

## PROBLEMS IN FIELD IDENTIFICATION AND THE NEED FOR TAXONOMIC CONSERVATISM

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Pettingill (1970) defines a species as a "population, or populations of mutually fertile individuals reproductively isolated from individuals of other populations and possessing in common certain characters which distinguish them from any other similar population, or populations. If cross-breeding of two species occurs, the offspring are often sterile." Species are distinguished by taxonomic characters not shared with any other groups.

A subspecies, as defined by Pettingill, is "a geographically limited population whose members possess in common certain taxonomic characters which distinguish them from all other populations of the species. All the subspecies of a species are mutually fertile."

These definitions tell us that we should suspect the species status of forms that are difficult to distinguish in the field, even if they occupy different geographic areas and often different habitats. Evolution of new forms is a gradual and continuing process. At first the *vocal* and *visual* characteristics that evolve in response to the demands of natural selection are only a difference of degree, being so slight as to be identifiable only in the hand by measuring, weighing, or comparing with other specimens. These newly evolved geographical variations, or subspecies, sometime may interbreed where their ranges overlap resulting in fertile intergrades. These intergrades, however, may be difficult to distinguish in the field because they may look like either parent. Eventually the taxonomic characters become distinctive enough to allow the parent populations to occupy the same area without interbreeding.

Some forms are judged by taxonomists to be separate species before it has been shown that the birds are in fact reproductively isolated. Often the birds in question are allopatric, thus their field marks have never been tested in nature. Below are some likely examples:

Common and Yellow-billed Loons	King and Clapper Rails
Western and Clark's Grebes	Am., Eur., and Carrib Coots
Glossy and White-faced Ibises	The Golden Plovers
The White-fronted Geese	Ringed and Semipal Plovers
Am. Black and Mottled Ducks	The Dowitchers

Gt. Black-backed, Western, and Yellow-footed Gulls	Bl-capped and Carol Chickadees
Herring, Iceland, Thayer's Gulls	The Tufted Titmice
Groove and Smooth-billed Anis	Pygmy and Br-headed Nutatches
The Screech Owls	Northern and Loggerhd Shrikes
The Red-bellied Woodpeckers	The Parulas
Yellow-bel and Acadian Flycat	The Waterthrushes
Tropical and Couch's Kingbirds	Great and Boat-tailed Grackles
Purple, Gray-br, Carrib Martins	Eastern and Western Meadowlks
The Rough-winged Swallows	Common and Hoary Redpolls

The above forms cause many identification problems in the field where they cannot be examined in hand, so it is important that they not be called separate species until they actually are. True bird species have evolved prominent visual and vocal features which serve to identify them readily, and to keep them isolated from other closely related species, especially during the breeding season. Good species, therefore, should be easy to identify.

Listed below are some closely related species that share portions of their breeding ranges and have evolved field marks prominent enough to make them much easier to identify. These field marks have been tested in nature and found to be adequate in keeping the species separate. Some examples are:

Horned and Eared Grebes	Tenn and Nashville Warblers
Blue-winged and Cinnamon Teals	Bay-br and Blackpoll Warlers
Greater and Lesser Scaups	Western and Scarlet Tanagers
King and Common Eiders	Summer and Hepatic Tanagers
Com and Barrow's Goldeneyes	Rose-br and Bl-headed Grosbeaks
Com and Red-br Mergansers	Indigo and Lazuli Buntings
Cooper's and Sharp-sh Hawks	Baltimore and Bullock's Orioles
Hairy and Downy Woodpeckers	Red-winged and Yellow-headed
Gray-ch and Swainson's Thrushes	Blackbirds

Recent DNA-DNA hybridization studies by Sibley, Ahlquist and Monroe (1988) provide hope that we will have objective criteria for determining when two closely related forms have reached the separate species stage. Myers (1988), however, in applying mitochondrial tests to dowitchers, calls them distinct, and yet their breeding ranges are so separate that it is doubtful that their distinctness has been adequately tested in nature. If the dowitchers have achieved full species status (reproductive isolation), then they should be easy to identify. The fact

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that they show some distinctness on the mitochondrial tests is apparently only one step in proving that they are distinct species.

Too liberal a course of action in taxonomy tempts the field observer to add another species to his list, or make pronouncements based on obscure field marks, or on vocalizations outside the breeding season and without visual clues. Editors and compilers of distribution, migration, and abundance material such as State Bird Books, Christmas Bird Counts, Breeding Bird Surveys, and Season Reports have a much tougher job judging rarities when the list is loaded with poorly delineated species. Even in 1988, almost identical South American forms were illustrated in color and described as new species, without any proof of sympatry or mention of having achieved reproductive isolation! Certainly there was no field mark, obvious or otherwise, by which these new "species" could keep themselves distinct. What we need is more taxonomic conservatism to help us keep our regional lists free of questionable entries. The bottom line is that no matter how sophisticated the procedure, if it does not meet the definition of a species, it cannot be called a species. Remember, the birds themselves are usually doing their best to tell you who they are!

### LITERATURE CITED

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