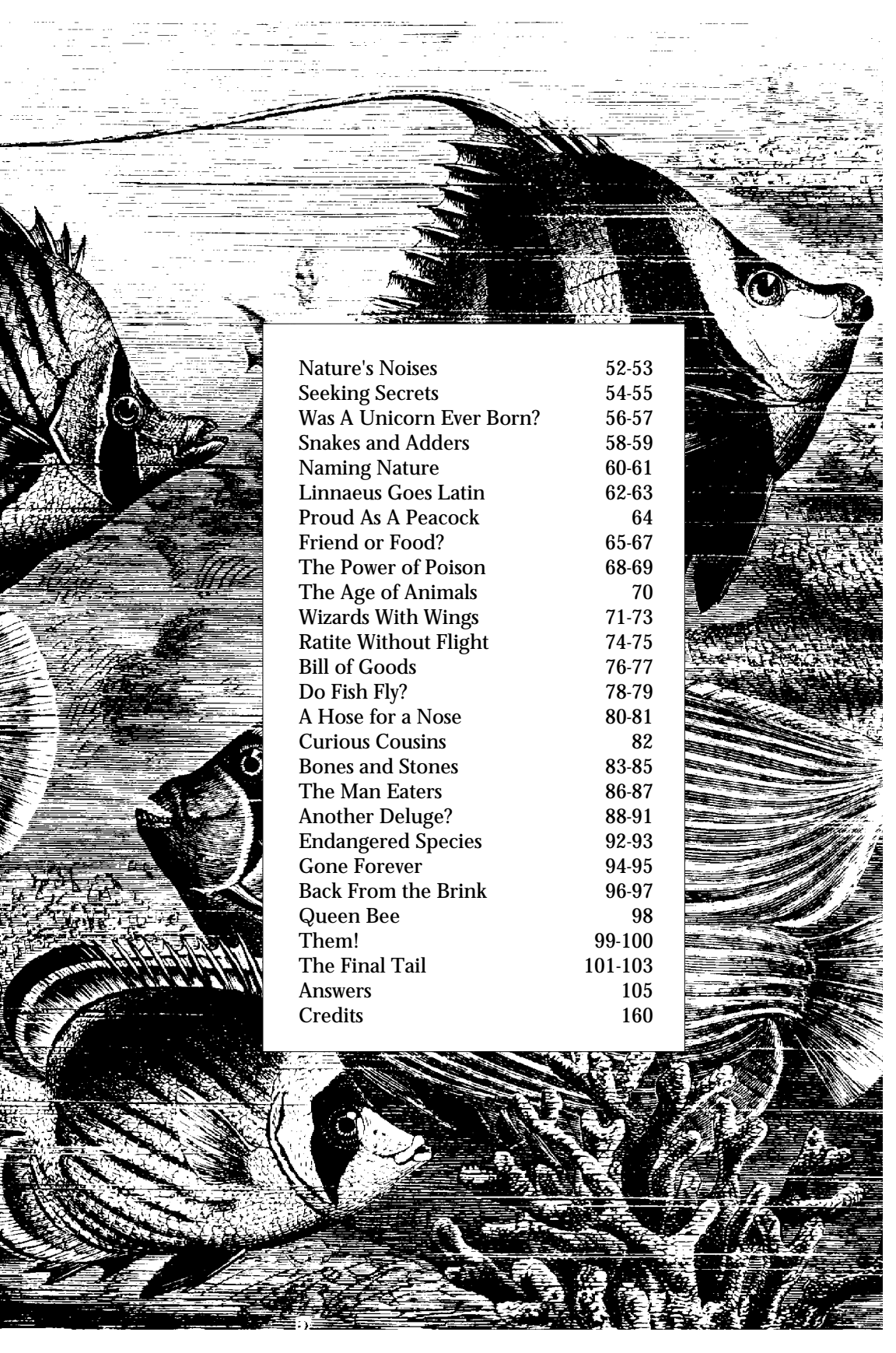




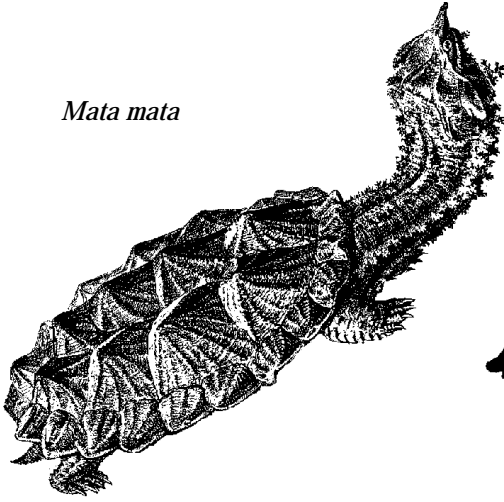
CONTENTS

The Third Eye	8-9
Why?	10-11
Biggest Of Them All	12-13
The Tallest and the Smallest	14
The High and The Mighty	15
Suckling Statistics	16-17
The Best Brains	18-19
Mouth Breeding	20-21
Running With the Rabbits	22-23
Earwigs and Tufts	24-25
Seagulls and Shades	26-27
Partners and Parasites	28-29
All They Wanted For Christmas	30-31
Raising a Stink	32-33
Vampire Empire	34
When Animals Gather	35
Styles	36
Strategy for Survival	37-39
Similar But Not The Same	40-41
Tongue-Tied	42-43
Not in the Family	44-45
Tall Stories	46-47
Built for Speed	48-49
Toddlers and Tadpoles	50-51



Nature's Noises	52-53
Seeking Secrets	54-55
Was A Unicorn Ever Born?	56-57
Snakes and Adders	58-59
Naming Nature	60-61
Linnaeus Goes Latin	62-63
Proud As A Peacock	64
Friend or Food?	65-67
The Power of Poison	68-69
The Age of Animals	70
Wizards With Wings	71-73
Ratite Without Flight	74-75
Bill of Goods	76-77
Do Fish Fly?	78-79
A Hose for a Nose	80-81
Curious Cousins	82
Bones and Stones	83-85
The Man Eaters	86-87
Another Deluge?	88-91
Endangered Species	92-93
Gone Forever	94-95
Back From the Brink	96-97
Queen Bee	98
Them!	99-100
The Final Tail	101-103
Answers	105
Credits	160

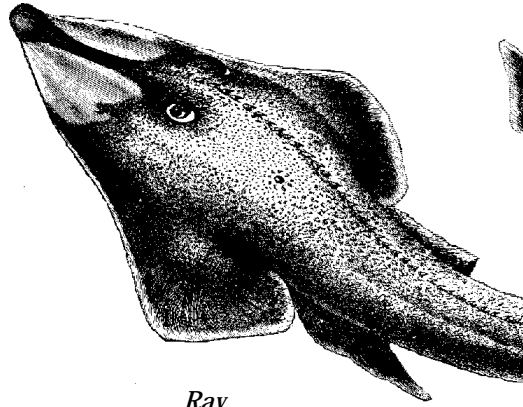
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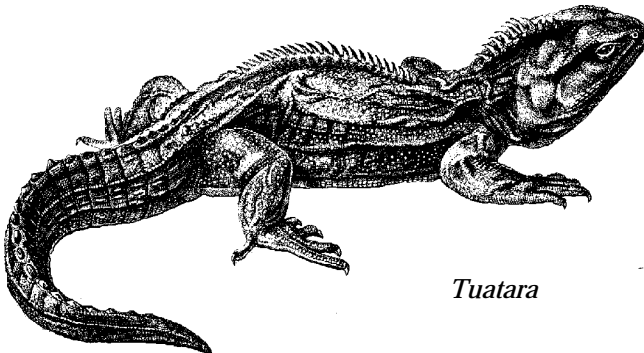
Hedgehog



Slender loris



Ray



Tuatara



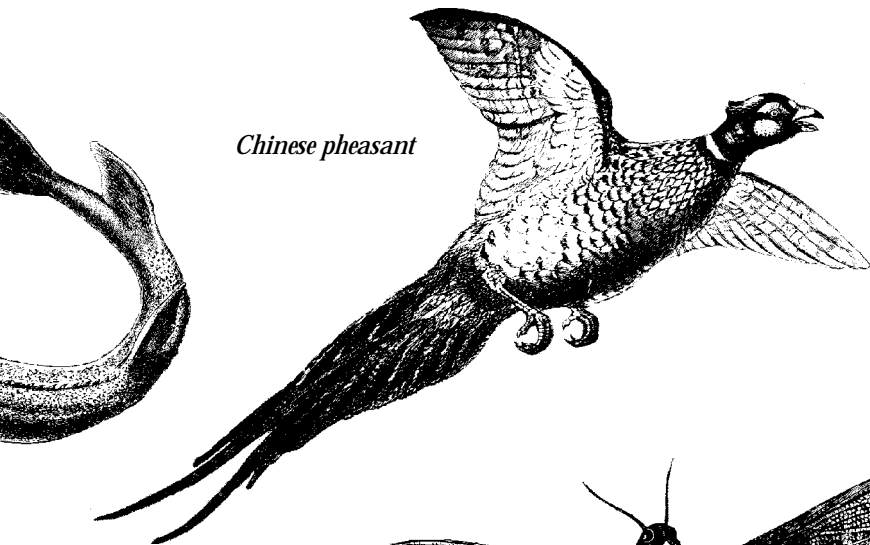
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THE THIRD EYE

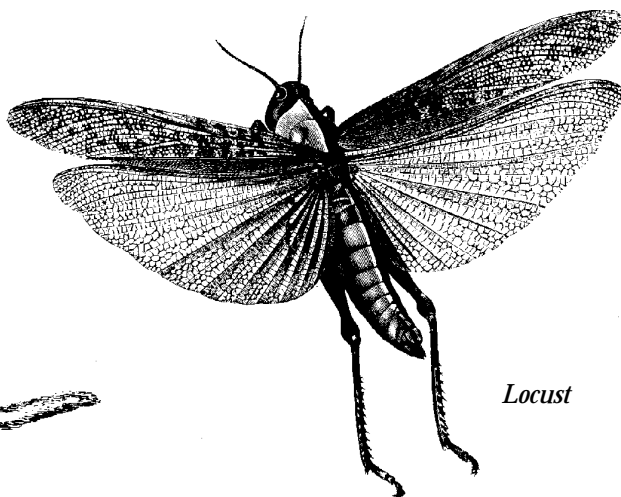
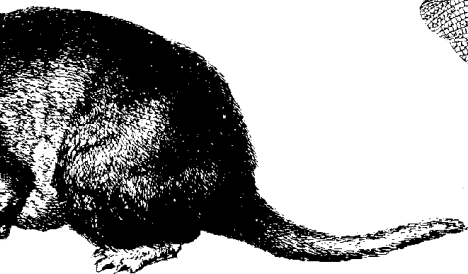
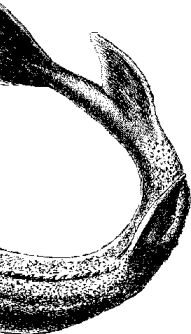
In fables and fairy tales giants and dragons sometimes have single eyes or a third one. But in real life eyes always come in pairs. Almost always.

One of the real living creatures on these two pages has a mysterious third eye. Which one?

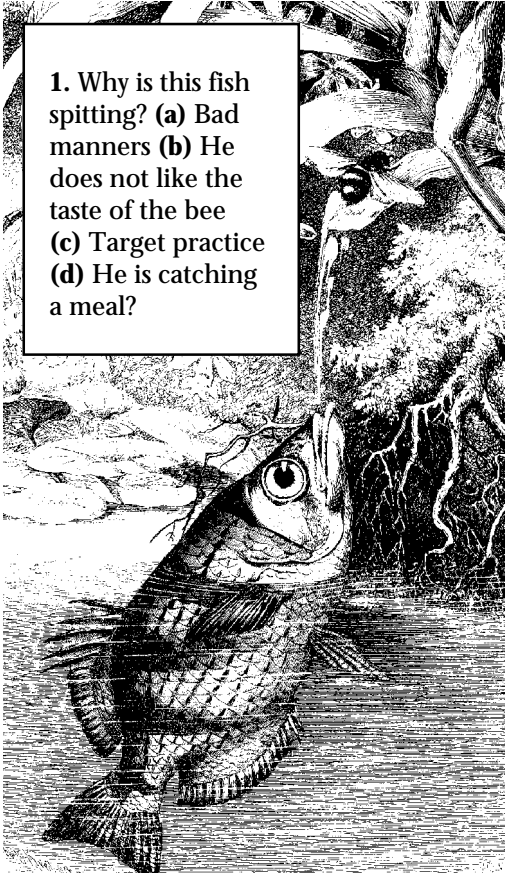
Answer on page 105



Chinese pheasant



Locust



1. Why is this fish spitting? (a) Bad manners (b) He does not like the taste of the bee (c) Target practice (d) He is catching a meal?



2. Why does the **Egyptian vulture** like to pick up a stone in its beak? (a) To drop on its prey (b) To eat for indigestion (c) To shatter eggs?

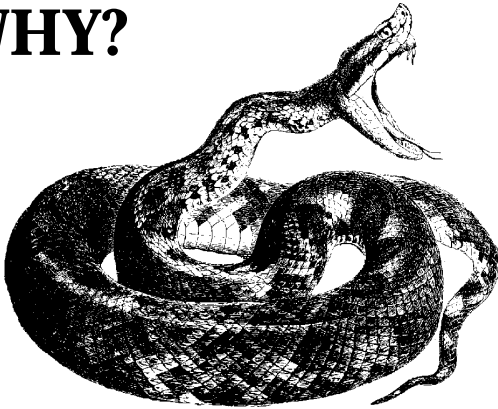


3. Why does a **sea otter** bring rocks up from the deep? (a) To build dams (b) To throw at people (c) To crack sea shells?



4. Why do vultures prefer to be bald? (a) They cannot afford a haircut (b) Feathers on their heads would slow them down in flight (c) Because they are messy eaters?

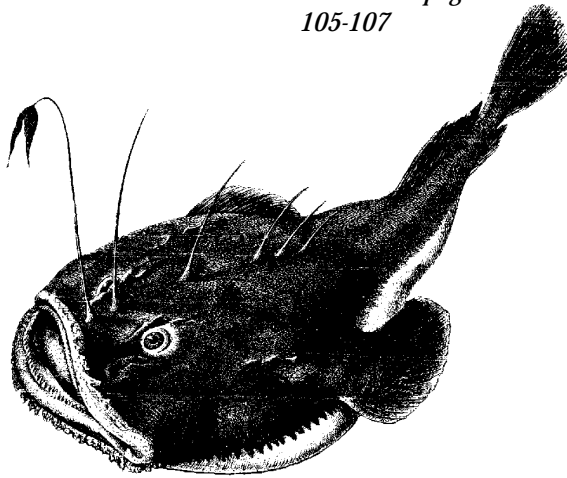
WHY?



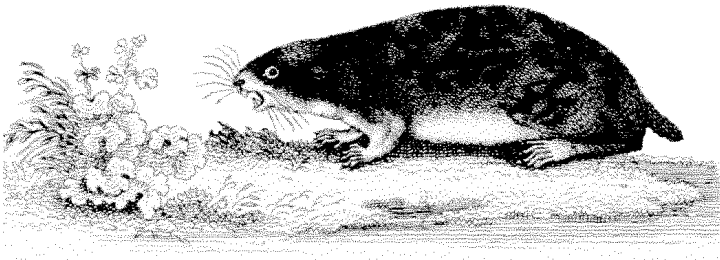
5. Why are they called **pit vipers**? (a) They bite people under their arm-pits (b) They live in the pits (c) They make lots of pit stops (d) They have pits under their eyes (e) They fight like pit bulls (f) They are the pits among snakes?

*Answers on pages
105-107*

6. Why is he called the **Angler Fish**? (a) He always swims at an angle (b) He is an angler's nightmare (c) He angles for fish himself (d) He angles for compliments?



7. Why do **lemmings** drown by the tens of thousands? (a) They cannot swim (b) They want to commit suicide (c) They go crazy (d) They try to get away from over-crowded areas?



THE TALLEST AND THE SMALLEST

We all know the giraffe is the tallest mammal alive.

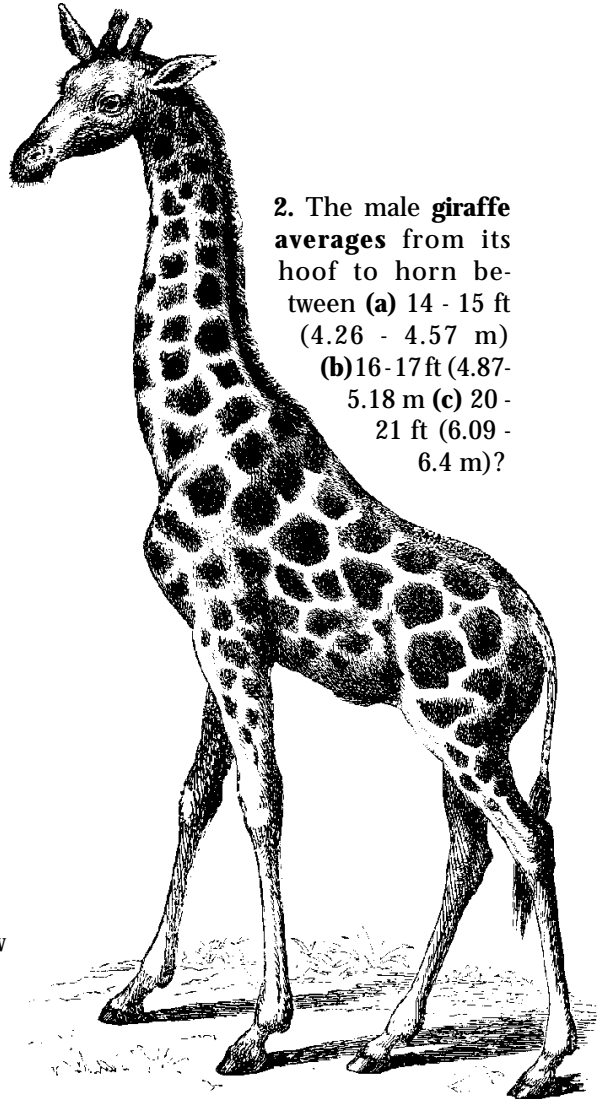
But how many know which is the smallest mammal of them all.

To make it easy we have given you a clue: it is a shrew.



1. The **smallest mammal** alive is (a) the Pygmy shrew (b) the Water Shrew (c) the Least Shrew.

Answers on pages 107-108



2. The male **giraffe** averages from its hoof to horn between (a) 14 - 15 ft (4.26 - 4.57 m) (b) 16 - 17 ft (4.87 - 5.18 m) (c) 20 - 21 ft (6.09 - 6.4 m)?

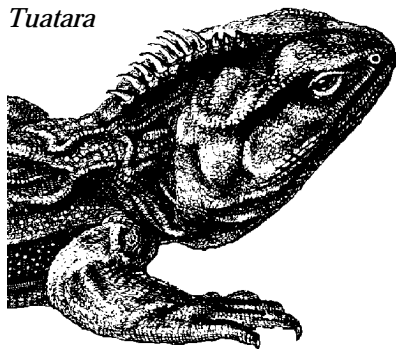
ANSWERS

THE THIRD EYE

Pages 8-9

The **Tuatara** has a third eye, complete with a lens, retina and other nervous elements - all connected to the brain. This third eye takes the place of a cone-shaped pineal gland often found in the brain of other vertebrates. Many scientists believe that the third eye functions like a regular one, especially while the Tuatara is still young. Some experts, however, insist that the thickness of the horny scale that covers this third eye prevents any light from entering. So the mystery remains unsolved. This lizard also has another claim to fame. It has been around in its present shape and form for longer than anyone else in the animal world. Scientists tell us that the Tuatara (*Spheondon*

Tuatara



punctatus) has remained practically unchanged over the past 200 million years. This *living fossil* is found on twenty small islands near New Zealand.

Lamprey and hagfish also have a pineal third eye with unpigmented skin on top of their heads to allow light to penetrate. So do some sharks, but in their case this organ is not as well developed.

WHY?

Pages 10-11

1. (d) **Archerfish** (*Family Toxotidae*) shoot flies, bees and other insects from overhanging leaves by spitting water at them and catching them in their mouths as they drop. These little fish - about the length of a human finger - live in the mangroves and river mouths of south-east Asia and Northern Australia. They have a firing range of up to three feet or about a meter.

2.(c) The **Egyptian vulture** (*Neophron percnopterus*) cracks eggs with stones. Whenever it finds an egg too large or tough to break with its beak, this vulture would pick up a stone and drop it with great accuracy to crack the shells. In contrast to other totally bald vultures, *Pharaoh's bird*, as it is also known, can afford to grow long yellowish feathers on the back of its head. It seems the worst that can happen to an Egyptian vulture is getting egg on its face.

3. (c) The Sea Otter (*Enhydra lutris*) breaks open shellfish by hitting them with its front paws on flat stone balanced on its tummy. This is all done while floating on its back. The stone is usually brought up from the ocean-bed together with the shellfish. Perhaps the sea otter would have been better off if it knew how to throw rocks **at** the fur-hunters that have almost driven them to extinction. (*Seagulls are known to take shells up in the air and drop them on rocks to crack them open*)

4. (c) As vultures have the habit of digging deep into messy carcasses with their sharp beaks, **bald heads** are more practical than feathery plumes.

The Lammergeier vulture is one exception. It can afford to have feathers on its head as it feeds off

Pileated vulture



the bones and manages to stay clean. Also the Egyptian vulture that prefers eggs for breakfast, lunch and dinner, eats the outer soft meats of a carcass, and therefore has the luxury of plumes on the back of its head.

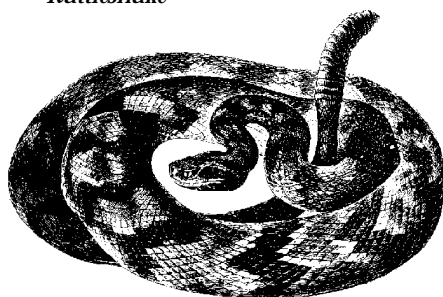
Experts tell us that despite the apparent scramble around carcasses, there is a definite pecking order among vultures. The white-headed vultures are usually first and the smaller birds come in at the very end to pick up the left-overs. Just as humans show preferences for drumsticks, breast and white meat around a turkey on the table, different vultures have their own preferences.

5. (c) Pit vipers (*Genera Crotalus & Sistrurus*) are so named for the pits between their eyes and nostrils on both sides of their heads. Each of these pits has more than a thousand heat-sensitive cells that pick up the presence of warm-blooded bodies in the darkness and respond to infrared radiation. This enables these snakes to “see” and tell the distance and movement of a prey or enemy several yards away in pitch dark surroundings.

The North American rattlesnake is a member of the viper family and the American Armed Forces named their heat-seeking air-to-air missile after the *Sidewinder* - one of several species of rattlesnake that all have heat-sensitive pits. It moves sideways in the sand.

6. (c) The Angler Fish (*Lophius piscatorius*) is an expert fisherman. It does its angling two thousand feet down in the ocean, using its long front fin as a rod. At the tip of this "rod" is a luminous growth that dangles like a live worm and attracts smaller fish so that the angler fish can swallow them with its cavernous mouth.

Rattlesnake



7. (d) Norwegian lemming (*Lemmus lemmus*) migrate by the tens of thousands down the valleys into the lakes and rivers and eventually into the sea to get away from overcrowding. This happens every few years during what is called a "lemming year," when these rodents experience a population explosion. During a lemming year there are four litters of between six and eight instead of the normal two litters of five each. Lemmings are good swimmers but those who manage to escape predators in the water eventually drown from sheer exhaustion. Several species of North American lemming show the same cyclical migration to nowhere.

THE BIGGEST OF THEM ALL **Pages 12-13**

- 1. (a) Between 55 - 110 tons.**
- 2. (b) Between 60 - 90 ft (18.28 - 30.48 m).**

Although a few blue whales have weighed in at more than 130 tons, they usually range between 55 and 110 tons. Females are heavier and longer than males. While a few of these giant mammals have measured 110 ft (33.5 m) from the point of their upper jaws to the notch in their tails, they average between 60 - 90 ft (18.28 - 30.48 m), depending on sex and kind. There are three types of blue whales.

THE TALLEST AND **THE SMALLEST** **Page 14**

1. (a) The Pygmy Shrew. Savi's White-Toothed Pygmy Shrew (*Suncus etruscus*) is found along the northern Mediterranean coastline and in South Africa. Also known as the Etruscan shrew, the mature animal has a head and body length of 1.32 - 2.04 inches (36 - 52 mm) and a tail of between 0.94 - 1.14 inches (24 - 29 mm). It weighs between 0.052 and 0.09 ounces (1.5 - 2.5 gram) - about the same as an American dime or ten cent coin. (A tiny rare bat found in Thailand and known to scientists as *Craseonycteris thonglongyai*, is actually a little lighter but has a wingspan of some 6 inches - twice the length of

the Etruscan shrew). To get an idea of the dimensions of the Pygmy Shrew, imagine a very small mouse crawling through tunnels made by earthworms. This little creature is also the world's most ferocious eater as it can absorb three times its body weight per day. The Least Shrew (*Sorex minutissimus*) of Eastern Europe is only slightly larger than its Etruscan relative. The North American Pygmy shrew (*Microsorex hoyi*) ranks third, while the European Water Shrew (*Neomys fodiens*) is the smallest freshwater mammal.

2.(b) 16-17 ft (4.9-5.2 m). Giraffes (*Giraffa camelopardalis*) are made up of nine different types, differing in size and coloring, but the average adult bull measures 16 - 17 ft (4.9 - 5.2 m) from the tip of its front hoof to its false horn. Cows are usually smaller than the bulls. The giraffe has the same unusual ambling gait as the elephant, camel and bear, first moving its two right feet and

Giraffe



then the left. Horses, dogs and most other animals combine the movement of the foreleg with the opposite hindleg.

THE HIGH AND THE MIGHTY Page 15

1. (c) 128 tons. The total load was actually 128.5 tons (130.6 tonne). The two Clydesdale horses together weighed only 3,500 lb (1,587 kg). The load was made up of 50 logs of white pine, piled on a special sledge and pulled across snow for a distance of 284 yards (259 m). It all happened as long ago as February 26, 1893, at Nester in Michigan. Afterwards these logs were first displayed at the World's Fair in Chicago and then sold. The buyer used it to build a home. The logs totalled 36,055 board feet of timber.

2. The Yak . (c) 20,000 ft (6,096 m). This wild ox called the Yak (*Bos grummiens*) has been seen passing heights of 20,000 ft (6096 m) while foraging in the mountains. It lives in the Tibet and Sechwan regions. Yak cows produce "yakky" pink milk.

SUCKLING STATISTICS Pages 16-17

1. (c) The Common tenrec (*Centetes ecaudatus*) averages litters of 14. Its record for a single birth was 32 which made even its arsenal of 22 teats insufficient. The Common