earliest signs of approaching hibernation are sluggishness, torpidity and refusing to eat. The best plan is to then store the Tortoise in a box of friable earth, leaf and sand mixture. A garden frame containing a heap of leaf-mould would make a satisfactory dormitory if covered with sacking from November onwards, to exclude frost. A popular way of hibernating a Tortoise is to put it in a box of soil in a shed, garage or cellar, and this is satisfactory as a rule. No food or water is needed during the winter sleep, though it must be given as soon as the creature wakes up in early spring.

The Tortoise must be either hibernated in proper cold conditions or else kept in a warm place and fed through the winter. It must not be kept where it becomes warm by day and then very cold at night. A Tortoise thus kept maintains a state of semi-torpidity and soon falls sick and usually dies.

There is a lot of misinformation as to the age which Tortoises reach. The ordinary Garden Tortoise rarely exceeds twenty years of life under normal conditions. The only way to age a Tortoise is to keep it, or from records.

The Water Tortoise or Terrapin

Terrapins are really first-class pets, and are fascinating little creatures. In a natural state Terrapins grow about eight inches long, but specimens sold in this country are rarely more than three to four inches long. The colour of the shell is dark brown or blackish, and is ornamented with yellow dots and streaks. The effect is rather pleasing when the reptile is viewed from above the water, but the colours are dull when the Terrapin has dried itself in the sun.

The Terrapin is a much more active creature than the Land Tortoise, and is inclined to be rather shy when first purchased. However, it soon becomes reconciled to captivity, and is then a lively and interesting pet. It is active mostly at night, and in the daytime spends much of its time basking in the sun out of water.



Although Terrapins are very aquatic and only feed on floating or live aquatic food, they do not like being in the water all the time, and small specimens kept in an aquarium will need a cork raft, or even a floating piece of wood upon which they can climb when so disposed.

Perhaps the best place for Terrapins is a garden pond with an island in the middle. There must be a wire-netting guard round the pond, or the reptiles will stray and perhaps get lost. In the garden pond of good size a few small Terrapins will find a good deal of natural food in summer. But if kept in a tub, or tiny pool, or in an aquarium, they will have to be fed regularly.

The best food for Terrapins is minute scraps of meat—cat's meat will do—or small earthworms. Small fish and tadpoles are the Terrapin's natural food, so you must not put them in a pond if you want to breed goldfish in it. The Terrapins will not hurt grown-up goldfish, however.

There are several species of Terrapin to be had from

time to time, but all need the same treatment, and most of them are hardy enough to hibernate in the mud at the bottom of an outdoor pond.

LIZARDS

Lizards are most fascinating creatures to keep, being quick and lively in their movements, and often most beautiful in colouration. Some are curiously ornamented with frills, spines or warts, and all of them are perfectly harmless. They should be kept in a dry vivarium, and fed on insect fare—flies, gentles, small mealworms, smooth caterpillars, etc. Most Lizards are very fond of spiders, and you can often tame a Lizard by offering these as a special treat.

The Common Lizard

This well-known Lizard is variable in colour, usually olive brown above, with a dark line, sometimes broken in places, down the back. Underneath, it is orange spotted with black in the male, plain greyish in the female.

You will find this extremely lively little Lizard on dry furzy heaths and commons, where it can sometimes be secured with a small net, but you must move quickly! It does not lay eggs, but produces live young. When these are produced in captivity they will have to be fed on fruit flies if you want to rear them. These are those tiny flies which fly around rotten fruit in autumn. They can be bred by enclosing a number of them in jam jars with a supply of over-ripe fruit and a crust of stale bread. Cover the jars with fine gauze or butter muslin. The young Lizards number from three to six, and are active as soon as they are born.

The Green Lizard

This is a lovely Lizard, common in the Channel Isles, but not indigenous to this country. It reaches about a foot in length



and is bright green above and yellow below. The males have a blue patch on the throat and are usually larger and of stouter build than the females.

In a wild state this lively creature feeds very largely on grasshoppers and as many of these insects should be given as possible in captivity. Unfortunately, this beautiful Lizard does not live long in the close confines of a vivarium. But it is hardy and does well in an outdoor reptiliary. It will eat most insects as well as earthworms and is harmless even with smaller companions. It lays from eight to eleven eggs in June and these take a month to hatch.

The Wall Lizard

In general appearance this attractive Lizard is between the two above-mentioned species. Though variable, as are most Lizards, the usual colour is grey with black markings. In the breeding season the male is more attractive, having green marks on the flanks.

It gets its name from its habit of climbing up the sides of walls and rocks and is an excellent subject for properly enclosed rockery or tall vivarium. Treatment is the same as for other Lizards. Two other Lizards belonging to the same group are the Sand Lizard, a native of Britain, and the Eyed Lizard. The first is not very easy to keep in a vivarium, but does well outdoors, while the latter is a large, attractive Lizard which is hardy and an excellent kind to keep.

The Slow-Worm

The Slow-Worm, or Blind Worm, is a legless variety of Lizard which can be often caught on sunny banks during a country ramble, or purchased cheaply in pet stores. Incidentally, it is difficult to catch a Slow-Worm unharmed, as if you catch hold of it by the tail it simply breaks in two! This habit is common of most Lizards when wild, though they no longer do it when tame. The broken off piece goes on wriggling for quite a while, and the original owner grows a new tail in due course.

The Slow-Worm is a very hardy reptile, making its appearance in spring long before other snakes and Lizards have awakened from hibernation. The young are born in June and July, and are often produced in captivity. They are best reared by keeping them among freshly gathered spagnum moss, which usually contains sufficient minute creatures for their needs.

The adult Slow-Worm feeds almost exclusively on slugs, the white kinds being preferred. In cold weather they bury themselves in the mould, but are active at the slightest warmth. They are not particularly exciting creatures to keep but live a good time under captive conditions.

The Glass Snake (really a large slow-worm from S.E. Europe) is a Lizard growing to more than 3ft. They are easy to keep in a large vivarium and are hardy out of doors. They should be fed on slugs and earthworms, and the vivarium for them should not be too dry, as they like mossy hedge-bank in a state of nature.

SNAKES



All species of snakes sold by dealers to the general public are of the harmless variety. Many snakes protrude their tongues and vibrate it quickly, but this is no indication at all of the poisonous properties; the tongue is perfectly harmless. Our own Viper is a poisonous snake, and very vicious, and cannot be recommended as a pet. It is readily distinguishable by the black zig-zag band down the back. On the other hand there are a number of snakes to be had which make very fascinating pets. **In no case is it necessary to offer Snakes living food.**

The Grass Snake

This is the largest and best known of British Snakes, growing up to 3ft. in length. It is an attractive reptile, being greenish in colour. Behind the head is a yellow collar, bordered behind with black.

The Grass Snake is perfectly harmless, and though wild specimens will hiss and strike out furiously with the head they never bite. Their natural means of defence is to emit an evil-smelling fluid, but they never do this when tame.

Few reptiles become tame so quickly as does the Grass Snake. It will, in time, allow itself to be handled freely without showing any annoyance, and will often crawl up the arm or sleeve, and curl up like a contented cat.

In the vivarium, they should be given a large shallow dish of water, as Grass Snakes are very thirsty creatures for Snakes. The best diet is small, dead frogs. It is best to feed only once a week, allowing as many carcasses as the reptile will consume in the course of a day and a night. But a month's fast is not unusual for any Snake, and will do no harm.

Periodically, the skin is shed—this takes place with all species of snakes—and this is drawn off, being turned inside-out in the process. In some Snakes this takes place every few weeks. Just before "sloughing" as the process is called, takes place, the eyes seem whitish and blind. No food should be given at this time, but be sure the snake can get right into water, as this softens the skin and helps in its detachment.

The Grass Snake does not produce young like the Viper, but lays soft, shell-less eggs. The baby snakes hatch out in autumn and feed on insects and worms. They cannot swim—as adults can do so well—at this stage, and do not eat frogs until several weeks old. In winter Grass Snakes often hibernate in large companies, young and old huddling together in a hole.

Several Continental species of Snakes are sometimes to be had. One of the best known is the Æsculpiian Snake, which does fairly well in the vivarium, and is a very handsome reptile. It is best fed on mice. The smooth Snake is found in England, but is very rare. It is a very handsome Snake, steel grey in ground colour, with parallel rows of blotchings on the back. It rarely exceeds two feet in length. It may bite when wild, but is not poisonous. In the vivarium it quickly becomes tame. It is highly intelligent and can be taught to eat from the hand of its owner.

NEWTS AND SALAMANDERS

We now come to the large order of creatures called Amphibians. These are non-scaly, soft-bodied reptiles which depend for the greater part of their existence on the presence of water. Of them, the Newts are among the most graceful and interesting. They must have access to water and land. A shallow aquarium with a bank upon which they can climb makes an ideal home for indoors, though a pond with an island in the garden is infinitely to be preferred. If kept in an aquarium a sheet of perforated zinc or a similar cover is necessary, as Newts are good at climbing. With regard to food, all kinds of Newts will eat small aquatic insects, bloodworms, small earthworms and young tadpoles.

The Common Newt

This is too well known to need any description and can be obtained in most ponds. It is not a particularly good subject for the vivarium, having the disadvantage of leaving the water for the greater part of the year, and is then rather troublesome to manage being very secretive in its habits.



Several times during the year Newts shed their skins, either entirely or in pieces. These casts are very pretty objects when shed completely, but are very frail. The skin begins to break away at the mouth, and that of the paws is drawn off like a glove, every finger being perfect, even to the little wrinkles on the palms.

The Crested Newt

This is one of the largest and most attractive Newts, and is found in Britain, though the Continental race is the best to keep, it being almost totally aquatic.

The Crested Newt is olive brown marked with black spots above; below it is golden yellow spotted with black. In spring the male puts on a special dress, a high saw-edged crest appears along the head and back, the top of the head becomes strikingly marbled with black and white, the belly becomes deeper orange and a blue band appears on the tail.

The breeding season commences in April, and these Newts will breed readily in a large aquarium or garden pond. Unless removed to safe quarters, however, the young will be eaten.

The female lays their eggs on water plants, especially *vallisneria*, and after laying an egg the Newt twists a leaf round the egg to hide it. The Newt tadpoles grow quickly on hatching.

The Alpine Newt

This is a great favourite, being the least offensive in disposition of the family. It is small and very pretty, rarely growing more than four inches long. It is easily distinguished by the rich orange colour of its under parts, which are without any markings.

The colour is very variable, and you can often select quite a number of these Newts in a dealer's shop, no two of which show quite the same shade. In the prettiest specimens the back shade is dark purplish grey, with

black mottlings; others incline more towards brown tones, the markings then being more conspicuous. There are often white dots on the flanks. The eyes are golden yellow.

In the breeding season the male develops a low, smooth-edged crest, extending from the nape to the tail. The crest is yellowish with black vertical bars and spots. It lives in the mountains of Central Europe.

The Salamander

The Spotted Salamander is one of the most popular of amphibians, and with its striking black and orange colouration, it could not be mistaken for any other creature. In general appearance it is somewhat like a Newt, but without any form of crest. Unlike Newts, however, Salamanders, when adult, are entirely terrestrial, though they prefer damp, mossy spots, where they hide under stones by day. They like cool situations, and avoid the sunshine. At night they are most often active.



Salamanders will live for a long time in a vivarium, provided they have plenty of shade and moisture. They feed on worms, small snails, slugs and beetles. In a natural state Salamanders often consume a lot of

food during wet weather, and fast for weeks when hot, dry periods set in.

When about to give birth, the female Salamander lies half in the water, as if taking a hip-bath. The young are born at night and may number anything from less than a dozen to fifty or so. The baby Salamanders are active on birth and begin to feed at once on both animal and vegetable matter. The young remain in the water for about six months before they are able to live on the land.

Certain precautions are necessary in keeping Salamanders. They want damp soil and moss in their vivarium, and must have a pile of stones, or pieces of virgin rock under which they can hide. Overcrowding must be guarded against, as they have a habit of cramming into a nook or cranny together and as a result become diseased.

The Axolotyl



The Axolotyl

This strange creature is really an immature Salamander which breeds in the larval form. It is a sort of Peter Pan which refuses to grow up, but remains an infant all its life.

It is an ugly creature, like a giant tadpole, measuring, when full grown, about seven inches in length. It has a huge head, small brown eyes, a heavily finned tail, dorsal fin and four legs. On the nape are external, branched gills.

The Axolotyl is very easily kept in an aquarium, and is very hardy, even having bred in an outdoor pond. Without the opportunity to leave the water it can be kept indefinitely in the Axolotyl state, as it only becomes a Salamander if the water supply very slowly dries up. It will live in an aquarium and breed quite freely even in a small tank.

If you wish to breed these creatures keep a pair in a tank of plain water—no weeds. Then in summer transfer them to a tank properly planted with aquatic plants, when the female will spawn. Remove the eggs from the reach of the parent Axolotyls or they will eat them.

Axolotyls are easy to cater for and will feed readily on tadpoles, worms, small fish and even meat scraps.

FROGS AND TOADS

Frogs and Toads are ideal subjects for a damp vivarium, and they can also be very successfully kept in a greenhouse or conservatory. Most young people like to rear their own from tadpoles. The tadpoles



or spawn should be put in a tank with plenty of water-weed (anacharis, etc.), as this will form the chief food of very young tadpoles. As they grow, however, they become more carnivorous in diet, and should then be supplied with small earthworms, chopped up, or white worms sold for fish food.

When the tadpoles have grown four legs and the tail has almost disappeared, they should be transferred to the water trough of the vivarium, or placed where the froglets can get out of the water. They should be fed on green cabbage caterpillars, greenfly, small mealworms (preferably when they have just moulted and are soft-skinned), and any other small garden insects.

The Edible Frog

The common frog is so well known we need not mention it here. The present species, which is found in a few localities wild in this country, is far more suitable to keep. While the Common Frog almost always wanders away when put in a garden pond, the Edible Frog does not stray more than a couple of jumps from water. Furthermore, it is harmless to goldfish and not a noisy croaker.

This is the largest and most attractively coloured of European Frogs, and is bright green, with a few dark spots and a pale yellow line down its back.

A garden pond is the best place for Edible Frogs. Here they are hardy, and quickly become tame enough to accept

worms from the hand. To tame Frogs like this you must be patient at first, and always move with slow deliberation; never make a jerky movement, which frightens them because it is unexpected and they are apt to consider discretion the better part of valour and take a header into the pond!

In winter, Edible Frogs hibernate in mud at the bottom of the pond.

Tree Frogs

Few amphibians are more fascinating than these lovely little Frogs, which have the ability to cling on to grass or the larger leaves of plants, having disc-like fingers and toes. They are not so intelligent as other kinds of Frogs, but have a sense of locality. But they are so pretty and dainty, as well as being very easy to keep, that they are general favourites.

They will live in a vivarium, but are best kept at liberty in a conservatory or greenhouse. In such a place they do no harm and kill off many insects. Live insects form their food and they do not readily take to eating mealworms. They are long-lived, sometimes surviving twenty years or so in captivity.

The species mostly offered for sale is the European Tree Frog, which is found most commonly in South Europe. It is rarely more than two inches in length, and a lovely grass green colour. It can, however, change its colour to match its surroundings. There is a valuable variety in which the green is replaced by blue.

Tree Frogs spend most of their time in trees, and at liberty is mostly found among maize plants. They leap on butterflies and other insects with amazing agility. The prey is eaten at leisure, wings and all being packed into the mouth with the assistance of the little hands.

Pairing takes place in the spring, and the eggs are laid in the water. The baby Tree Frogs leave the tadpole stage in three months, when they are about half-an-inch long.

The Common Toad

Toads make delightful pets, and are best kept as liberty pets in the garden, or in a greenhouse. A Toad should be given some place as a home, such as a large flower-pot stood on its side, or a little rock cave made of several rockery stones piled together.

Being highly intelligent, a Toad will soon learn to come to its owner for food, if fed at regular hours. Garden worms are a suitable fare, and they should be placed on a shallow dish sunk to earth level, so that they cannot bury themselves in the soil.

Toads differ from Frogs in having dry skins, and in walking rather than hopping. They are much more sluggish creatures and mostly active at night. They shed their skins at times and eat them.

The Green Toad, from South Europe, is sometimes to be had from pet stores, and is an active species of light green colour, with chocolate brown markings.

The Fire Toad

This is a really attractive Toad, rarely growing more than a couple of inches in length. The colour above is olive, but below the ground colour is blue-black, spashed with rich vermilion. It is very aquatic and active by day. It likes to rest near the surface of the water with limbs widely spread, only the nose and eyes rising above the surface. When frightened, it dives and remains concealed until the danger is past. The food is the usual fare—flies and mealworms, aquatic insects, etc.

The fiery colours on this little Toad are an example of what naturalists call "warning colours." They indicate that the creature is poisonous if eaten by birds, etc. On account of the poisonous secretions in their skin, no other creatures—even snakes—will touch the Fire Toads, and they can be safely included in a mixed collection.

Though largely aquatic, Fire Toads do not always want to be in the water. A fairly deep dish of water sunk to the

rim should be placed in their vivarium. The soil should be peaty and covered with damp moss. This arrangement is suitable for all kinds of Frogs and Toads.

In the young stages the brilliant colours of the chest and underparts are missing. These characteristic hues do not begin to make their appearance until the young toads are about a year old. They do not reach their full intensity until the Toads are three years old. During winter Fire Toads creep away under rocks and stones out of the influence of frost and snow, and sleep until early spring.

Fire Toads spawn any time from the end of May until July, and is laid as separate eggs or in small groups attached to the leaves or stems of water plants. The tadpoles hatch out in a week or so, according to the temperature of the water. They feed on water plants at first, but soon take insect food. The tadpoles form complete Toads by the autumn.

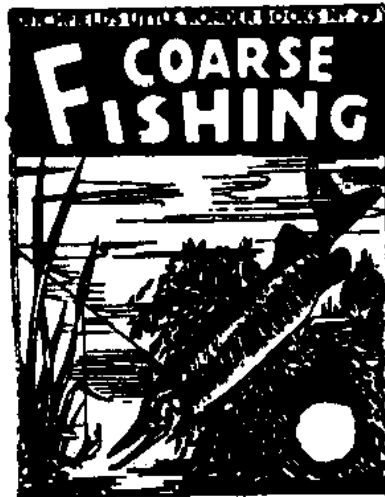
Midwife Toad

Though small in size and quite sombrely coloured, this Toad has remarkable breeding habits, and is well worth a place in any vivarium.

The male takes charge of the eggs, carrying them about with his hind legs, which are thrust through the strings of eggs and twisted about his limbs. In the day time he remains hidden, but at night he comes out to hunt for food, little troubling about his burden. So that the precious eggs may not dry up, frequent visits are made to damp places. Finally, when the eggs are ready to hatch, he makes for the pond, where the tadpoles are liberated. They continue their development in the same way as other species.

The Midwife Toad is very hardy and makes an excellent pet for the outdoor vivarium. It takes all sorts of insect food, together with small worms, mealworms, and the like. It is sometimes possible to get this interesting little Toad to breed, and the most likely place is when kept in a cool greenhouse.

DITCHFIELD'S PET, GARDEN AND SPORT BOOKS



DITCHFIELD'S FAMOUS PET BOOKS

32 Pages Many illustrations

- No. 1 **The Canary.** For Breeding, Song, Exhibition, Ailments
2 **The Budgerigar.** Making Finger Tame, Talking, Breeding
3 **Garden Pool Construction.** Nothing like it at any price
4 **Stocking the Garden Pool.** Don't miss this book
5 **Your Dog.** Completely new book. No advertisements
6 **Fishing for All Ages.** An excellent book for Boys
7 **Tame Mice and Rats.** The finest little book in Britain
8 **Rabbit Keeping for Profit.** Feeding and Breeding
9 **The Cat.** Nothing like it at any price
10 **Chicken Rearing and Hatching.** Naturally or artificially
11 **Poultry Keeping for Beginners.** Still our Best Seller
12 **Keeping Ducks and Geese.** For Eggs and Table
13 **Cold Water Aquarium (new book).** See 23 for Tortoises
14 **Foreign Birds.** Over 50 varieties in this book
15 **Goldfish.** Kept in Glass Bowl or Aquarium
16 **Pigeon Keeping and Racing.** For all Pigeon Lovers
17 **Pigs and Goats.** Two complete books for the price of one
18 **Parrots, Cockatoos, Parrakeets, Macaws, etc.**
19 **Parrakeets, Love-birds, etc.**
20 **Bantams.** For Care and Management
21 **British Birds.** Their Care and Management
22 **Pet Rabbits and Cavies.** A book for Boys and Girls
23 **Tortoises and other popular Pets.** 15 illustrations
24 **Tropical Aquarium for Beginners.** 33 illustrations
25 **How to Grow Your Own Vegetables.** 25 illustrations
26 **How to Grow Flowers.** A lovely book. 20 illustrations
27 **Tropical Fish Keeping.** 32 illustrations. A winner
28 **The Golden Hamster.** Breeding, Housing, Exhibiting
29 **Coarse Fishing.** A Man's Book. Many illustrations
30 **Sea Fishing.** Angling from Beach, Boat or Pier
31 **An Approach to Beekeeping**
-

Printed and Published in Great Britain by
Ditchfield's British Books Ltd., Dunkirk Lane, Leyland, Lancs.