WESTERN BIRDS

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WHY NEGLECT THE DIFFICULT?

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Records of eastern birds in the West, especially in California, show an ever-increasing taxonomic discrepancy. Reports of especially distinctive species, resembling no local birds, may increase at a nearly geometric rate: there were already 382 valid California occurrences of the American Redstart *(Setophaga ruticilla)* through 1968 alone (McCaskie 1970a: 42), and over 200 of the less conspicuous Blackpoll Warbler *(Dendroica striata;* McCaskie 1970b:95), which had not even been authentically recorded anywhere in the West prior to the 1960s. Yet California still lacks published records of several eastern flycatchers (mostly recorded from Arizona) and of many eastern *subspecies*: for example, those of Hermit and Swainson's thrushes (as migrants; *Catharus guttatus* and *ustulatus),* Bell's, Solitary, and Warbling vireos *(Vireo bellii, solitarius,* and *gilvus),* such warblers as Nashville *("Vermivora" ruficapilla),* Yellow *(Dendroica petechia),* and Wilson's *(Wilsonia pusilla),* and various finches and sparrows—even though some of these, in the far north, extend west to Alaska. Eastern birds appear to stray west only if they lack western relatives, just as migrants used to "arrive" only on weekends!

Nevertheless, *all* straggling is of interest. What, then, should we be looking for?

SPECIES VS. SUBSPECIES

Subspecies have a bad name, even among well-known ornithologists. For example, *The Ibis'* editors for years stated flatly: "Trinomials are not admissible" except under special circumstances. Disagreements on the validity or identification of subspecies are not infrequent even among experts; many subspecies are indeed hard to distinguish, even with adequate series (hardly ever available); and puzzling variants and intermedi-

ates occur. Caution is clearly warranted, but this is not a unique feature of subspecies, as we shall see.

Undue neglect, or fear, of subspecies is not only unscientific; it can hamper rational efforts to conserve "biological diversity," as Dr. Stebbins terms it, and to understand bird movements. For instance, Summer Tanagers *(Piranga rubra)* breed in the southwest from the Colorado River valley east, but are very scarce in winter. At this and other seasons, stragglers also appear farther north (to Colorado) and west to the coast. These were long assigned to the western race *cooperi;* but when Loye Miller began to distinguish the races, and others followed (Phillips et al. 1964; Rea 1970), *cooperi* proved to be merely accidental in winter or off its breeding range, with only one valid coastal record. Other out-of-season or out-of-range records that can be verified pertain almost entirely to *P. r. rubra* of the eastern and southeastern (!) United States—a most unexpected source!

Shall we now forget the migrations of the various races of *Junco,* flicker *(Colaptes),* Yellow-rumped Warbler *(Dendroica coronata),* and Northern Oriole *(Icterus galbula),* just because they are not good species? Of course not; the significance and interest of their *migrations* do not depend on taxonomic questions. And suppose we later think one of them is, after all, better regarded as a species. Must we again find, as did Devillers (1970) on the sapsuckers, "complete lack of information on identification in field guides and a consequent confusion...ignorance of their comparative distribution and abundance, and failure to recognize real hybrids..."?

Neglect of subspecies can lead to completely mistaken ideas. Western female Red-eyed or Bronzed Cowbirds, particularly the race *Molothrus aeneus loyei (Tangavius aeneus milleri),* are plain gray, by no means blackish as still erroneously described in field guides (cf. Peterson and Chalif 1973). Reliance on such books cannot but lead to misidentifications. Confusion of races that differ strikingly in size (not color) has muddled the remarkable history and migrations of our other cowbird, the Brown-headed *(M. ater),* both along the Pacific Coast and in western Texas (see Phillips 1968b and Wauer 1973, vs. Grinnell and Miller 1944 and Oberholser et al. 1974).

Yet many people who happily ignore subspecific divergence in sapsuckers and cowbirds feel that the entry "sp.?" (in any genus except *Empidonax)* is a confession of poor "birdsmanship". Actually, of course, it is *far* easier to identify many female sapsuckers than most goatsuckers, young gulls and terns, hawks, etc., or even many young passerines.

Consider the teal. Male Blue-winged and Cinnamon teal *(Anas discors* and *cyanoptera)* are unmistakable in spring (alternate or nuptial plumage); but females, and males in other plumages, are almost indistinguishable externally. (There are anatomical differences, at least in

the syrinx, according to Lyndon L. Hargrave.) From August on, birders and banders avoid the ogre "species?" by a handy rule-of-thumb: call all these troublesome teal whatever species is commonest in the area in spring; never admit doubt!

These two teal, however, differ strikingly in their migrations. Blue-wings winter abundantly throughout Central America, and (increasingly sparingly) over most of South America; they are the commonest migrant duck in Colombia (Nicéforo and Olivares 1964) and Surinam (Haverschmidt 1968). Even in southwestern Ecuador "flocks of up to 1000" are seen (Marchant 1958). On the contrary, the northern race of Cinnamon Teal, *A. c. septentrionalium,* ranges commonly only to the highlands of Chiapas, México; apparently few go farther. Yet banded "Cinnamon Teal" from the eastern parts of California and Oregon, and eastward in the mountain states, are taken with fair regularity far beyond México, even to Panamá (Wetmore 1965) and Colombia (AOU 1957). Not surprisingly, the only published date of banding, in the United States, for any of these out-of-range birds seems to be 27 September, for a bird later recovered in Honduras (Monroe 1968).

Male Cinnamon Teal certainly outnumber male Blue-wings in the West in spring, in most years by a wide margin. Females presumably do likewise, though their automatic identification by the accompanying male can be risky; an apparent pair taken by Dr. C. T. Vorhies near Tucson, Arizona, proved to be male *discors* and female *cyanoptera.* But relative abundance in spring is not thereby proven for all other seasons. We should avoid rules-of-thumb, as our predecessors once did. Thus Brewster (1902:44) wrote: "...all of the seven blue-winged birds taken at this place [San José del Cabo, Baja California] in autumn by Mr. Frazar prove to be *cyanoptera.* They were shot at various dates from August 29 to September 31 [sic]. Teal supposed to be the same as those preserved were seen at San José del Cabo as late as November 9, but as immature autumnal specimens of *cyanoptera* are so very like those of *discors* that the two can be separated only by the most careful comparison of specimens in hand, it is by no means certain to which species the note last mentioned relates."

When we investigated this problem in Arizona (Phillips et al. 1964), we found no good proof that Cinnamon Teal even occur there in most of the fall, while there is at least a small flight of Blue-wings then. But no one has taken the hint and determined how much of the West this flight covers. Meanwhile, biologists blandly band "Cinnamon Teal", no one queries them, and dubious data pervade the literature more and more. Were these teal subspecies, all concerned would be more cautious, and our successors would not have to start from scratch and work out difficult species all over again. Thus does the bugaboo of species vs. subspecies falsify current concepts.

THE DETECTION OF UNUSUAL SUBSPECIES

Subspecies unusual in a locality are not always hard to detect. Nor does the search involve any killing of masses of common birds, which taxonomists have no desire, or time, to handle anyway. Its basis is simply knowledge of local ecology and distribution, at the season, and some acquaintance with museum skins. Thus we detected the various stray subspecies recorded in *The Birds of Arizona* by collecting the odd-looking, extreme-date, or out-of-place stray. We never handled numbers of birds to select specimens; thus anyone with a few strategically placed nets ought to do better.

An occasional species is so erratic that every flight should be sampled, particularly in the lowlands. Of *Loxia curvirostra* Griscom (1937:94) wrote: "Another moral of great importance is the necessity of collecting some specimens of Red Crossbills in every flight year, in whatever section of the continent it happens to take place." My own further studies fully endorse, indeed greatly amplify, this admonition; Red Crossbill flights from which specimens are not preserved and available tell us nothing of any scientific value (see Phillips 1974, 1975a). Other, more predictable species it is nonetheless wise to sample are wintering Evening Grosbeaks *("Hesperiphona" vespertina)* and Brown-headed Cowbirds. Lowland specimens of Brown Creeper *(Certhia familiaris)* and Golden-crowned Kinglet *(Regulus satrapa)* should be collected whenever possible. Nor should southern Californians forget that the main winter range of their local Fox Sparrow, the swollen-billed *"Passerella" iliaca stephensi,* is still undiscovered!

HOW TO LOOK FOR EASTERN FORMS

Many eastern subspecies are darker, and often less grayish (more rufescent), particularly on the back, than their western (or at least Great Basin) counterparts. Examples are: the Merlin *(Falco columbarius);* doves; Common Nighthawk *(Chordeiles minor;* back blackish, but a frosty whitish race occurs on the Great Plains); American Robin, *Turdus migratorius* (smaller, with obvious white spots in tail-corners); Water Pipit *(Anthus spinoletta);* Eastern or Common Meadowlark *(Sturnella magna);* various sparrows; and the Lapland Longspur *(Calcarius lapponicus).* But a few are paler, such as the White-breasted Nuthatch *(Sitta carolinensis)* and Winter Wren *(Troglodytes troglodytes;* especially on chest); and eastern woodpeckers may show more white or pale markings on the wings *(Dendrocopos* spp.) or back (Yellow-bellied Sapsucker, *Sphyrapicus varius;* see Devillers 1970). Geographic variations in species too complex to analyze here (certain sparrows, warblers, thrushes, etc.) are described in the classic volumes of Ridgway and Friedmann (1901-1950), and sometimes in *The Birds of Arizona.*

Under favorable conditions, the following hints may help select possible eastern strays. Land birds usually show more geographic variation than water birds, so are stressed herein. Along with subspecies, I include a few difficult eastern species for the consideration of western banders and field ornithologists:

Herons: The Eastern Green Heron *(Butorides v. virescens)* is a bit smaller than the more northwestern *anthonyi* and deeper rusty (less pale or even grayish-tinged) on the sides of the neck. (For the lower orders in general, see Palmer 1962).

Sandpipers: The Eastern Solitary Sandpiper *(Tringa s. solitaria)* has a wholly dark outer primary, without whitish speckling along its inner edge basally, and is slightly smaller than *cinnamomea,* sex for sex. Fall immatures have the back spotted with pale buffy (less cinnamon-tinged).

Hummingbirds: Female and young Ruby-throateds *(Archilochus colubris)* are very like Black-chinneds *(A. alexandri),* but the six inner primaries are still more pointed (narrowed) and the bill is shorter. The exposed culmen is less than 18 mm in males, though reaching 19.5 mm in females, whose measurements overlap *alexandri's.* In both species, young males usually differ from females by distinctly to heavily spotted throats; young male Ruby-throats are brighter green above, with this color extending over much of the crown (which is relatively dull in young Black-chins), in addition to their sharper inner primaries (Figure 1). Adult males look like small Broad-taileds *(Selasphorus platycercus)* with notched tails (central rectrices shortened) and without cinnamon-rufous tinges on flanks or lateral tail-edgings; in flight they do not produce the shrill whistling rattle of (non-molting) adult male Broad-tails.

Flycatchers: Small eastern flycatchers are often clearer or more greenish (less washed with brownish or dull olive) than their western counterparts, with more sharply contrasting (usually whitish) wing-bars and -edgings. Eastern *Empidonaces* (except the Least Flycatcher, *E. "minimus")* combine a broad, pale mandible (as in *traillii* and *difficilis* in the West) with a more pointed wing than western species (except many *hammondii,* especially males): their outer, tenth primary is as long as the fifth or longer. The Eastern Wood Pewee, *Contopus virens,* has a narrower chest-band, sometimes almost interrupted medially, of plain (less brownish) gray, and is also paler, less fulvous or brownish, on the concealed bend of the wing and, in immatures, has a more pronounced, paler wing-bar; adults have a pale mandible. The Eastern or Great-crested Flycatcher *(Myiarchus crinitus)* has a drab (not blackish) bill, gray (less whitish) throat and chest, and green-tinged crown that contrasts with the grayish sides of the head. On flycatchers see Phillips, Howe, and Lanyon 1966; Phillips and Lanyon 1970; and on the *traillii* complex Aldrich 1951, Stein 1963, and Wetmore 1972.

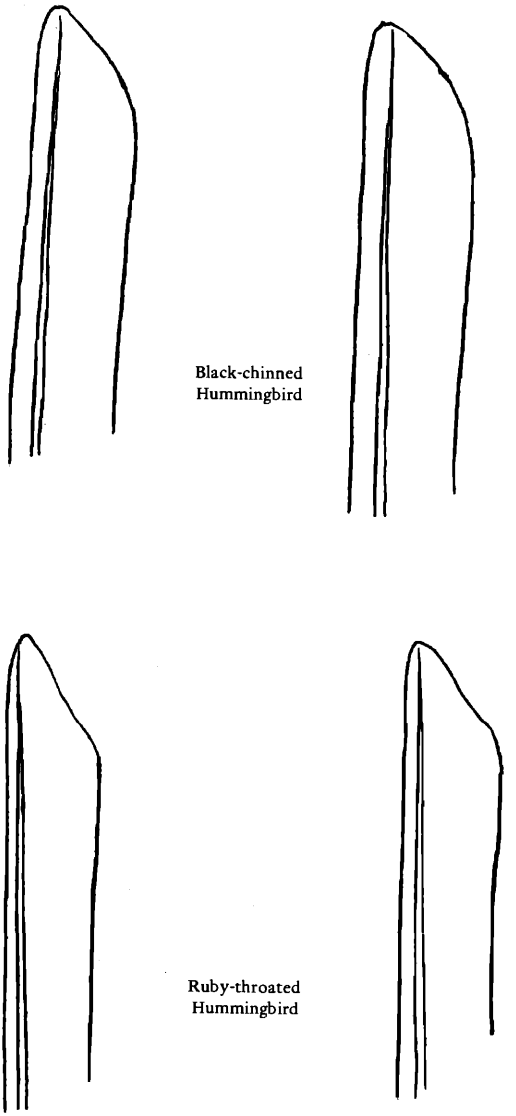

Figure 1. Variation in primary No. 6 (fifth, counting from outer, forward edge of wing) in *young male* hummingbirds. Upper two, Black-chinned (left, Baja California; right, Arizona): lower two, Ruby-throated (left, Morelos, México; right, Texas). U. S. National Museum of Natural History Nos. 203266, 258557, 128532, and 163859, respectively.

Drawings by Richard L. Zusi

Brown Creeper: The eastern races are shorter-billed, sex for sex, and with a slight buff tinge to the whitish superciliary; above they are relatively pale, with crown and back often rather reddish brown.

Wrens: The Eastern House Wren, *Troglodytes a. aedon,* is richer, more rufous-brown, above. The eastern race(s) of Winter Wren are also less sooty above; below the ground color is buffy or even whitish, not solidly brown-breasted. The migratory eastern races of Long-billed Marsh Wren *(Cistothorus palustris)* lack the faint dusky bars on the upper tail-coverts; while the Short-billed Marsh Wren, or Sedge Wren, *(C. platensis)* has these boldly barred and the crown streaked with whitish, not solidly dark.

Thrushes: Since the large, mountain races of Hermit Thrush normally migrate southeastward, individuals with the wing (chord) over 92 mm that appear in coastal regions should be preserved for study. The eastern and far-northern races (until badly faded in late winter, spring, and summer) have a strong brownish wash over the sides and flanks (and even the chest in autumn); these parts are nearly plain grayish in western races. (See Phillips et al. 1964.) Eastern races of Swainson's Thrush (and the Gray-cheeked Thrush and Veery, *C. minimus* and *fuscescens),* on the contrary, are grayer, less brownish on the flanks than the Pacific coast *ustulatus* (Russet-backed) complex; their backs are hardly if at all less reddish than the longer upper tail-coverts and the bases of the tail-feathers, which redden perceptibly in *ustulatus* but are usually grayish in these eastern forms (except of course Veeries). Eastern and Rocky Mountain Swainson's (Olive-backed) and Gray-cheeked thrushes have slightly larger, duskier, more prominent chest-spots than Pacific Russet-backs, due in part to their whiter background. In their brown-washed chests, Pacific *ustulatus* resemble most eastern Veeries, which, however, have even finer and less conspicuous spots than the usual western Veery. The Veery's real diagnostic character is the contrast of pale grayish flanks to tawnier sides of the chest and redder or darker upperparts, for many western Veeries are no redder above than some Pacific Russet-backs and hardly less spotted below. Here again the literature ignores subspecies (and seasonal variations) and is thus misleading; field guides ignore the flanks as well as all western races. The speculation (Miller and Stebbins 1964) that Rocky Mountain thrushes such as Olive-backs *(swainsoni* or *"almae")* migrate, other than as possible accidentals, through southern California (or anywhere nearby) is unfounded (Phillips 1947b, Phillips et al. 1964).

Blue-gray Gnatcatcher *(Polioptila caerulea):* The eastern race is not strongly marked, but is brighter, clearer (more bluish) gray above, within age/sex classes, and has less visible dusky at the base of the outer tail-feathers.

Golden-crowned Kinglet *(Regulus satrapa):* The eastern race is grayer, less greenish, on the back, rather short-billed, and more prominently white- and dusky-spotted on the wings. (The Ruby-crowned, *R. calendula,* is excluded, as eastern birds are inseparable from most western ones; see Phillips 1965.)

Water Pipit *(Anthus spinoletta):* Eastern birds are a darker, sootier fuscous above, but similar birds may prove to inhabit the Olympic Mountains, Washington. Rocky Mountain birds are larger (sex for sex), less streaked on the flanks (and generally less streaked in alternate or breeding plumage), and sometimes have a shorter hind claw; but similar color variants occur in other races, and the measurements of alleged *alticola* from California (Grinnell and Miller 1944) and the East must be compared before the records can be accepted (see Phillips et al. 1964; Sutton 1967).

Vireos: Eastern races are generally brighter, more yellowish on the sides and flanks and greener-backed, but eastern Red-eyed Vireos *(Vireo olivaceus)* differ only in somewhat darker crowns and backs, as far as I can see. Coastal Solitary and Warbling vireos, like coastal *Empidonaces,* American Goldfinches *(Spinus tristis),* and some coastal sparrows and warblers (especially in the San Francisco Bay area), tend to be smaller than their relatives elsewhere in North America; and this is nearly the only difference between coastal and eastern Warbling Vireos, though the eastern do have slightly paler crowns (and perhaps a larger, paler bill). It is advisable to collect Warbling Vireos on the coast with wings (chord) over 70 mm, or Solitaries over 77. Eastern Solitaries, besides being brighter yellow-sided, have a slatier (bluer) head, less pale or drab, age for age; the Rocky Mountain race *plumbeus* is plain gray-and-white, with slight yellowish tinges in fall plumage only. Both these are larger than Pacific *cassini,* with more white in the tail.

Warblers: Some eastern warblers are duller, less bright greenish and golden, than their western cousins; but age, sex, and plumage are also very important. This dulling eastward is most obvious, in Wilson's Warbler, on the lores and forehead, which have no chrome or orangeish tinge, though the back is also rather dull, deep (less yellowish) green. Eastern Orange-crowned Warblers, *"Vermivora" celata,* are often erroneously reported from California; but in fact they do not normally reach the coast. They are very dull, with dark backs and rumps even in males, young fall females being grayish below and on the head. Eastern Nashvilles (contra Miller 1942) are also dull, but less strikingly so. The dullness of eastern races of Common Yellowthroat *(Geothlypis trichas)* is expressed by a graying of the whitish band behind the male's black forehead and cheeks. In spring, male eastern Yellow Warblers have heavier, slightly darker rufous chest-streaks (in fall these are much reduced). Mourning Warblers *(Oporornis philadelphia)* may lack the white eye-arcs of MacGillivray's *(O. tolmiei),* in fact usually do so as adults, and males

in alternate (nuptial) plumage have the gray of the head commonly covering the lores and chin, thus accentuating the contrast of the black lower throat-patch. But I have seen a fall adult male MacGillivray's with no white on the eyelids, and must repeat that the only sure mark of the Mourning is the shorter tail, usually more than 9 mm shorter than the chord of the wing (or 10 mm shorter than the arc of the flattened wing; see Phillips 1947a:296 and Lanyon and Bull 1967).

Eastern Yellow-breasted Chats *(Icteria virens)* are greener above, less dull olive or drab, than western, unless worn; the white of their malar area is more restricted to the fore-part, near the eye and thence forward to the bill.

Icterids: Females and immature Baltimore Orioles *(Icterus g. galbula)* have dark, dull cheeks which lack bright yellow and do not contrast to the sides of the neck; they are often (but not always) more extensively yellowish below, over the posterior underparts, than normal *bullockii,* especially in adult females. This yellow is too rich (chrome) for Scott's Oriole *(I. parisorum).* They are heavier, less slim and long-tailed, than Hooded Orioles *(I. cucullatus),* with straight bills, not distinctly decurved at the tip; the lower mandible is uniform, not contrastingly black distally and pale (blue-gray) basally as in Hooded, Scott's, and many other orioles. Each full species' calls are distinctive, too. The Orchard Oriole *(I. spurius)* has a harsh, full, throaty *tchack* and is smaller than the Hooded (tail about 75 mm or less in females), which it otherwise resembles.

Eastern Brown-headed Cowbirds, like many eastern sparrows, have more swollen bills than western races (deeper, wider, more massive, and relatively shorter; see Hubbard and Crossin 1974); and females, if clean, also show a more whitish throat, often in considerable contrast to the grayish chest.

Tanagers: Northern tanagers in general have plain, uniform (red or yellowish) cheeks, without gray or black markings, except the more grayish cheeks of the Hepatic Tanager *(Piranga flava).* Only the Western Tanager *(P. ludoviciana)* has broad, conspicuous wing-bars, but young of other species may show narrow bars. Uniform, unpatterned tanagers from the Colorado River east are normally Summer Tanagers, whether or not they have pale bills; despite its emphasis in most field guides, the pale bill is useful only in adults in the breeding season, not at other times or in young (Phillips et al. 1964). More reliable in the identification of Summers are the clear staccato calls and the lack of graying on cheeks, flanks, and back, although young birds may be buffy brown in these areas. Female and young Summers vary greatly in color and may look much like female Scarlet Tanagers *(P. olivacea),* but are duller—more washed with brownish buff or olive, less definitely greenish above and less clear, clean pale yellow or greenish-yellow below than females

of *olivacea*; young male *olivacea* are black-shouldered. Scarlet Tanagers are smallest, about the size of a Western Tanager; Eastern Summer Tanagers are intermediate, and western races largest, particularly the tail (usually about 80 mm or more) and the swollen bill. Eastern *P. r. rubra* is also darker, age for age and sex for sex, than usual western *cooperi*, but a rather dark race in western Arizona complicates matters (Phillips 1966).

Cardueline finches: Eastern races have heavier, shorter bills (Evening Grosbeak) or longer wings (sometimes) than Pacific coast races. Eastern American Goldfinches *(Spinus t. tristis)* also show less white in the wings (and tail). Eastern Purple Finches *(Carpodacus p. purpureus)* are plainer fuscous-brown in females and young, lacking the olive (dull greenish) wash over the back. In this highly erratic group, northward wandering from Mexico should also be watched for. Evening Grosbeaks are difficult, but the Mexican race has a relatively shallow bill. Mexican Pine Siskins *(Spinus pinus macropterus)* are large, particularly long-tailed (tail about 46-50 mm long; see Phillips 1947b), and are sometimes very lightly streaked. Mexican Red Crossbills are large, with swollen bills (and often deep red or greenish); they often weigh over 39 g with wings (chord) over 93 mm in the female and over 96 in the male, and the width of the lower mandible, before entering the skin, is usually a full 10.5 mm or a little more. At the other extreme, and even less frequent in southern California, are the tiny *minor-sitkensis* group of (mostly northern) small-coned conifer forests; these commonly weigh 23-29 g, with the above measurements respectively under 83, under 85, and 8.0-8.8 mm in most cases. (For comparison, common measurements of crossbills in western forests of pines are: female wing 87-92, male wing 91-95, mandible 9.6-10.4, weight 32-39.) It is desirable to preserve a small series of skins of both females and red-bodied males from any invasion, especially of small crossbills.

Sparrows: Eastern "Rufous-sided" or Common Towhees *(Pipilo erythrophthalmus)* are solidly black, or even brown (!) in females, over the head, back, and scapulars. But the sedentary (?) northwest coast race *oregonus* is quite similar to the males of the eastern races.

Eastern races (like most others) of Savannah and Song sparrows *("Passerculus" sandwichensis* and *"Melospiza" melodia)* are not so broadly or blackly streaked below as California coast races, particularly the flanks in Song Sparrows, and the eastern races have bills somewhat swollen at the base. Eastern Fox Sparrows have pale, reddish streaks below and above, producing a patterned back, and have pale wing-bars. The relatively scarce Eastern Lark Sparrow *(Chondestes g. grammacus)* is sootier above, less brownish, with the cheeks (and sides of the crown) deep dull chocolate or almost dusky, not conspicuous bright chestnut. Eastern White-crowned Sparrows *("Zonotrichia" leucophrys)* have big pinkish brown bills and darkened lores like the mountain race *oriantha*,

but are somewhat darker dorsally and on the flanks, on direct comparison.

IS IT WORTH THE TROUBLE?

Most ornithologists will doubtless concede the importance of subspecies in studying such an erratic and unpredictable bird as the Red Crossbill. But some think this a unique species—as indeed it is. Yet the Summer Tanager, discussed above, is by no means the only case in which subspecies have shown that supposed lingerers or wanderers were in fact long-distance strays. This in fact is not uncommon in the cases of polytypic birds—and most bird species are polytypic. Thus it is advisable to have suspicious individuals collected and critically compared. This is particularly true in late fall, because (1) the arrival of stragglers seems to reach a high after the first days of October, and (2) the more difficult-to-identify subspecies become more and more difficult, often, as winter and spring progress, so that later birds may be impossible to identify to race. Let us examine the data produced by collecting birds at unusual dates and/or places, primarily in Arizona and northern Sonora.

All Eastern or Common Bluebirds *(Sialia sialis)* taken away from breeding areas (even just below them, as at Patagonia) are the dark-breasted eastern *S. s. sialis.*

The only Hooded Oriole taken after October is the eastern and central Mexican plateau race, *I. c. cucullatus.* The winter report of the local race *nelsoni* (to which all western breeding birds are probably referable) cannot be confirmed, contra the AOU (1957).

Two races of Brown Creeper breed in the mountains around Tucson. That to the south of town (Santa Rita and Huachuca Mountains) is so dark that its identity may be suspected in the field; there are no lowland specimens, nor have I ever seen it away from the mountains, even in Sonora. The more northern local race *(montana,* extending from here to western Canada) does occur rather regularly in the Tucson valley in winter; but whenever a sizeable flight occurs in the lowlands, most or all of the birds are of the far-northern and eastern race *americana,* which has even reached eastern California (Phillips et al. 1964).

Similarly, all Golden-crowned Kinglets from this valley (where they are scarce winter visitors and have never been found in flocks) are the eastern *R. s. satrapa.* This race is restricted by the AOU (1957) to south-central Texas, Minnesota, and east; while Grinnell and Miller (1944) and Miller (1951) lump all California birds in *olivaceus* (actually a northwest coast race). Naturally, therefore, Wauer (1962) reported as *olivaceus* the first California desert record. Reexamination of this Death Valley bird, however, shows that it too is *satrapa.* As far as I can determine, local breeders only exceptionally wander beyond the adjacent wooded mountains at any time. Straggling individuals from desert or

coastal southern California should be examined carefully in a museum.

The Ash-throated Flycatcher *(Myiarchus cinerascens)* winters rather regularly in central Arizona around Phoenix. But a closely similar bird not far northeast, near Roosevelt Lake, proved to be the only United States record of the tropical Nutting's Flycatcher, *M. nuttingi* (Dickerman and Phillips 1953).

Should a Brewer's Sparrow *(Spizella breweri)* turn up unexpectedly in northwestern California or the eastern part of the continent, the record will be far more meaningful if we know which of the quite similar subspecies it represents; for one breeds in sagebrush deserts, largely in the United States, while the other nests at timberline in the Canadian mountains.

The coin has a reverse side, too. Collecting of alleged strays (even if perfectly correctly identified) may prove them to be escapes, either of a distant, non-migratory race or with telltale signs of previous captivity. (See Willett 1933 on *Pitangus sulfuratus* in California; Hardy 1974 on *Passerina).*

UNUSUAL DATES

The time interval between fairly regular and exceptional occurrences may be small, or even non-existent. Once in Sonora I saw my last local (?) Summer Tanager, an adult male apparently *P. r. cooperi,* only a day or two before a female obviously small and dark (i.e. *P. r. rubra)* appeared. (These two races even overlap seasonally.)

In this Arizona-Sonora border region, the three dull orioles, looking like female Bullock's, that have been taken in winter all proved to be the longer-tailed, brighter-billed tropical Scarlet-headed Oriole *(Icterus pustulatus),* as did a 19 March bird, already within the migration period of Bullock's.

Water Pipits are seldom seen here after early May. When James R. Werner wisely collected one found in early June, it proved (after several years and one or two inconclusive studies) to be of an Asiatic race! (An unusually *behaving* pipit in Nevada likewise proved to be of Asiatic origin—Burleigh 1968.)

Similarly, most Nashville Warblers have left the Mexican border by about mid-May. When one flew aboard a ship off Los Coronados Islands on 28 May 1933, the observer judiciously collected it. It now proves to be the eastern race (Los Angeles County Museum).

In southern Arizona and northern Sonora, Swainson's Thrushes usually leave by the last week of October. The only one I ever saw later (9 November) proved to be the eastern race, here quite unusual—in fact, the only fall record. Yellow-faced warblers of the Townsend's-Hermit group *(Dendroica townsendi* and *occidentalis)* are also mostly gone after 22 October. A few Townsend's linger in November, but at

this time Black-throated Green Warblers *(D. virens)* from the east are just as likely, particularly in the lowlands. Two or three Black-throated Greens have also been sighted, by the usual "experienced observers" noting the usual "field marks", prior to late October; one of these was collected, however, and proved to be a hybrid of the other two species instead!

HAVEN'T WE PLENTY OF MATERIAL ALREADY?

Non-scientists and the uninformed generally imagine that museums have ample specimens already. Experienced researchers know better. One scarcely ever finds the information he needs. Such series as are presently available consist overwhelmingly of the commonplace (and often uninformative): the conspicuous territorial males, the bright, noisy, or gregarious transient, or the bird which (by its sheer abundance) can hardly be missed—now badly altered by "foxing" (post-mortem color changes), and with few or none of the data one seeks. Early collectors rarely captured (or prepared) the hard-to-get or troublesome—secretive species, extreme dates, juveniles, or birds in molt. They worked around their homes or in places of special renown. Museum coverage is thus very uneven from all standpoints: geographic coverage, sex, age, dates. A corollary of the dominance of the easy and conspicuous is the great scarcity of unworn specimens of many species, particularly freshly molted birds from the various breeding grounds. Therefore the identification of fall transients and wintering birds to subspecies is often nothing but an educated (?) guess, regardless of how definite checklists may appear to the uninitiated. One simply does not find useful material that is really comparable, i.e. of the same age, sex, season, degree of wear, color phase (if any), and in most species museum age. After 20 years, and several attempts, I am still uncertain of the geographic origin (subspecies) of a peculiar Fox Sparrow that turned up in Arizona—though this is a simple, monomorphic species! (That is, one need not compare specimens within sex/age classes, but can use anything.)

The winter ranges of various subspecies of the conspicuous swifts, swallows, and nighthawks remain unknown to this day. Even the species *Progne dominicensis* (2 subspecies) and *P. cryptoleuca* of martins have never been taken in winter, nor has the Dwarf Vireo, *Vireo nelsoni* (Phillips 1968a); and such species as the Mississippi Kite *(Ictinia misisippiensis),* Colima Warbler *("Vermivora crissalis"),* and Botteri's Sparrow *(Aimophila botterii)* are hardly better known. The migratory race of Allen's Hummingbird, *Selasphorus s. sasin,* is a common bird along the California coast; yet hardly any specimens at all exist in museums from the whole fall period, mid-September to mid-December, and its whereabouts for half the year remain poorly understood (Phillips 1975b)!

Yet our taxonomy, and with it our need of more and better specimens, constantly advances. Dowitchers *(Limnodromus)* were discussed

for almost a century before Pitelka's (1950) detailed demonstration that two species, one of them polytypic, are involved; even now the specific characters have not been set forth, and no useful key exists (one is in press, Phillips MS). Still more recent was the first elucidation of the specific characters of Nutting's Flycatcher (Dickerman and Phillips 1953; Phillips 1960; Lanyon 1961) and the Alder Flycatcher, *Empidonax alnorum* (Stein 1963; Phillips et al. 1966; Wetmore 1972). Not until 1973 were the species of gnatcatchers provided with a key (Phillips et al. 1973).

This process continues, and each time a new set of unsuspected *minutiae* or trifling variations proves to be all-important to separate species. Let us therefore avoid any arrogant assumption of omniscience, and preserve what we can: if not the complete bird, at least a full description, as advocated by Devillers (1970), and preferably full measurements and at least a few rectrices and characteristic remiges. The wisest of Records Committees cannot certify meaningful records in any group like the "Tropical Kingbird", where species' limits remain undefined (Phillips and Lanyon 1970:192).

Absence of specimen documentation has already riddled our literature with ridiculous reports, for example those from the Texas coast of numbers (!) of Wilson's Snipe *(Capella gallinago)* "seen" in July and of Anna's Hummingbirds *("Calypte" anna)* in September, and a smaller number of the even more improbable Costa's Hummingbird *("C." costae)* (Williams 1938; Oberholser et al. 1974). The gullible are even presented with "undoubted records" of such desert birds in Canada (Tatum 1974)! Are we not entitled to a little responsibility? Condoning of the publication of such wildly improbable "sightings", wholly without tangible evidence, is already degrading the literature; if allowed to continue, it will in time blur or blot out the true ranges and migrations of birds. Let those who feel no scientific responsibility enjoy themselves to the full, but in private, please, without confusing issues. California field ornithologists do well to uphold more sober and knowledgeable standards.

Anyone who supposes that concern for the welfare of lost individual birds is of any benefit to their species should read the AOU report (1975:6A-10A). Actually, a more real danger is that conservation problems may be hidden by irresponsible misidentifications and general superficiality. The wise bee-keeper takes an intelligent interest in the world about him.

One could go on and on. Birds seen under unusual circumstances can, and frequently do, represent unusual individual variation, hybridization, or some distant race or species that "shouldn't" be there—and which may or may not have arrived under its own power. *All* of this needs critical study by a taxonomist, verifiable again and again in a museum, and not just some people's say-so, if ornithology is to remain a science.

Banders and wildlife managers go to a lot of trouble to mark individual birds for more-or-less temporary recognition. But subspecies, as Joe Marshall points out (in Phillips et al. 1964:x), are whole populations already permanently marked by Nature! Surely we should not reject Nature's helping hand. Anyone with the slightest grasp of the scientific method knows that exact identification of its materials must be the *sine qua non,* or indispensable basis, of all science, without which it dies. Let us beware of starting the long slide back toward the dark ages of humours, good and evil spirits, omens, witches, etc.

CAUTION

A few additional words on the dangers of premature and over-positive identifications may not be amiss. "Foxing" is quite general in bird skins, and a newly collected bird must be allowed to undergo this post-mortem fading for several years, frequently, unless equally recent material can be found to represent other races. Furthermore, as Dr. Joe T. Marshall, Jr., pointed out to me, growing feathers are darker than the self-same feathers after molt is completed! The aim of this paper is not to extend the flood of misidentification to the subspecific level. Anyone feeling unduly confident in his ability to name birds is strongly urged to examine adult Veeries shot in August; the old and new feathers on one bird are just as different in color as are most species of thrush.

July and August are especially bad months from the standpoint of molt (not covered by field guides). White or pale feathers, or parts of feathers, are less resistant to wear than dark parts. Thus worn birds appear very dark, but do not thereby become eastern races. A worn Mountain Chickadee *(Parus gambeli)* may be transformed into one of the black-capped species. Even as early as 6 June I once collected a black-bellied wren which proved to be an ordinary House Wren with the pale feather-tips worn off, exposing the dusky bases. Other birds may become bleached or discolored by summer, and juveniles frequently show markings not present in adults and thus denied by field guides. Blackbirds molt their tails and become "starlings". The over-positive should stop birding by mid-June, or take their field guides with a few grains of salt.

CONCLUSIONS AND SUMMARY

In any difficult group, correct understanding (and with it field identification) depends in the final analysis on our collections; this I recently (1975c) showed for the Semipalmated Sandpiper, *Calidris pusilla,* which simply does not winter in most of the United States where it is "seen" by the hundreds or thousands every winter, by all of our most experienced observers under the most ideal conditions! Therefore field ornithologists should strive to preserve scientific evidence; for example,

at least a few tail-feathers should be saved from any record of importance that is to be released (even after examination by an expert on the group); Museums, for their part, should make adequate provision for the permanent preservation of specimens which may be quite incomplete.

Only careful study of difficult species and subspecies can round out our knowledge of the ecological and seasonal distribution of western birds and of straying. Hints are given to help western ornithologists recognize eastern strays. Careless rule-of-thumb identification, and failure to preserve specimens of banded birds (never handled by ornithologists), have distorted the winter range of northern Cinnamon Teal beyond recognition. Other species are misunderstood through carelessness in treating subspecies (Swainson's Thrush, Brown-headed Cowbird). Specific or subspecific status is no guarantee that a given bird is or is not distinctive afield, or that it does or does not require detailed attention.

Situations that look deceptively simple superficially, i.e. when viewed only at the level of the species (or group of similar species), often prove to be hybrids *(Dendroica),* color variants (not discussed here in detail), or escapes. Additional eastern subspecies are here newly recorded from California.

Some common birds (Allen's Hummingbird, Stephens' Fox Sparrow) are still inadequately represented in all museum collections combined. Additional birds needing special study and collecting include the Brown Creeper, Golden-crowned Kinglet, Brown-headed Cowbird, and especially the Red Crossbill. Nor should serious conservationists neglect the collecting of stragglers to try to determine what pesticides, if any, may be disrupting bird migrations.

Wildlife officials should avoid unrealistic to impossibly stringent requirements for permits, which hamper or indeed prevent progress in many aspects of our still quite imperfect knowledge of birds' movements and their causes. Such regulations are wholly irrelevant to bird populations and their annual fluctuations (AOU 1975:6A-10A). Do we wish to promote and encourage interest in, and understanding of, what still remains of the world around us, or to muzzle, thwart, and penalize such interest in an unrealistic, political, and unconsciously (?) anti-scientific manner while habitats dwindle and disappear?

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Robert W. Dickerman kindly read part of the manuscript. Most obvious, of course, is my debt to such brilliant predecessors as Baird and Ridgway, who laid the solid scientific foundations on which ornithologists may build.

None of the above is, of course, in any way responsible for any error, opinion, or conclusion herein.

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