

# RATIO OF THE SEXES

A SUGGESTION as to the reasons for the numerical proportions between the sexes is made by a writer in the Revue Scientifique. It is generally supposed that there is no notable difference in their numbers. This opinion is based principally on the study of man where the proportion of males to females is 103 to 100, out of rather more than 10,000,000 births under examination. But this proportion does not hold good for the lower animals. In a certain species of toad there are fewer males born than females. Montgomery, an American naturalist, who has been studying the numerical ratio of sexes in a large North American spider (Urocyon mactans), has found after examining 4,179 young spiders newly born that eight males are born for every female; and after completing his observations by examining the eggs of the spider he found that the proportion of the sexes is different in different species and may even serve as a specific character. This fact will appear unusual to naturalists, who are accustomed to find in collections more adult females than males, but this results simply from the comparative longevity of the females. He suggests as a working theory that if among the lower animals the males are more vigorous than the females, then the number of males in a species may be slightly less than the number of females, but when the males are less well endowed than the females for the struggle of life, and when they die frequently before maturing, then in that species the number of females exceeds that of the males. Such is the case with spiders.

Snakes do not usually take up their habitation in caves, but some years ago snakes were found in certain caverns of the Malay peninsula. They fed on the cave bats, and their coloring is remarkably like that of the cave walls. Their resemblance must be of no use to them for protective purposes, but as they frequent the mouth of the cave, seizing there the unfortunate bats which are making their way in or out, they may have arrived at some adaptation of the laws of nature selection. Mr. Lydekker mentions in Knowledge that a new species of cave snake has lately been found in an extremely dark cavern in Tonkin. But this snake, though an allied member of the same genus as the Malay snake (well known Asiatic species of Coluber), is of quite different coloring and type. It is argued, therefore, that the resemblance of the Malay species to its surroundings may be purely accidental. Mr. Lydekker adds some observations on cannibal snakes. "The king cobra of southeastern Asia, which occasionally reaches a length of fully 15 feet, is in the habit of preying on non-venomous serpents of other species. An individual specimen of this snake, measuring a little over 11 feet in length, has, however been seen in Burma carrying another member of its own species in its jaws, much as a tortoise carries a rat, while on a second occasion a king cobra was observed in the act of eating an ordinary cobra, and in a third case a cobra had been actually swallowed. Another king cobra has been known to devour the banded cobra, while from the stomach of yet another specimen was taken an example of the still more venomous Russell's viper. At first sight these instances suggest that the devourer must be immune to the venom of the devoured; but, according to experts, such conclusions are not justified by the present state of our information with regard to the action of serpent poison."

Some gratifying success has lately attended the efforts of the Yorkshire Naturalists' union to discourage people with guns from testing their prowess on rare wild birds, and one man who shot a white swallow and another who shot a buzzard have been made to understand by the magistrates—that this form of stupidity may be expensive and is certainly unpatriotic. White swallows is of sufficient rarity to be of great use in affording information to those who observe bird migration, a subject which, it may be receiving a good deal of attention in Central Europe. In Germany and Denmark a number of young birds have of late years been "marked" by fastening aluminum rings round their legs, and the information thus obtained concerning migratory movements is the only one which leads to positive knowledge. The Hungarian central bureau of ornithology has also now begun the marking of young storks, herons, gulls and swallows with the word "Budapest" and a number which corresponds to an entry in the bureau's register. Anyone finding a bird with such a ring is requested to send the ring with details to Budapest. The wide distribution of some of the migrants is shown by the fact that a house stork, marked in Pomerania, was caught in Africa 15 degrees south of the equator.

In Australia, as in other countries, there is considerable danger that many beautiful birds will become extinct owing to the raids made on them for the sake of their plumage or in some cases of their eggs. Mr. Mattingley, in the course of a description of the birds of the Murray swamp, mentions that the beautiful black swan, *Chonopsis atrata*, as well as many others of the birds of this neighborhood, the white egret, and the Nankeen night heron, are in danger of extinction at the hands of the plumage hunters. A rather unexpected economic situation adds to the danger. The New South Wales government has stopped the monetary grant for provisioning the aboriginals of this district, and the natives have consequently been obliged to work for their living, or else hunt. Naturally they choose the second alternative and raid the swamps for eggs.

In the comparison between the movements of plants and many of the actions performed unconsciously by the lower animals, Mr. Francis Darwin recently laid stress on the extent to which plants are affected by their environment, so that, for example, beech leaves developed in the deep shade of the middle of the tree are quite different in structure from those grown in full sunlight. A paper read by Col. Rayson describes some effects of sun rays on plants, which are almost suggestive of the pigmentation of the human skin as a protection against the sun in hot countries. Some nasturtiums were selected as most likely to be sensitive to exposure to the sun's rays, and a group of ordinary scarlet and orange flowers which hitherto had been growing in the partial shade of a brick wall were removed to an altitude of 4,500 feet, where they would be constantly exposed to the direct rays of the sun. In two years the colors of this variety had changed from scarlet and orange into a mauve, with the exception of one plant, whose flowers were changed from the deepest carmine with velvety blue markings on two of the petals. According to Col. Rayson the many varieties persisted, and its descendants have not gone back to the original colors. Experiments with dahlias indicated that their coloration could be as easily changed as that of nasturtiums by using similar means. In respect of the resemblances between plants and the lower animals, Prof. Bose stated at Dublin that he had been able to detect with accuracy the death point of a plant. An electrical excitatory spasm can be shown to occur at the initiation of death. Prof. Bose disclosed also a number of other phenomena which indicated what we may call consciousness in plants.

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THE VENERABLE MRS. SAGE.

Mrs. Russell Sage's many gifts and endowments, made since she inherited the vast fortune left by her husband, lead many to suppose that she is endeavoring to make amends for the proverbial parsimoniousness of Mr. Sage. She is here shown seated in her favorite nook in Central Park, New York.

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can be used, and although the science of forestry answers this question in general terms, more exact knowledge, such as can be applied to varying localities, is useful and desirable. An investigation of some value in this direction has been carried out by a trade paper in Philadelphia, the Carriage Monthly. Forty wheel and vehicle manufacturers were approached, and were asked to send cross-sections of the woods which they used together with particulars of the territories from which they had been drawn. These blocks of woods, of all grades and varieties, were then scientifically examined, and the annual growth of the wood was carefully determined. The greatest care seems to have been taken in ascertaining by this way the yearly rate of growth of the various woods, and accurately was insured by calling it scientific holistics. It was thus found, for example, that in the case of hickory growth west of the Alleghenies the average number of years required to grow one inch in diameter was 4.87. East of the Alleghenies the average number of years was 5.33, or nearly a year longer. In the case of oak, ash and poplar, grown east of the Alleghenies the years were from four to five, ash taking longest. These results may not be particularly valuable or novel, but they suggest a line of inquiry which is worth pursuing.

It cannot be long before the first fogs are on us, and with them no doubt the fanciful schemes for dispersing them by mechanical or elec-



GERMANY'S FUTURE WAR LORD.

Prince Wilhelm, the eldest son of the crown prince and crown princess of Germany, is now in his third year, and already his august grandfather, Emperor William, has taken his military training in hand. The little crown prince is daily seen in the park about the palace mounted on his little Shetland pony, and his toys mainly consist of soldiers, guns, sabers and miniature ordnance of all descriptions. His mother was Duchess Cecelia of Mecklenburg-Schwerin, and already she has resented the interference of the emperor and empress in the training of her first born.

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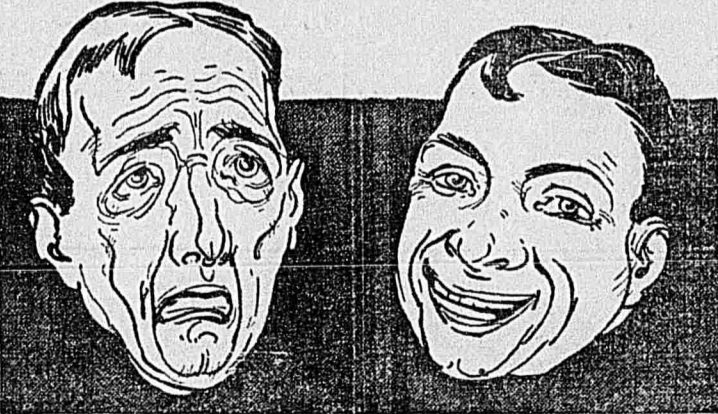
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## FLOWER GARDENS IN FLORIDA.

Roses and Violets Bloom During the Entire Winter Season.

In Florida we have roses in midwinter and gladioli from February to June; in fact, we can have them all the year if we choose, says Outing. For vines, the most wonderful is Bignonia venusta, once in a while getting frost-killed, but climbing to the top of high pines in a single season and swinging off great arms all the way, 20 to 30 feet long, and every one of them a mass of orange trumpet-shaped flowers in January. The Cherokee rose is single-flowered, but it climbs all over houses and trees and is a sight worth going far to look at and smell the perfume.

In December I found my Brugmansia in blossom, and wild flowers as a rule begin to expand the latter part of February, although there are some exquisite little violets and moss-like flowers in January. Violets blossom all the time, and you can grow in great masses the sweet-scented English sorts. Roses you may have in bloom at any season, but their real florescence begins about the first of March. At this season the herons are alighting on your plum trees, occasionally building nests. White egrets are around the lake and occasionally fly over your garden. Alligators stay buried in the mud for a couple of months, but show themselves in March. These fellows are utterly harmless, and I have never seen any mischief of their kind in my Florida garden, although they do travel overland from lake to lake. Turtles are dormant for about the same length of time, underground or in the lakes.

## HE KNEW HIS AUDIENCE.

A celebrated Scottish lawyer had to address the dominion, equivalent of our supreme court. His "pleading" occupied an entire day. After seven hours of almost continuous oratory he went home to supper and was asked to conduct family worship. As he was exhausted, his devotions were brief. "I am ashamed of ye," said the old mother. "To think ye could talk for seven hours up at the court and dismiss your family!" "Aye, vera true," was the reply, "but ye maun mind that the Lord isna sae dull in the uptake as the judge-bodies."—Philadelphia Ledger.