



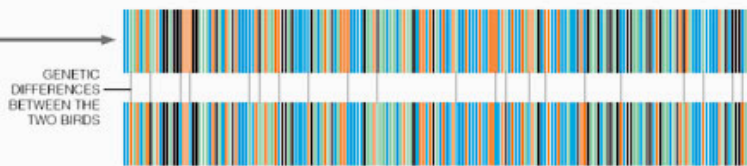
Bob Steele/VIREO



Steve Green/VIREO

### Looks That Deceive

Existing methods of identifying species are time-consuming and imperfect. Two varieties of marsh wren, above, may turn out to be different species after analyzing bits of DNA from a common gene.



The comparable gene segments can be expressed as bar codes, above.

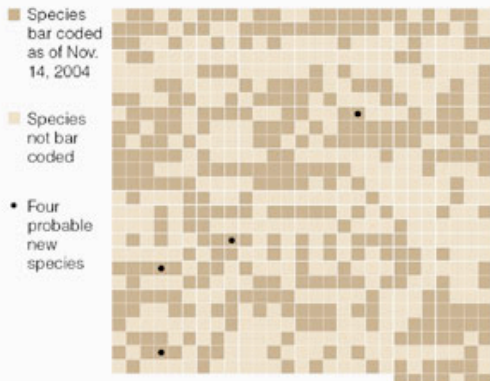
Section of 650 pairs analyzed, out of about 1.2 billion in each bird's genome.

**COLOR KEY**  
The four bases, which encode the information in a DNA molecule:

- GUANINE    ■ ADENINE
- CYTOSINE    ■ THYMINE

### KNOWN SPECIES OF NORTH AMERICAN BIRDS

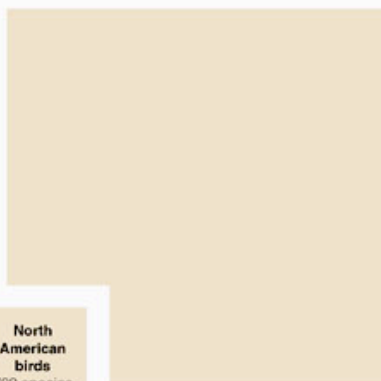
Of 709 identified, each represented by a square below, 341 have been bar coded. Four were discovered in the process.



Sources: Dr. Mark Stoeckle, Rockefeller U.; Dr. Paul D. N. Hebert, U. of Guelph

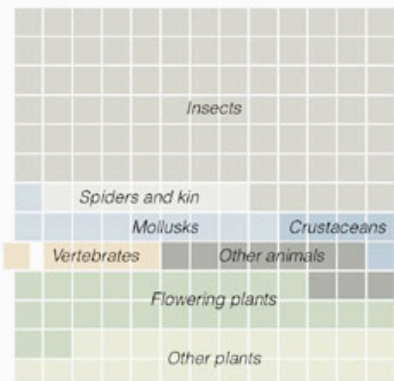
### KNOWN WORLD BIRDS

Approx. 10,000 named species



### KNOWN ANIMALS AND PLANTS

1.7 million species; total biodiversity is thought to be about 10 million species.



The New York Times