Twin-leaf
By WALTER S. CHANSLER

While tramping about the woods, in late spring, anywhere in the eastern part of the United States northward from Tennessee and Virginia, one is likely to see a pretty little plant with a solitary white flower terminating a naked scape six or eight inches long. This stands among several low and rather frail leaf-stems, each of which bears a large, smooth, palely veined, two-parted leaf. This is the twin-leaf, Jeffersonia diphylla, a perennial belonging to the Barberry Family and taking its name from the fact that its leaves are divided into two identical parts.

Growing in dry, well-drained soils, often on rocky hillsides, or in open places in the woods, this medicinal plant frequently appears in loosed formed clumps or in small patches. Sometimes it spreads in scattered fashion over a rather wide area, or along the base of an outcropping of limestone or other rock formation. The plant flowers in May, or early in June, depending upon its geographical location. A particularity of the plant is that it blossoms when only six to eight inches tall, then continues to grow until its fruit has ripened, at which time it no infrequently has attained a height of four feet to sixteen inches. The fruit is a small, oblate capsule, which develops quickly after the flower has withered.

The twin-leaf may be grown quite readily on home grounds by transplanting in the spring, at the time growths start. Like many of our wild woods plants, it is usually well rooted and will thrive with ordinary care if planted in moist, partly shaded ground. However, the young plants should receive a fairly generous leaf mulch after they get well started. Cultivation is not necessary. When grown among other plants, this wilting of the odd-shaped leaves adds to any garden.

Birds in Gilded Cages
By E. LAURENCE PALMER

This is the fifty-third in Nature Magazine’s series of educational insets.

WHEN the barber shop quartets sang: “She is only a bird in a gilded cage,” they obviously intended to express pity rather than envy for one thus captive, and, of course, they were not singing about a bird. Certainly, it is debatable whether we should feel that a free, wild organism, living an independent existence and facing all problems with whatever individual resources are at hand, is better off than another organism that has its food, shelter and health needs supplied by still another paternalistic agency. J. C. Branner, in his introduction to his How and Why Stories, tells feelingly of the mammy who raised him in the slave days, only to end her days amid hardships she never had had to face before. In spite of her difficulties, she answered Branner’s inquiry as to how she felt about her changed status by saying: “After all honey, dere’s de feelin’s.” To this comment, Branner replied that he never again had anything to say in favor of slavery. This philosophy may be as applicable to government as it is to poultry.

It is difficult for a rational human being to think clearly in matters that pertain to the domestication of species of animals other than our own kind. There are in some parts of the world great human populations that will not eat of domestic animals, even though it is dietetically obvious that these people need animal food. In one instance, this prohibition was solved by separating roosters and hens so that eggs laid could not be fertile. Since the eggs were not fertile, they could never develop into animals. Therefore, consuming them as food was not killing an organism that did not have the power to reach maturity.

We may consider domestication philosophically. If, at time goes on, and we surrender our individual rights and responsibilities to our community, which surrenders to the state, which surrenders it to the nation, we may be forced to wonder if we will not eventually be fed, watered, put to bed, and possibly even killed, by some outside power that may be gradually working us into a gilded cage position. Some will take this philosophically, as does a duck or goose. Others may continually fight to regain their lost liberty. Still others, like the parrot, may merely sit back and scream phrases that have been taught to them, phrases that they cannot possibly understand.

And so, when we come to the study of the domestic birds presented in this insert, we offer some of you the opportunity to philosophize. Still others may find in our presentation suggestions that may be of economic importance. You may wish to raise squabs, ducks, or cage birds for a profit. If so, you should know something of the requirements of the creatures with which you want to deal. The artist may see in the peacock’s tail a thing of beauty; the fly fisherman excellent material for making the body of an artificial fly. The musician may respect the judgment of beauty—the peacock’s tail, conversely, be offended at the bird’s raucous voice. The ornithologist may be interested in whether the gaudy feathers
to the rear of a peacock are the tail or the tail coverts, and find some satisfaction in referring to them correctly. The poultryman may be delighted that such birds as the peacock does not yield to management for the production of flesh, as do such smaller birds as the ducks and chickens. The historian may revel in the part peacocks played in ancient banquets, in beliefs regarding their immortality, and the reported survival value of their tongues and brains. The hard-headed business person interested in peacocks will have to be sure of an unusual market if he is to find anything but headaches with the rearing of peacocks in most parts of America.

In this series of insert we have already introduced you to some kinds of domesticated animals. Early, we had a number of domestic mammals. Later, we had one on poultry. This insert is designed to consider the more important birds, other than chickens, that have yielded more or less gracefully to the influences of domestication. Roughly, the groups considered are a few out-and-out cage birds, a couple of pigeons that may or may not be considered as cage birds, a few aquatic and semi-aquatic domestic birds, and the turkeys, guineafowl and perhaps the closely related to the chickens, but, of course, are not chickens. There will be those who may contend that some of these should not be considered as birds in gilded cages, but we stand by our plan, even though we admit that some of the gilding has worn rather thin, and the bars of the cages may be more imaginary than real.

Whatsoever one may say, it must be admitted that the birds here considered have yielded some of their freedom, and much of their responsibilities, to man so that an extent over which the magnitude of the area they now occupy they would probably quickly disappear without man's assistance in times of stress. As has always been the case in these special inserts, most of the essentials of life history of forms considered are presented in the tables associated with this discussion. While some of the material has been presented in the author's new book, *Fieldbook of Natural History*, most of it is new, and, with one exception, the pictures have not been used before. The illustrations are, for the most part, by E. M. Reilly, Jr. A certain amount of duplication cannot be avoided in discussions dealing, for example, with market records, new discoveries, gold, rare books, professional honors, record trout, bridge or artificial trout flies. Who can say that the canaries are more or less wholesome than these other objects of your interest, or of mine? One must, of course, make adjustments in one's way of living if birds are to be permitted free flight in the living room, and yet I know of at least three families where the satisfaction of having birds is about as worth more than the unpleasantness associated with their presence.

Another friend of mine rarely sees me without telling me of his parrots and what they have been up to. I rather think I have been conditioned against parrots by a vicious creature that lived for years in the house that I live in, and seemed to feel for me an antagonism similar to that I felt for the creature. So far as I am personally concerned, you can have your parrots, or keep them in a zoo where I can see them, and when I want to leave I can do so whenever I wish.

Those who harbor cage birds seem to have the idea that they can communicate, one with the other, a surprising degree. One relative used to boast of how her canary responded to her spoken words, and yet careful study of the hearing range of canaries showed that the canary could not hear her voice. Probably the vacuum cleaner really had a more significant sound, and as the canary was concerned, and, in view of some comments I had in regard to my questioning the instincts and interests of so-called carnivorous plants in an earlier insert, I hesitate denying intelligence to the vacuum cleaner. I can not resist wondering, however, what a vacuum cleaner might say that would interest a canary, and to what degree the song of the canary might affect the efficiency of the vacuum cleaner. Possibly some reader can help me in this matter.

When we discuss cage birds with hobbyists there are always those who, of course, exult the superior intelligence of their particular pet. Certainly, one must admit that some pets can make sounds that more closely resemble some of the words used by man than is the case with the canaries. But, even in a few, or in some of the more than 100 kinds of parrots that are better "talkers" than others. Probably, also, parrots make better talkers than do the more active and gorgeous cockatoos. But, granting this, it is difficult to say that the best-speaking parrot can match the apparent ability possessed by some of the mynah birds, which now and then appear in the newspapers. Our common crows can better some of the parrots in what seems to be linguistic art.

Before this article appears in print, I will have been in Washington, D.C. I do not know if my friends there have increased much in numbers since I was in the islands nearly twenty years ago, I shall be interested in seeing if they have left any room for other birds. Mynahs make interesting cage birds, and when you have a new one of these birds, you can have a sound basis for comparing with some of the others. They serve with distinction in both world wars, and they have been used for years in peace as well as war. They cannot sing in a way that pleases us. They cannot match the beauty of feathers of many of our common birds, but they can be depended upon to return to their homes with maximum speed, whether it is relatively near or far. With a message fastened to their legs, such a trip may well mean the saving of human lives. These birds have, in many cases, reached such a degree of domestication that they can be released from their confining bars with every assurance that they will promptly return to man's protecting influence. Some pigeons have so adapted themselves to this dependence that they probably could not survive on their own, but I wonder if some of the fancy breeds that have lost the power of flight.

We have, of course, set the dove up as an emblem of peace. As such, it would seem that it should have some election as to the nature of its own future. Instead, man has stepped in, and (Continued on page 432)
the size and color of duck's eggs. But now for the birds themselves, and more particularly the birds that may be thought of as cage birds. We suggest here a few parrots, a canary and a mynah bird. Were this article written fifty years ago, we might well have included suggestions for trapping and keeping our common song birds. The literature of those days tells us how satisfactory cardinals were for cage birds. Goldenfinches, redpolls, and many of the small sparrows were recommended as being species suitable for trapping and keeping in cages. Now that our native birds are protected by federal laws, we can no longer confine our local species, even though they may have suffered injuries that might make their survival outside improbable.

Cage birds are kept undeniably for the beauty of their plumage or the beauty of their song, as with the canaries, or because of their beautiful plumage or interesting habits, as with the parrots. Keeping and breeding cage birds has been going on so long that it is only natural that considerable specialization has evolved. We can now select our canaries for their beautiful feathers, the loudness of their song, the sweetness of their song, or their ability to learn a trained song and to do tricks. Each of these groups will have its defenders among bird fanciers, and, of course, each protagonist is entitled to its own way of looking at the matter. Western European countries have differed, not only in their political philosophies but in the standards they seek to develop in their caged canaries, and it is about as difficult to reconcile one of these differences as it is to modify another. This, of course, makes it practically impossible to pick whichever may appeal to our fancy and make the most of it.

The breeding of cage birds is an art that requires much patience and brings, to many, phenomenal rewards in personal satisfaction if not in financial returns. I well remember visiting the home of a college professor in Mount Vernon, Iowa, a few years ago, and being practically overwhelmed with details about the individual differences, the likes and dislikes of canaries kept in a large cage, and in a series of smaller cages, in his home. This professor got the same satisfaction from his canaries that some of the rest of us do from stamps, color photography, flower gardens, genealogy, stock market records, new discoveries, golf, rare books, professional honors, record trout, bridge or artificial trout flies. Who can say that the canaries are more or less wholesome than these other objects of your interest, or of mine? One must, of course, make adjustments in one's way of living if birds are to be permitted free flight in the living room, and yet I know of at least three families where the satisfaction of having the birds about is considered as worth more than the unpleasantnesses associated with their presence.

Another friend of mine rarely sees me without telling me of his parrots and what they have been up to. I rather think I have been conditioned against parrots by a vicious creature that lived for years in the house where I live, and seemed to feel for me an antipathy similar to that I felt for the creature. So far as I am personally concerned, you can have your parrots, or keep them in a zoo where I can see them, and when I want to leave I can do so whenever I wish.

Those who harbor cage birds seem to have the idea that they can combine, with the other, a surprising degree. One relative used to boast of how her canary responded to her spoken words, and yet careful studies of the hearing range of canaries have shown that the canary could not hear her voice. Probably the vacuum cleaner really had a more significant sound, such as the canary was concerned, and, in view of some comments I had in regard to my questioning the instincts and interests of so-called carnivorous plants in an earlier insert, I hesitate denying intelligence to the vacuum cleaner. I can not resist wondering, however, what a vacuum cleaner might say that would interest a canary, and to what degree the song of the canary might affect the efficiency of the vacuum cleaner. Possibly some reader can help me in this matter.

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Before this article appears in print, I will have been in Europe, Latin America, and in some of the countries where they have been increased much in numbers since I was in the islands nearly twenty years ago, I shall be interested in seeing if they have left any room for other birds. Mynahs make interesting cage birds, and they should have the chance, the freedom, and the care that the birds about is considered as worth more than the unpleasantnesses associated with their presence.

There is one group of birds, however, that have helped man greatly in communicating with him. They served with distinction in both world wars, and they have been used for years in peace, as well as if they cannot sing in a way that pleases us. They cannot match the beauty of feathers of many of our common birds, but they can be depended upon to return to their homes with maximum speed, whether it is relatively near or far. With a message fastened to their legs, such a trip may well mean the saving of human lives. These birds have, in many cases, reached such a degree of domestication that they can be released from their confining bars with every assurance that they will promptly return to man's protecting influence. Some pigeons have so adapted themselves to this dependence that they probably could not survive on their own. "A parrot is the essence of some of the fancy breeds that have lost the power of flight.

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**Common Name**

Guinea Fowl

**Scientific Name**

Nesocorvus guineensis

**Description**

Cooked and hen alike. In general appearance, although smaller, body is stout, in place of being small, round, white spots, with short, dark, broad, white stripes on the breast, and a long, slimmer neck and a crown (like a turkey). Temperature is 110°F.

**Range and Relationship**

Originated in West Africa from the Sudan to Gabon rivers, whence it was brought to Europe by Portuguese in Middle Ages. East African N. yollei/yollei does not have the white stripes in the crown.

**Habits**

Usually quarrelsome with other poultry sometimes drinking the same water, noisy, and wild. Pink and dark color makes it a game bird, but it is not often seen in parts where it is not crowded. In past, many were imported into Europe by the Romans for sale in the streets.

**Economic Importance**

Marrows for turkeys seem to be steadily on the increase, along with the price they bring. In some states the birds are killed and processed for food, either canned or frozen, in Unable state (Illinois). Staggers are California, Idaho, Iowa, Illinois, Minnesota, Texas, Ohio, Michigan, Pennsylvania, and Wisconsin.
COMMON NAME: Goring Fowl
SCIENTIFIC NAME: Nuxalis melanogaster

**DESCRIPTION**

Cock and hen alike. In general appearance, although somewhat smaller. Body stout, stumpy, and with small head, round, white spots, with short tail, and bare legs, slightly curved claws, a long, slender neck and a crown like a ladybug. Temperature is 110°F.

**REPRODUCTION**

In wild state, guinea fowl may run in bands of 10 to 12 birds, usually in company of a female. When the female isAgregar, the cock becomes separated, and the cock is left in charge of the female. The young are guarded closely by the mother, who often carries them in her beak. Hard to raise.

**HABITS**

Chicks require no food for the first 2 days. Eat boiled eggs and chicken breasted first week, then gruel, vegetables, fruits, and whole meats, gradually introduced. Adult may weigh 4 pounds.

**ECONOMIC IMPORTANCE**

Unusually quarrelsome with other poultry birds and attacks the doves which are used for sport. Nuisance and wild. In 1917, and again in 1930, it was considered so serious that the European Union was about six weeks when it starts to run in large bands, and in places, they cause considerable damage to crops. The Romans favored it for meat.

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Adult Emden geese may weigh 10 pounds, while adult duck geese may weigh 15 pounds less. Entire plumage of both species is gray-black, and the wings are large, a t least on the right. At rest, geese are all white, and young resemble adults in plumage. Shanks are long and deep orange. Eyes are blue.

Adult gander weighs 25 pounds, while adult goose 10 pounds. In addition to the white breed here considered, there are varieties lighter, lighter than the white, which is dark grayish-black in body, wings and neck of medium length. Black and white is also a native color. Head is black, red and black, in some cases white and red. Legs are straight, red-black. Plumes are gray-black. Shanks are gray, and the legs are large and long.

Swan.

Chinese geese are native to China but are of very great age, and are not the Toulouse geese of France. In the Chinese geese, monogamy is practiced. The Chinese geese are the ancestors of nearly all the domestic birds in the world.

Mute and whooping swans are European breeds and are highly valued. The swan is a large bird, which is not only a beautiful animal, but also a very good swimmer. It is a large bird, and is often found in large flocks. The swan is often found in large flocks.

The Toulouse and domestic mallard are the only species of this family which are not domesticated. The Toulouse is a large bird, and is often found in large flocks. The domestic mallard is a small bird, and is often found in small flocks. The Toulouse is a large bird, and is often found in large flocks.

Swans are raised primarily for their meat. Swans are also raised for their down, which is used in making pillows and comforters. Swans are also raised for their feathers, which are used in making hats and quilts. Swans are also raised for their eggs, which are used in making eggs and cakes.

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we now have pigeons that could have been developed only through the whim of man, coupled with his knowledge of how to make other organisms do what he wishes them to do.

This influence of man is, of course, obvious in the barnyard birds, which he has controlled for generations. We have already developed some appreciation of the different kinds of chickens, but have not adequately considered the ducks, swans, geese, turkeys, guinea fowls and peafowl. Some of these groups have yielded well to demands for specialization. Others seem to have resisted it equally well. We have ducks that have become both famous and valuable because of the large number of eggs they lay. Where there is a good market for duck eggs, these birds have merited. Other ducks yield a maximum of flesh in a minimum of time, and with a minimum expenditure of food and care on the part of man. These find a welcome where duck flesh is popular. The same holds for the geese, among which we have some breeds that efficiently and quickly produce superior flesh, while others produce superior feathers.

In all of these cases, geography and established likes of man have to be recognized. The climate of some parts of the earth may be more suitable to the success of a given breed of waterfowl than elsewhere. The result is that those breeds that can succeed under certain limiting conditions are popular where those conditions prevail. Other breeds may be equally popular where different conditions suitable to their needs are to be found. One of man's greatest weaknesses is the stubbornness with which almost any man thinks that the rest of the world should live as he does, overlooking completely that others live in different environments where the conditions for success are different, and that others may have fundamentally different needs. We have geese that are popular in Germany, while others are equally popular in France, ducks that succeed in northern Asia, and others that do best to the South; turkeys that bring better prices in the western United States than do others that bring top prices in the East. Brown hen's eggs bring top prices in some cities, while other communities accept or welcome only white eggs. In most of these cases there is no intrinsic difference in the values of brown or white eggs, bronzed or white turkeys; gray or white geese; white or brown ducks. Yet, in spite of this, men have set standards that determine directly what kinds shall be raised in a given place. These standards determine what birds shall breed with what other birds, doing so as effectually as the gilded bars that separate two canaries, which might enjoy each other's company if Nature were allowed to rule.

Where there are great economic issues involved, these standards set by man will be, and probably should be, determining factors in deciding what domestic birds shall feed freely on the grains that we may raise. If one breed of ducks can produce more flesh and eggs than another breed that eats the same amount of grain and mash, then it is obvious which breed will have the opportunity to breed. The barnyards of our grandparents, where Minorcas, Leghorns, bantams and Plymouth Rocks ran, fed, fought and bred together, are no longer to be found as commonly as before. Similarly, the pigeons that flew freely from farm to farm no longer find this possible, at least if they are being reared for economic purposes.

Some men seem to carry their influence on other creatures to extremes that may be difficult to explain. Some of us decry modern art that resembles nothing to be found in Nature, and that can serve no obvious purpose. Similarly, we may have to wonder at some of the absurdities that have been developed by those who breed domestic birds for show purposes rather than for flesh, eggs or feathers. A poor pigeon that cannot fly, can walk only in a manner dictated by arbitrary human judges, that must bear its feathers in a single pattern, obviously cannot be considered as a free agent in our modern society. Neither can it be considered as a valuable addition to our forces concerned with the production of food for human consumption.

We hope that we will never have a completely rational world organized solely for the purpose of human profit of a financial nature. I miss the peace I used to seek as a youngster on a farm near my home. I admire a local "hooligan" who raises swans on his pond for the fun of it, and because of their regal beauty. I wish everyone could have the fun of hunting guinea fowl near the field back of the cowbarn. I wish these things simply because they all have given me pleasure at some time in my life. And I recognize that many of these birds are not worth their sale if we must think in terms of dollars and cents. There is no doubt but that, as time goes on, man will learn new things that make domestic birds yield greater returns than they now do whether this is in eggs, feathers, song, or behavior. Witness the wingless broiler. I am reasonably sure that we will make more bars for our live cages than fewer, and I am afraid that many of these birds will be gilded by economic demands. For this reason, I would rather think that domestic birds that now live in some sort of gilded cage will find a future in which their natural whims and desires are more circumscribed than before, and that freedom to them is not to be expected.

Yucca

By DANIEL SMYTHE

Tall spire of beauty, against the storm,
Your quiet confidence takes form.
The yucca plant is now in bloom
Against the dark sky's windy room.