



Pale eggs may not be so white to birds. With a bird's ultraviolet vision, eggs may take on a bluish or pinkish hue.

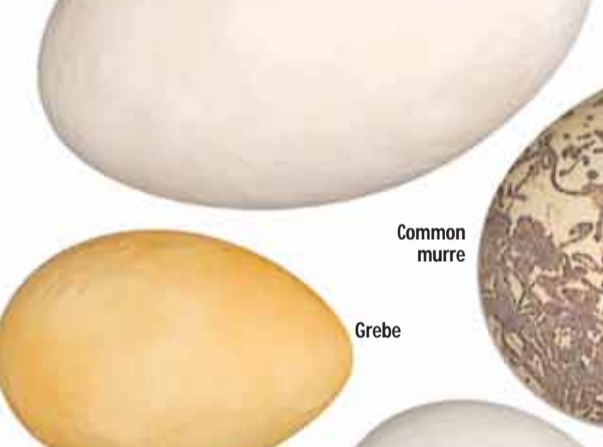
Forget dyeing Easter eggs, Mother Nature has a color palette all her own.

# Natural HUES

## A multitude of eggs

Colors, shapes and patterns are essential to an egg's survival. For some species, colors and patterns can hide it from predators. For others, shape could keep eggs from rolling off a high ledge nest. A look at the natural state of eggs:

**Oval**  
Shape of flamingo and osprey eggs.



**Biconical**  
Tinamous' and grebes' eggs.

**Cylindrical**  
Hummingbirds and some albatrosses lay this shape.

**Longitudinal**  
Gannets, kiwis and loons lay elongated eggs.

**Common loon**

**Common loon**

## All shapes and sizes

Not all eggs are "egg-shaped." There are eight basic shapes used to classify eggs, with no two eggs exactly alike.



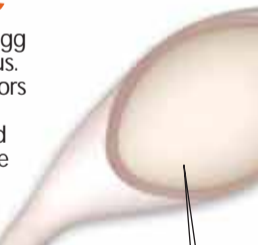
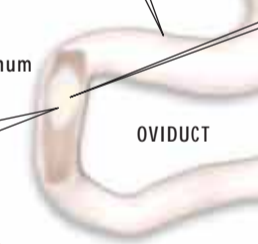
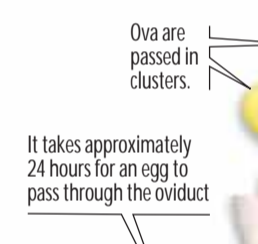
**Ostrich**  
**Kiwi**

Eggs are not always relative to a bird's size. An ostrich has one of the smallest eggs relative to its body size, while the kiwi has the largest.



**Conical**  
Plains wanderers lay cone-shaped eggs.

**Pyriform**  
Common murre will lay pear-shaped eggs. The shape allows them to roll around in circles without rolling out of the nest.

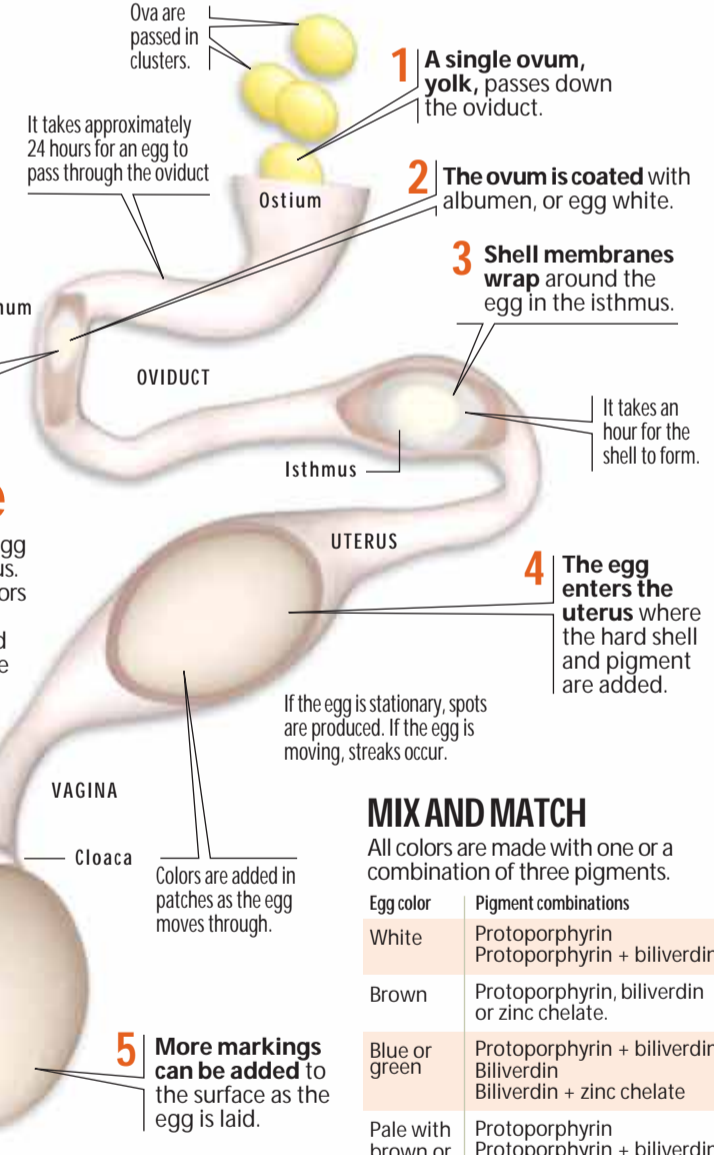


## Adding dye

Pigment is added as the egg travels through the uterus. Red, black and brown colors are derived from blood pigments, while blue and green colors are from bile pigments.



**Elliptical**  
The most common shape.



## MIX AND MATCH

All colors are made with one or a combination of three pigments.

Egg color	Pigment combinations
White	Protoporphyrin Protoporphyrin + biliverdin
Brown	Protoporphyrin, biliverdin or zinc chelate.
Blue or green	Protoporphyrin + biliverdin Biliverdin Biliverdin + zinc chelate
Pale with brown or red marks	Protoporphyrin Protoporphyrin + biliverdin



**Hummingbirds lay the smallest eggs**, which measure less than a half inch, or as large as a jellybean, and weigh less than half a gram.

**The largest egg belongs to the ostrich**, measuring 6-8 inches long, roughly the size of a grapefruit, and weighing as much as 2 pounds.

## What makes color important?

**Identification**  
Patterns help female birds identify which eggs are theirs, especially for species that lay eggs in communal nests.



Different markings help common murrens identify each other's eggs. USGS photo

**Camouflage**  
Some eggs have colors and patterns that closely resemble rocks, foliage or dirt to help hide them from predators. Most birds that produce these eggs are species that nest in exposed areas or on the ground.

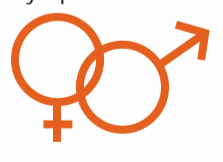


The patterns on these killdeer eggs blend into the background. File photo

**Copycats**  
Some species, such as the cuckoo, will lay eggs in other species' nests and mimic egg patterns to fool the host bird.



**An ideal mate**  
Scientists think eggshell colors may be linked to how birds select their next partner. Females with more colorful eggs are more appealing to a male bird because they represent a healthier female.



**Signal to Dad**  
Another theory says bright colors act as a signal. In the case of the pied flycatcher, a female will lay big, bright eggs so the male will interpret the color as a sign for him to work harder to take care of his young. Brighter eggs may mean healthier baby birds, resulting in the father bringing more food.



SOURCES: *Birds' Eggs* by Michael Walters; *Avian egg colour and sexual selection: Does eggshell pigmentation reflect female condition and genetic quality?* by Juan Moreno and Jose Luis Osorno; *A survey of avian eggshell pigments* by G.Y. Kennedy and H.G. Ververs; *Egg colouration and male parental effort in the pied flycatcher *Ficedula hypoleuca** by Jose Moreno, Jose L. Osorno, Judith Morales, Santiago Merino and Gustavo Tomas; *Avian Ecology* by C.M. Perkins and T.R. Birkhead, Wikipedia Encyclopedia and *Sun-Sentinel* research  
Staff graphic/Belinda Long