



TAXONOMY

LABELS for LIVING THINGS

By ARCHIE CARR

*Professor of Biological Sciences
University of Florida*

BEFORE the modern system of naming living things was thought up, a biologist who wanted to speak about a certain animal or plant had to use a whole string of words describing it.

You might say, but why not use the common names ordinary people use—call a dog a dog, for instance, or an oak tree an oak tree? Well, for one thing, you'd be speaking English. Most people in the world don't speak English. Besides that, there are dozens of kinds of dogs or doglike animals in the world and dozens of kinds of oaks. Worst of all, even in a country where only one language is spoken, the same animal or plant may be called by different names. And the same name is used for different kinds of animals or plants.

I have lived in places where one and the same fish is known as green trout and black bass. The same snake is called black snake and blue racer. The same bobwhite is called quail and partridge.

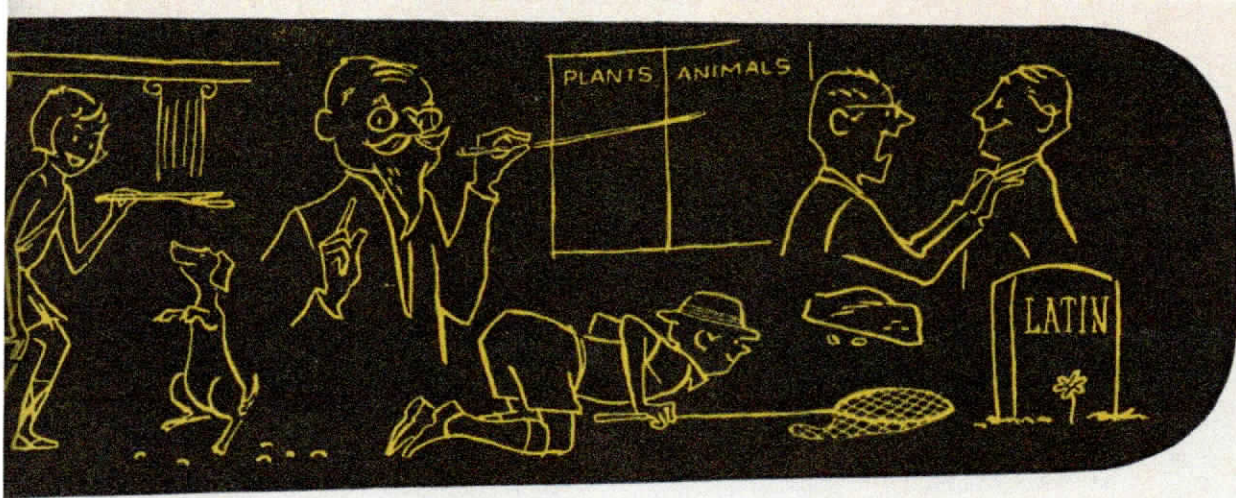
To show how big a mess can come about when you rely on common names, it would be hard to beat the "gopher" situation in Florida. People in most parts of North America think of a gopher as a burrowing rodent. It is a small, short-tailed mammal that digs tunnels in fields and eats plants and is a nuisance to farmers. But in Florida a gopher is not that at all. It is a tortoise—a dry-land turtle the size of a meat platter and very good to eat.

To add to the confusion, the tunneling rodents we spoke of live in Florida, too. But the people call them salamanders. That sends visitors looking for a dictionary. Sure enough, "salamander" means what they thought—a lizard-shaped creature at home in the water and on land. Why do the people who live in the state of Florida call their gophers salamanders?

The reason is that early settlers there called gophers sandy-mounders. That comes from the fact that the rodents in digging throw sand up in piles, or mounds. "Sandy-mounder" in time came to be pronounced *salamander*.

Now, how about the queer local use of "gopher" for a turtle? The answer here can be found in the lists of old African words brought over by slaves and still used in some parts of the southeast. One such word is "gofa" which in some African dialects means turtle.

Let's go back to your pet dog. Pierre, in Paris, says *chien* for dog. Hans, in Berlin, says *Hund*. People of other languages use various other words. Julius, in ancient



Rome, said his pet was a *canis*. That's the Latin word for dog. Scientists today all around the world know a tame dog as *Canis familiaris* (dog, domestic).

This two-word name is part of a system by which all living things can be known. The system was first proposed by a Swedish naturalist, Carl von Linne. (You often see his name in its Latin form, Carolus Linnaeus.) Linnaeus suggested the plan for naming plants in 1753 and in 1758 carried it over to animals. This is how the plan works:

All living things are either animals or plants. We say that they belong to the Animal Kingdom or the Plant Kingdom.

Each kingdom is made up of groups called phyla (singular: phylum).

Each phylum is divided into classes.

Each class is divided into orders.

Each order is divided into families.

Each family is divided into genera (singular: genus).

Each genus is divided into species.

Your dog belongs to the Animal Kingdom. It belongs to the phylum Chordata, animals with backbones. It belongs to the class Mammalia, or mammals, animals that nourish their young on milk. It belongs to the order Carnivora, mammals whose bodies are adapted to killing and eating flesh. Finally, your dog belongs to the genus *Canis*, which is the Latin for "dog," and to the species *familiaris*, which means tame. The genus word starts with a capital letter, the species with a small letter.

This is really a very easy way of keep-

ing an inventory of the millions of forms of life on earth. There have been a few improvements in the listing since the time of Linnaeus. And thousands upon thousands of plants and animals that Linnaeus never knew have been discovered and named according to his system. Discoveries are going on all the time.

When a scientist finds a rare animal that no one else has described, he decides where it belongs in the Animal Kingdom. He observes how his animal is constructed. That tells him the phylum, the class and the order, and probably the family and the genus. Perhaps it does not seem to belong to any known genus. Then he gives his animal a new genus name. And he chooses a species name. He tries to think up names that will tell something about the specimen.

It is the same with plants. If you know a little Latin you can tell something about a specimen just from its name. Some species names in the Plant Kingdom that you see again and again are *alba*, white; *fragrans*, fragrant; *floribunda*, many flowers; *grandiflora*, big flowers.

Most of the names in this classification system are Latin, or at least a latinized form of another language. Latin was chosen because in the old days it was the language all scientists knew. Besides being the nearest to a world-wide language, Latin has the advantage of being dead. It is not spoken nowadays by anyone and is not likely to change as English and Spanish and French are changing.

The Book of Knowledge



1958

ANNUAL

THE GROLIER SOCIETY
NEW YORK • TORONTO