

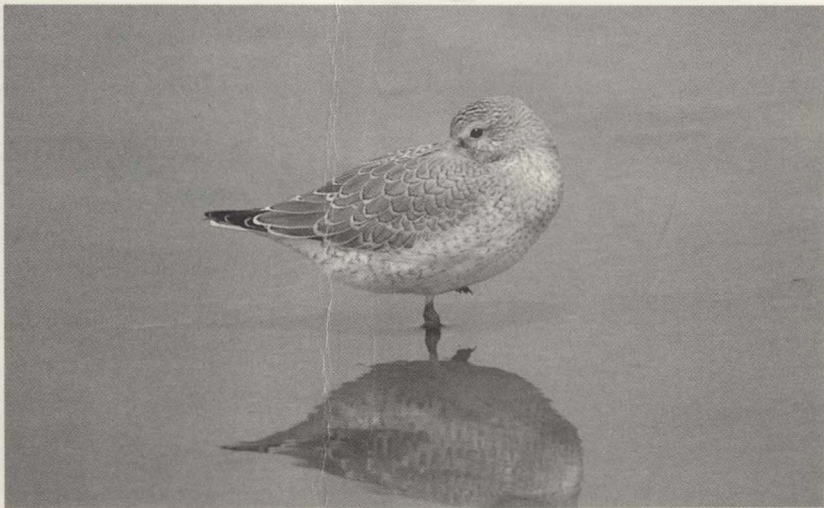
CONTINENTAL BIRDLIFE

VOLUME 2, NUMBER 4, AUGUST 1981

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Snap Judgment 10



On an autumn trip you notice this shorebird standing some distance away in shallow water. It is resting with its bill tucked away, and no other bird is nearby for size comparison. What is the bird?

The answer, a full discussion of the identification, and the name of the photographer will appear in the October 1981 issue of *Continental Birdlife*.



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Drawings in this issue: Short-billed Dowitcher *Limnodromus griseus* on p. 105 and Great Blue Heron *Ardea herodias* on p. 109 by Marilyn Hoff Stewart.

Cover photograph: Jamaica Bay lies practically in the shadow of the New York City skyscrapers, but every year in late summer the migrant shorebirds arrive there by the thousands. Every year, too, a tall solitary figure prowls Jamaica Bay, camera at the ready, stalking shorebirds. Here a Greater Yellowlegs *Tringa melanoleuca* paused to stretch, and was captured on film by New York's shorebird expert and photographer *par excellence*, Thomas H. Davis.

In this photograph notice the fresh unworn plumage and the white wedges spaced along the edges of the tertials, proclaiming this bird to be a juvenile.

CONTINENTAL BIRDLIFE

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Field Studies of Bird Migration — A Brief Overview and Some Unanswered Questions

KENNETH P. ABLE

The mysteries of migration may take decades to solve, but anyone in the field can turn up valuable clues. Here, a leading professional migration researcher who is also an active birder points out the possibilities

ON A crisp early morning in late August we were hiking the trail between Rustler and Barfoot Parks, high in the Chiricahua Mountains of southeastern Arizona. This is an area of the country in which migration is thought to be sparse and inconspicuous, at least by those of us who have come up through the "eastern establishment." The Chiricahuas comprise a large area of heavy forest and cannot be considered a migrant trap. Yet on this short hike we encountered several large mixed species flocks with many migrants. Hermit Warblers *Dendroica occidentalis* predominated, followed by Townsend's *D. townsendi*, Black-throated Gray *D. nigrescens*, Orange-crowned *Vermivora celata*, and Wilson's Warblers *Wilsonia pusilla*, plus numbers of several species that breed in the immediate vicinity. The number, variety and behavior of the birds was in every way comparable to what one might see in the East during a good fall migration wave. I was struck by how little we know about the basic natural history of bird migration even on this relatively well-studied continent.

In this article I hope to give an overview of the state of knowledge and recent work in a few areas of migration study. While outlining some of what we know, I also want to spotlight areas in which our knowledge is inadequate, especially those aspects that are amenable to investigation by field birders. I believe that amateurs (I imply nothing by this term except that the person does not earn a living from ornithology) can make significant contributions to our understanding of migration. True, many aspects of migration study require sophisticated, expensive equipment, elaborate procedures, maintenance of experimental birds, and investment of time that are beyond the capabilities of the non-professional. On the other hand, many skilled field observers possess an intimate knowledge of avian natural history far exceeding that of many products of today's Ph.D. programs. Ironically, the avian biologists emerging from our graduate schools are often completely untrained in classical ornithology. In

addition, the young professional interested in bird migration cannot often justify to his peers (or to the granting agencies on which he depends) pursuing the kinds of descriptive studies for which the amateur is best suited. Yet we still need those basic data. Thus there exists considerable potential for productive complementarity.

The migration patterns we observe today are the products of gradual evolutionary change over geological time. The major steps of this process are easy to reconstruct. Take, for example, an individual bird that disperses and by chance comes upon an area with an unexploited flush of resources, where it breeds. If the dispersal behavior of that bird is under genetic control and if it is able to produce more viable offspring than its sedentary conspecifics, the type of dispersal it exhibited will increase in the population. The beginnings of migration would have evolved. There is every reason to believe that this process is occurring constantly and in both directions, i.e., sedentary forms evolving migratory behavior and vice versa; but accounting for the details has remained difficult.

Field Methods

There are several ways in which field data on migration can be obtained: 1) direct observation as in hawk watching, counting sea birds on passage, migrants on the ground, etc.; 2) banding; 3) observation of nocturnal migration by moon-watching or portable ceilometers; 4) flight call counts of nocturnal migrants; 5) surveillance radars (Airport Surveillance Radar, ASR, and Weather Surveillance Radar, WSR) maintained by government agencies. All of these techniques could be employed in migration study in most areas of the country. Some additional comment is in order with regard to some of these methods.

Millions of birds have been banded by the army of volunteer banders that serve the Bird Banding Laboratory of the U.S. Fish and Wildlife Service. Many kinds of information about birds (survival rates, life expectancies, details of migration routes, settlement patterns of young birds, etc.) can be obtained in no other way. Ironically, most of the kinds of questions that the banding program was conceived to answer have proven intractable in passerine birds. The basic problem is that recovery rates for small non-game birds are incredibly low, making it almost impossible to get at the life history phenomena listed above. Often the most valuable information is in the hands of the bander himself, and all too few make use of the data they have gathered. However, banding has answered and can continue to answer many basic questions about migration, some of which are pointed out below.

Because most species and individual birds migrate under cover of darkness, means of observing their behavior has been a major impediment. However, with nothing more than a 20x spotting scope and a reasonable incidence of clear skies during spring and fall, one can quantitatively observe nocturnal migration by moonwatching. Traffic rates of migration and the flight directions of birds can be determined quite precisely using the methods outlined by Lowery (1951) and Nisbet (1959, 1961). For many areas of the country these basic aspects of nocturnal migration remain undescribed.

In some places frequent cloud cover renders moon watching impractical. For less than \$25 one can assemble a portable ceilometer, a 100W bulb with a parabolic reflector that produces a narrow beam of light pointed vertically into the sky. The observer lies on the ground and looks up the light beam with a 20x scope. Birds as high as 2,000 ft. are readily seen as they pass through the beam. As with moon-watching, the traffic rate of migration and flight directions of birds can be determined (for methods

see Gauthreaux, 1969, 1980; and Able and Gauthreaux, 1975). Ceilometers can be operated off standard car batteries and are thus highly portable, enabling observations to be made in remote areas with little advance preparation. With both moon watching and ceilometer observation it is possible to discriminate types of birds (e.g., passerines vs. waterfowl or shorebirds) and occasionally even species (a Great Blue Heron *Ardea herodias* passing in silhouette across the moon is unmistakable).

Most of us have marvelled at the "seeps," "chips," and whistles emanating from the night sky during migration. On some nights the number of calls is amazing. The well-trained ear can identify species groups and many species by their characteristic nocturnal calls. Unfortunately, many of the calls heard at night are rarely used during the day and it is difficult to associate a given call note with the species that makes it. Especially around dawn, however, many migrants emit the nocturnal flight calls, allowing a careful observer to associate call and caller. To the same end, one might also observe migrants at night around TV towers, lighthouses or floodlighted tall buildings.

There is at least one large-scale migration study based almost entirely on flight call data (Ball, 1952), but the technique has major limitations. The number of calls heard in a given time interval is a poor indicator of the number of birds passing over. Among other things, calling rate may vary with time of night, species composition (e.g., thrushes seem especially vocal), weather conditions, etc. Our ability to hear the calls will surely be a function of how high birds are flying, among other factors. Thus, one can learn something about the composition of the migrant swarm by listening to flight calls, but it is important to be aware of the possible biases (see Graber, 1968, for an evaluation). The most intriguing question about flight calls relates to their function. Despite some speculation (Hamilton, 1962; Griffin and Buchler, 1978), it is fair to say that we have no clear answer to the question, why do nocturnal migrants call as frequently as they do?

At most airports and many National Weather Service offices around the country ASR-4 and WSR-57 surveillance radars are in use that are ideally suited for the study of bird migration. How they can be used to reveal the spatial patterns, quantity and direction of migration has recently been summarized by Gauthreaux (1980). With proper advance arrangements, many of these radars could probably be used by interested persons to study migration in various regions.

Routes and Timing

Certainly for passerines, and probably for other species as well, the old idea of discrete flyways is invalid and obscures the complexity that characterizes migratory route patterns. Whereas a few species have rather proscribed routes of passage, migration in general takes place on a broad front. For only a few regions of North America, however, do we have sufficient data from radar or visual observations to delineate the relative magnitudes of migration in various directions across the seasons.

For a few species we know from banding data that adults and immatures migrate at somewhat different times during autumn (e.g., Murray, 1966; Hussell *et al.*, 1967; Clench, 1969; Johnson, 1973; Leberman and Clench, 1973). The picture for many other species could certainly be worked out from existing banding data and would be worth knowing. With careful field observation, such data could also be obtained for some groups without handling the birds. In most shorebirds, the adults, especially the adult males, depart the breeding ground earlier than the young of the year. The age classes of many of these species are easily separable in the field (see the excellent guide

by Prater *et al.*, 1977) and large amounts of data could be obtained by direct observation. Similar aging and sexing of many species would probably be readily accomplished under field conditions once adequate study of plumage variation had been made.

Geographic variation within species also provides an opportunity to learn interesting things about migration routes and timing. The carefully trained eye can often discriminate with reasonable accuracy the subspecies of even difficult groups by direct observation. For example, Jehl (1963) studied the timing of fall migration among the races of Short-billed Dowitcher *Limnodromus griseus* in New Jersey entirely by careful observation. Because birds need not be captured for this kind of study, large amounts of data can sometimes be accumulated rapidly and with minimal effort. Methods for identifying the sex, age, or geographic origin of individual birds are often discussed in the pages of *Continental Birdlife* and *British Birds*, but more analyses are needed.

A question of basic importance involves the routes taken by individual birds on subsequent migratory journeys. Do birds navigate with precision sufficient to allow them to repeat the route in detail, stopping at the same lay-over points enroute? Certainly many large water birds do so, but what of passerine nocturnal migrants? Are there cases in which banded songbirds have been captured in transit at the same place in different years? Only one certain case comes to mind (Goodpasture, 1979), but others may exist and I would be glad to hear of them. If such route retracing does not regularly occur, it suggests that navigation during much of the migration trip may be imprecise or lacking altogether. Perhaps birds use relatively simple compass orientation during most of the journey, true navigation occurring only when the goal is approached. If, on the other hand, it can be shown that passage migrants retrace routes in detail on subsequent migrations, quite different mechanisms of navigation might be implicated.

Weather Influences

Short-term weather events have major effects on bird migration. Most importantly, ambient weather, especially wind direction and trends of temperature change, has a major impact on the quantity of migration from night to night (Richardson, 1978, provides a comprehensive review). Migration traffic rates may vary by three orders of magnitude from night to night, and a significant proportion of this variability can be explained by weather. The correlation between nocturnal migration and weather variables is often difficult to detect by observing grounded migrants. Frequently the conditions that produce large concentrations of migrants on the ground (stalled fronts, fog, drizzle, etc.) are in fact quite unfavorable conditions for large migrations aloft. The various means described for observing nocturnal migration directly should all yield good results, however.

Banders could provide useful information regarding weather influences on lay-over times of passage migrants. On the average, it appears that songbirds stay at stop-over points for 3-4 days in inland areas, but published data are few. Recapture records from inland localities are the most desirable because they are likelier to be free of biases than samples from coastal areas. Possible correlations between layover times and ambient weather, fat levels, age, and species should be sought.

As flying animals, birds are naturally affected by wind in major ways. Wind direction and speed are among the primary determinants of the probability that a bird will take off on a given night during migration. Depending on the direction of flight,

wind can obviously facilitate or impede a bird's progress over the ground. For passerine birds which have generally low air speeds, a tail wind can often result in a ground speed of twice the air speed. In the case of long over water flights this fact may frequently mean the difference between success and death. It is not surprising that birds pay particular attention to this most important variable in their environment.

Wind Drift

Large migrations almost invariably occur with a following wind component, but often not a precise tail wind. This raises a difficult problem. A bird heading due south and flying in a wind from the west will move along a southeast course over the ground, i.e., it will be drifted by the lateral wind component. Field birders have long been aware of migratory drift — it is often relevant to the arrival of vagrants during migration — and most would accept it as dogma. Yet in the technical literature over the past two decades it has been a subject of great controversy. The crux of the problem is this: in the simple example used above, the usual assumption is that the bird wants to go south, i.e., that is the direction toward its migratory goal. By moving southeastward over the ground, it takes an indirect route to the goal, suffering lateral displacements that must be compensated for on subsequent flights. However, that the heading of the bird is really directed toward the goal is almost always an assumption in field studies. The second school of thought says that the bird's goal is really toward southeast, and having analyzed the wind situation, the bird alters its heading such that its path over the ground is toward the goal, i.e., it compensates for the drift. Why, then, should we see large differences in the direction of migration from night to night that are almost invariably correlated with wind direction? On the one hand it could be wind drift, but on the other it could be that birds with goals in certain directions selectively fly only on nights with the most favorable winds — if our bird wanted to go southeast it would wait for a night when the wind had an eastward component.

A little thought will convince you that without knowing the goal of a given bird, it is impossible to resolve this dilemma directly. Numerous less direct tests of the



MARILYN HOFF STEWART

hypotheses have been made and the overview seems to be that some birds are drifted by wind and others correct for drift. One has only to stand on Block Island, Rhode Island, following the passage of an autumn cold front, watching hundreds of nocturnal migrants beating their way northward back to the mainland, to perceive the reality of wind drift. Another clear-cut demonstration of drift will be described below. On the other hand, there is support for the wind selection-compensation hypothesis as well. Most recently, Crawford (1980) analyzed the composition of TV tower kills from northern Florida. He found that kills on nights with winds from the northwest contained significantly more individuals of species that are known to be Antillean migrants, whereas in northeast winds the samples contained predominantly trans-Gulf migrants.

Questions of wind drift and compensation cannot be readily addressed by ordinary field observation, except in special circumstances. It would, however, be of interest to have detailed data on the flight directions of passerine migrants re wind direction from many more areas of the continent. At present, adequate samples exist only for maritime Canada, New England and the southeastern states.

Orientation and Navigation

What information birds use to guide their flights on these immense journeys has intrigued scientist and layman alike for decades. Indeed, questions about orientation and navigation occupy much of the time and effort of ornithologists engaged in professional studies of migration. Only a very brief synopsis of what we know can be given here, but a factual summary of the subject appeared in the August, 1979, issue of *National Geographic* and more technical reviews are Keeton (1979) and Able (1980).

Orientation refers to the ability to determine compass directions. We now know that at least some kinds of birds possess the ability to derive directional information from the sun, star patterns, and the earth's magnetic field. Wind direction may also be used in orientation, but because it varies over time does not give absolute compass directions. In the southeastern United States there is a very strong tendency for birds to head downwind, no matter which way the wind is blowing. Flights in seasonally inappropriate directions are frequent, even when stars and other compass cues are readily available to the birds. The more general case, as we have found in upstate New York, seems to be that the visual cues (sun and stars) take precedence over wind direction when they are available. If solid overcast prevents a view of the afternoon sun and the stars, however, songbirds orient downwind even if that results in flight in a seasonally wrong direction.

Whereas magnetic influences have been demonstrated in migrants tested in orientation cages, such effects have been elusive in the free-flying situation. That is perhaps not surprising because a free-flying bird has access to much more information than the birds used in experiments to test magnetic orientation. Nonetheless, it would be worthwhile to make some observations on migrants around magnetic anomalies, i.e., in areas where the earth's magnetic field is distorted by large deposits of iron. Such places are really quite numerous, although not well mapped in many areas. Unfortunately, oil companies, which do much of the mapping, are not generous with the information. The effects of such an anomaly, if any, might be manifest only among birds that initiated migration within the distorted field, not those that are simply passing over the area. Likewise, any effects might be discernible only when other orientation information is lacking, e.g., under heavily overcast conditions. Portable ceilometers are ideally suited for this kind of investigation.

Dogma in this field has been that night migrants pay little attention to landmarks. This was based on the fact that, unlike many diurnal migrants, nocturnal flights often passed across coastlines with no sign of turning or responding to the potential "leading line." There is recent evidence, however, that night migrants do respond to landmarks in rather subtle ways. In eastern New York, the predominant direction of fall migration is southwest in calm or light winds. When strong west or northwest winds blow, migrants track southeastward in areas away from the conspicuous north-south Hudson River. Near the river, however, birds apparently turn because there, on the same nights, they fly southward, parallel to the river. This difference in orientation near and away from the river occurs only in strong winds lateral to the general flow of migration. We believe it is a clear demonstration of both wind drift over upland areas and compensation using landmarks at night when appropriate features on the ground are available. Similar behavior might be observable in many other areas, but it is important to remember that response to landmarks at night may occur only under certain conditions.

If birds migrating at night are sometimes drifted off course by winds, when do they perform corrections? We don't really know, but most of us have seen diurnal movements of birds usually thought to be strictly nocturnal migrants, especially in early morning hours. Gauthreaux (1978) has recently studied this phenomenon in inland South Carolina and hypothesized that the birds were compensating for wind drift accrued during previous nights' flights. Most morning flights were toward the northwest. In eastern New York, Bingman (1980) observed similar movements of loose groups of night migrants, usually accompanied by much vocalization. However, the migrants moved predominantly in the same directions as nighttime flights, i.e., no compensation was apparent. What is clear is that morning flights by nocturnal migrants are of frequent occurrence in most areas of the continent and they deserve careful attention. Important information can be obtained with nothing but binoculars and a compass. What species are involved? Are they a random sampling of the grounded migrants in the woods? Are adult birds over-represented in the fall flights (adult males of many species are identifiable even in flight), perhaps exercising navigational skills absent in young of the year? In South Carolina, Gauthreaux believes that they are.

For whatever reasons, some birds seem to get lost and wind up in places where they don't belong. Observers in coastal areas where vagrants concentrate are keenly aware of these birds and thousands of man-hours are spent searching for them. Yet there are many questions about vagrancy to which we still do not have clear answers. The number of vagrants reported, especially from the west coast of the United States, has increased dramatically over the last two decades. Are there really more vagrants these days, or can the increase be explained solely by the larger numbers of birders searching for them and by more sophisticated knowledge of where and how to find them? There are marked year-to-year variations in vagrants in California and a trend toward general increase over the last five or ten years of censuses on Southeast Farallon Island (DeSante, 1973, 1980), but no marked, consistent increase in vagrancy is yet evident.

Many other questions about vagrants arise. How do they get so far off course? Are they evolutionary misfits with faulty orientation mechanisms, doomed to fly in a wrong direction until they become statistics of natural selection? David DeSante, who has studied the phenomenon in California, thinks so. Certainly the vast majority are young birds on their first migration so the effects of both faulty orientation behavior

and inexperience may be combined. Of course, it is well known among banders that in fall immature birds of most species are disproportionately abundant in coastal regions. Perhaps vagrancy and this so-called "coastal effect" are mechanistically related. On the other hand, immature birds on islands offshore from New England do make reoriented landward flights, and very recently the same "coastal effect" has been found in the Great Lakes (Dunn and Nol, 1980). These observations cast doubt on the hypothesis that orientation malfunction is solely responsible for the well-documented and striking pattern.

What role does weather, especially wind, play in vagrancy? A recent analysis by Elkins (1979) of the occurrence of North American landbirds in Britain and Ireland showed that a strong association existed between strong west to southwest winds, rapid eastward-moving frontal waves and the arrival of vagrants. A similar appraisal of the California situation is somewhat complicated by the disparate origins of the birds, but as records accumulate some clear patterns might emerge.

Large waterbirds often migrate in flocks, frequently as family groups. This provides the opportunity for information sharing and for young to learn details of the migration route from adults. To what extent might information be shared by other birds that migrate in aggregate? Are flocks better oriented than single individuals? Hawks such as Broad-wings (*Buteo platypterus*) might be amenable to study in this regard. Is it possible that the calls of night migrants have significance for orientation? Unlikely perhaps, but no more far-fetched than other phenomena that have now been documented in this field.

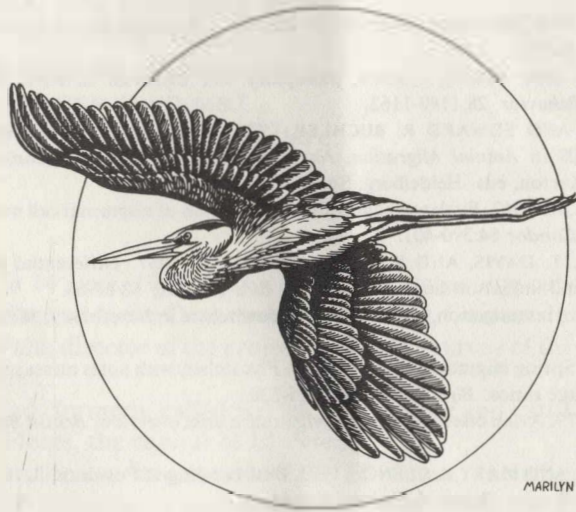
Adult birds return with great precision to previously occupied nesting and wintering sites. We know this from a large amount of banding data. The ability to do so requires something more than compass orientation. A bird must be able to assess its spatial position with reference to its goal (in this case, a precise point) and to calculate the appropriate direction of movement. This is called navigation and is conceptualized as requiring analogs of both a compass and a map. The ability to home to a point on the earth requires some direct experience with that area, although exactly what information is assimilated remains unknown. Young birds on their first migration appear to be genetically programmed to fly in a particular direction and for a distance that puts them within the winter range of their population. Once there, they apparently imprint on a specific locality sometime later in the winter (see Ralph and Mewaldt, 1975).

These broad outlines are fairly well established, but for most species the specifics are completely unknown. For instance, young birds return to near their natal site when they breed for the first time. But the details of the settlement patterns of first breeders is not well documented. How close to the territory of their birth do they establish their own claims? Do males settle closer to home than females? See Greenwood (1980) for a review of what is known.

Perhaps the most puzzling question in this whole subject of bird migration is what constitutes the mysterious map that seems necessary for homing navigation? Most recent work has concentrated on homing pigeons because they provide a convenient experimental system. Current attention is focused primarily on the possibilities of a map comprised of magnetic information or one based on olfactory cues. We seem not to be very close to an answer to the question. However, some experiments with homing pigeons released wearing frosted lenses revealed that they homed nearly as well as those wearing clear lenses, an indication that whatever constitutes the map does not involve detailed form vision.

Other sensory capabilities of birds (documented primarily in pigeons) have recently been discovered: detection of polarized light, vision in the ultraviolet, sensitivity to very small changes in barometric pressure, and ability to hear extremely low frequency sounds (so-called infra-sound). Some of this information which is largely beyond our own sensory world may be used by birds in some aspect of migratory behavior (see Keeton, 1979, Able, 1980 for reviews of these aspects).

It should be obvious that many puzzling questions about bird migration remain and each new discovery raises more. It is the possibility of unraveling some of these knotty problems that keeps many of us plugging away at what often seems a hopeless endeavor. But the task is large and there is ample room for significant contributions by layman and professional alike. My hope is that this short and selective review might stimulate such investigation.



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Summer Birds at Polol, Guatemala

HENRY AND PRISCILLA BRODKIN

In the tropics, any extended visit to a new area may produce worthwhile data on distribution. The results of one such visit to the Peten are summarized here

FROM 1 to 14 June, 1980, we worked at the archaeological site of Polol near the village of La Libertad in the Department of El Peten, Guatemala. At the suggestion of Dr. Gary W. Pahl, director of the project, we made a survey of the birds of the Polol — La Libertad area.

La Libertad, formerly called Sakluk, is a lumber and cattle town located 32km southwest of Flores, the capital of El Peten.

Continuous forest covers most of El Peten, including the famous and ornithologically well-known archaeological site of Tikal. La Libertad, however, is surrounded by an extensive area of short grass savanna, dotted with small trees and occasional *bajas* (low places) in which brambly, tree-studded thickets occur. Breaking up the savanna are a series of low hills and ridges covered with heavy semi-deciduous tropical forest. This forest does not seem to be as tall or complex as that at Tikal. On one of these low ridges some 7km southwest of La Libertad is the ancient Maya site of Polol, currently being surveyed and partially excavated by Gary W. Pahl, Ph.D., of the Anthropology Department at San Francisco State University. Some clearing of the undergrowth and smaller trees has taken place to facilitate this archaeological work, though many trees were left to provide shade for the workers. Some of the larger trees in the area have traditionally been harvested for lumber and a short lumber road penetrates the forest east of the site. A few survey lines were being cut through the forest.

Elevations lie between 190m on the savanna and 290m on the hilltops. There are no rivers or creeks in this thin-soiled limestone area. Water collects in *aguadas* (ponds) and in the *bajas* from the rains that fall chiefly from June through November in the form of heavy showers, usually in the afternoon.

There are some days when no rain falls and others when it rains all day. The rains

had started just before our arrival on 1 June. The countryside was quite green with little evidence of the recent dry season. Most of the trees were in full leaf, some in blossom or bearing fruit. The grass on the savannas seemed quite short, possibly caused by grazing cattle.

Our study consisted of (a) 1 hour on each of 7 mornings of intensive observation at the Polol site and the savanna boundary; (b) 4 hours of intensive birding in second growth woodland and savanna at La Libertad; and (c) countless hours of casual observation at our quarters in La Libertad, while performing archaeological duties at Polol, and during the hour or so daily travel time across the savanna between the village and the archaeological site.

The following list is based on sight and sound observation only; no mist netting or collecting was done. All but a few of the species were familiar to us from previous trips to Mexico, Costa Rica, and northern South America. Sightings of new species were checked very carefully and eliminated if there was any doubt whatever as to their identity. We found "A Field Guide to Mexican Birds" by Roger Tory Peterson and Edward L. Chalif (whose species sequence and scientific nomenclature this paper follows), along with Land (1970) and Smithe (1966) cited below, most useful in the field. A tape recorder was used to good advantage attracting birds by playing back their own songs. We also used tapes made from L. Irby Davis' recording "Mexican Bird Songs" and John W. Hardy's recording "Voices of Neotropical Birds" as an aid to identification.

The following keys are used:

Habitats

- P — The forest at the archaeological site of Polol
- S — Savanna between La Libertad and Polol
- L — Immediate vicinity of La Libertad
- W — Second growth woods to the north and west of La Libertad
- M — Savanna to the west of the woods
- T — Tikal (based on our observations from 15 to 21 June, 1980; included for comparison)

Status

- a — abundant, species seen on every visit to its habitat
- c — common, species seen on most visits to its habitat
- u — uncommon, species seen only occasionally on visits to its habitat
- r — seen only once
- * — an asterisk indicates the bird was heard only

The above categories do not necessarily represent an accurate measure of abundance, but rather a measure of conspicuousness.

THICKET TINAMOU, *Crypturellus cinnamomeus*, Wc * — quite a few heard in semi-deciduous second growth woodland.

GREAT EGRET, *Casmerodius albus*, Lr — 5 June (Tu) — one seen flying high over village.

CATTLE EGRET, *Bubulcus ibis*, Su — four or five birds seen near *aguada* with

- cattle.
- GREEN HERON, *Butorides virescens*, Lr — 2 June, one seen flying.
- TURKEY VULTURE, *Cathartes aura*, Pu, Sc, Lu, Mc, (Tc) — most common over savannas.
- BLACK VULTURE, *Coragyps atratus*, La, Su, (Ta) — most common near village.
- KING VULTURE, *Sarcoramphus papa*, Lr — 10 June, (Tu) — one subadult bird soaring with Black Vultures over north edge of village.
- PLUMBEOUS KITE, *Ictinia plumbea*, Pc, (Tc) — frequently seen soaring over forest. On 3 June, one bird was seen on nest 15m up in large tree. Nest supported by bromeliad. Bird got up from nest and put head into it, as if turning eggs or caring for small young.
- ROADSIDE HAWK, *Buteo magnirostris*, Sc, Mc, (Tc) — very vocal; adults seen tending recently fledged birds.
- PLAIN CHACHALACA, *Ortalis vetula*, Sa, Lc, (Ta) — very vocal; common in *bajas*.
- BLACK-THROATED BOBWHITE, *Colinus nigrogularis*, Sa, Ma — seen in small covies of 2 to 6 birds. Not shy. Calls heard.
- RED-BILLED PIGEON, *Columba flavirostris*, Pc — more easily seen, less vocal than Short-billed; higher in trees. Not listed for the Peten by Land (1970).
- PALE-VENTED PIGEON, *Columba cayennensis*, La, Sa — common pigeon of open areas and village.
- SCALED PIGEON, *Columbia speciosa*, Sc, Mc — usually seen flying.
- SHORT-BILLED PIGEON, *Columba nigrirostris*, Pa, Wc, (Ta) — calls constantly, rarely seen (but not shy). Middle levels of forest.
- RUDDY GROUND-DOVE, *Columbina talpacoti*, La, Sa, (Ta).
- GRAY-HEADED DOVE, *Leptotila plumbeiceps*, Pc, Wc, (Tc) — heard more often than seen. Usually seen on ground, shy. (Other *Leptotila* doves seen flying singly and in pairs over the savanna were probably White-tipped, *verreauxi*, but we could not get close enough to verify.)
- SCARLET MACAW, *Ara macao*, Pc — seen in flocks of 3 to 20 birds.
- AZTEC PARAKEET, *Aratinga astec*, Lc, Mc, (Tc) — seen flying in large tight flocks.
- WHITE-CROWNED PARROT, *Pionus senilis*, Pc, Sc, (Tc) — large flocks.
- WHITE-FRONTED PARROT, *Amazona albifrons*, Sc — 2 seen daily at La Libertad coming in to a feeder. Least common of parrots.
- RED-LORED PARROT, *Amazona autumnalis*, Pa, Sa — large flocks, vies with next species as most common parrot.
- MEALY PARROT, *Amazona farinosa*, Pa, Sa, (Ta) — flocks not as large.
- YELLOW-BILLED CUCKOO, *Coccyzus americanus*, Pr — 13 June, one seen high in large tree in forest along lumber road east of site. According to Land (1970), there are no spring records for Guatemala — and none for El Peten at any season.
- SQUIRREL CUCKOO, *Piaya cayana*, Pr — 7 June, (Tc) — creeping in vines, upper mid levels.
- GROOVE-BILLED ANI, *Crotophaga sulcirostris*, Sc, Mc, (Tc) — in small flocks.
- STRIPED CUCKOO, *Tapera naevia*, Sr — 13 June, one seen well by side of road; none heard; Land (1970) does not indicate this species for the Peten.
- VAUX'S SWIFT, *Chaetura vauxi*, La, (Ta) — large flock seen above village.
- LONG-TAILED HERMIT, *Phaethornis superciliosus*, Pa, (Tc) — seen and heard in low forest.
- LITTLE HERMIT, *Phaethornis longuemareus*, Pc, (Tc) but less common than

above.

WHITE-BELLIED EMERALD, *Amazilia candida*, Lr — 2 June, (Tu) — one seen feeding in flowering hedge.

RUFOUS-TAILED HUMMINGBIRD, *Amazilia tzacatl*, Pa, Lc, (Ta) — most common hummer of the region.

SLATY-TAILED TROGON, *Trogon massena*, Pu, (Tc) — in heavier woods than Citreoline Trogon.

CITREOLINE TROGON, *Trogon citreolus*, Pc, (Tc) — favors more open, scrubby situations; calls in groups.

BLUE-CROWNED MOTMOT, *Momotus momota*, Pc, (Ta) — its double hoot call is one of the more characteristic sounds of the forest.

RUFOUS-TAILED JACAMAR, *Galbula ruficauda*, Pc, (Tc) — seen in pairs, noisy.

KEEL-BILLED TOUCAN, *Ramphastos sulfuratus*, Pu, Sa, Wu, (Ta) — usually seen early A.M. flying across the savanna.

COLLARED ARACARI, *Pteroglossus torquatus*, Sr — 2 June, (Tc) — only one seen at edge of forest in bare tree.

CHESTNUT-COLORED WOODPECKER, *Celeus castaneus*, Pc, (Tr — 19 June) — the common forest woodpecker here, seen eating red seeds from a common round pod.

GOLDEN-FRONTED WOODPECKER, *Centurus aurifrons*, La, Sa, Mc, (Ta) — the common open country and backyard woodpecker.

LINEATED WOODPECKER, *Dryocopus lineatus*, Su, (Tc) — only two seen.

OLIVACEOUS WOODCREEPER, *Sittasomus griseicapillus*, Pc, (Tc) — common in thicket type situations.

BARRED WOODCREEPER, *Dendrocolaptes certhia*, Pr — 13 June — one seen along lumber road east of main site.

IVORY-BILLED WOODCREEPER, *Xiphorhynchus flavigaster*, Pc, (Ta) — common in larger trees on hillsides and pyramids.

PLAIN XENOPS, *Xenops minutus*, Pc, (Tc) — in vines and tangles, mid-levels.

BARRED ANTSHRIKE, *Thamnophilus doliatus*, Pc, Lc, Sc, (Tc) — a bird of edges not found inside the forest.

PLAIN ANTVIREO, *Dysithamnus mentalis*, Pc, (Tc) — seen in pairs at low level.

DOT-WINGED ANT WREN, *Microrhopias quixensis*, Pc, (Tu) — seen in pairs, usually low to middle levels in vines.

DUSKY ANTBIRD, *Cercomacra tyrannina*, Pu — soft wren-like calls heard in thick vines (and taped) near edge of savanna.

BLACK-FACED ANTTHRUSH, *Formicarius analis*, Pc, Wc, (Tc) — often heard, seldom seen though not shy; walks on forest floor.

RED-CAPPED MANAKIN, *Pipra mentalis*, Pc, (Tc) — both manakin species had individual males performing; this one at mid level on bare horizontal vine or branch.

WHITE-COLLARED MANAKIN, *Manacus candei*, Pc, Wu, (Tc) — this species more common than the preceding; dances at eye level on horizontal vine over clear space in heavy growth; heard often buzzing and snapping.

ROSE-THROATED BECARD, *Platypsaris aglaiae*, Mr — 10 June, one seen mid-level in savanna; very dark; rose on throat faint but noticeable.

MASKED TITYRA, *Tityra semifasciata*, Lc, (Tc) — pair nested in hole 20m up in dead tree in backyard; seen everyday (1 to 14 June).

VERMILION FLYCATCHER, *Pyrocephalus rubinus*, Sa, Lc — many males seen

performing butterfly display.

- FORK-TAILED FLYCATCHER, *Muscivora tyrannus*, Sa, Lc — some seen in display flights.
- TROPICAL KINGBIRD, *Tyrannus melancholicus*, Sa, Ma, Lc, (Ta) — open areas of the lowlands.
- STREAKED FLYCATCHER, *Myiodynastes maculatus*, Lc, (Tc) — seen usually in large trees near the *aguada*.
- SOCIAL FLYCATCHER, *Myiozetetes similis*, La, Ma, Sa, (Ta) — common backyard bird; vies in abundance with Tropical Kingbird.
- BROWN-CRESTED (WIED'S) FLYCATCHER, *Myiarchus tyrannulus*, Sc, Lc, (Tc) — prefers mid-level of larger trees. Vocal.
- DUSKY-CAPPED (OLIVACEOUS) FLYCATCHER, *Myiarchus tuberculifer*, Su — saw only three in small trees in savanna.
- TROPICAL PEWEE, *Contopus cinereus*, Mr — 10 June — one adult with young bird (still had an orange gape and was begging) seen in small trees near edge of savanna.
- SULPHUR-RUMPED FLYCATCHER, *Myiobius sulphureipygius*, Pu — three scattered individuals seen mid-level; feeding over areas recently cleared of undergrowth.
- NORTHERN ROYAL-FLYCATCHER, *Onychorhynchus mexicanus*, Pu, (Tr-16 June) — seen in forest mid-level to fairly high; usually near cleared places, *brechas*, etc.
- WHITE-THROATED SPADEBILL, *Platyrinchus mystaceus*, Pu, (Tc) — seen at eye level, not shy.
- EYE-RINGED FLATBILL, *Rhynchocyclus brevirostris*, Pr — 4 June, (Tu) — another mid-level forest flycatcher.
- YELLOW-BELLIED ELAENIA, *Elaenia flavogaster*, Sc, Mc — another widespread tropical species.
- NORTHERN BEARDLESS TYRANNULET (BEARDLESS FLYCATCHER), *Camptostoma imberbe*, Pr — 4 June, one seen at mid-level.
- MANGROVE SWALLOW, *Tachycineta albilinea*, Lu — one pair only seen flying over *aguada* and perching on posts rising from *aguada*.
- GRAY-BREASTED MARTIN, *Progne chalybea*, Lc, (Tc) — these birds frequently seen over village.
- BROWN JAY, *Psilorhinus morio*, Pc, Sc, Wc, Mc, (Tc) — large and noisy.
- BAND-BACKED WREN, *Campylorhynchus zonatus*, Pr — 13 June — one pair seen once in brushy ravine on west side of pyramid, mid-level in scrubby trees.
- CAROLINA (WHITE-BROWED) WREN, *Thryothorus ludovicianus*, Pc, Wc, (Tu) — more common in woods near La Libertad than at Polol; feeds lower down than Spot-breasted Wren.
- SPOT-BREASTED WREN, *Thryothorus maculipectus*, Pc, (Tc) — most common forest wren; usually seen and heard in mid-level vines.
- HOUSE WREN, *Troglodytes (musculus?)*, Lu — a few seen in yard.
- WHITE-BREASTED WOOD-WREN, *Henicorhina leucosticta*, Pu, (Tc) — feeds very low in forest, more secretive than other forest wrens.
- WHITE-THROATED ROBIN, *Turdus assimilis*, Pu, (Tu) — found in thicker forest than Clay-colored Robin; more secretive.
- CLAY-COLORED THRUSH (ROBIN), *Turdus grayi*, Pa, La, (Ta) — needs only the smallest woodlot to survive.

- BLUE-GRAY GNATCATCHER, *Poliophtila caerulea*, Sc, Mc — birds seen in pairs; too late for migrants. Breeding suspected.
- MANGROVE VIREO, *Vireo pallens*, Mr — 10 June — one found at eye level at the edge of the woods, responded to "pishing".
- YELLOW-GREEN VIREO, *Vireo flavoviridis*, Sa, Ma, La, (Tc) — abundant everywhere but in deep forest.
- TAWNY-CROWNED GREENLET, *Hylophilus ochraceiceps*, Pu, Wu, (Ta) — mid to higher levels, responds to "pishing".
- LESSER (GRAY-HEADED) GREENLET, *Hylophilus decurtatus*, Pa, Wc, (Tu) — mid to higher understory; responds to "pishing".
- RED-LEGGED HONEYCREEPER, *Cyanerpes cyaneus*, Lr — 2 June, Pr — 11 June, (Tu) — probably more common than our two sightings would indicate.
- GOLDEN-CROWNED WARBLER, *Basileuterus culicivorus*, Pa, Wa, (Ta) — lower levels, in pairs, responds to "pishing".
- MONTEZUMA OROPENDOLA, *Gymnostinops montezuma*, Pc, (Tu) — noisy.
- YELLOW-BILLED CACIQUE, *Amblycercus holosericeus*, Pr — 13 June — one seen hiding in vines along survey line, near edge of savanna.
- GREAT-TAILED GRACKLE, *Quiscalus mexicanus*, La, (Ta) — especially abundant near water.
- MELODIOUS BLACKBIRD, *Dives dives*, Sa, Ma, La, (Tc) — seen and heard everywhere in open country.
- EASTERN MEADOWLARK, *Sturnella magna*, Sa.
- YELLOW-THROATED EUPHONIA, *Euphonia hirundinacea*, Pc, Lc, (Tc) — found from backyards to deep forest.
- BLUE-GRAY TANAGER, *Thraupis episcopus*, Lc — prefers village to wilder places.
- YELLOW-WINGED TANAGER, *Thraupis abbas*, Lc, (Tc) — only slightly more rural than the preceding species.
- RED-CROWNED ANT-TANAGER, *Habia rubica*, Pr — 4 June, (Tu) — male only identified once, probably more common.
- RED-THROATED ANT-TANAGER, *Habia fuscicauda*, Pa, Wa, (Ta) — most obvious forest bird of the Peten. Responds to "pishing".
- GRAY-HEADED TANAGER, *Eucometis penicillata*, Pu, (Tc) — seen twice at eye level in forest.
- GRAYISH SALTATOR, *Saltator coerulescens*, Su, Lu — probably more common than our observations indicate.
- BLACK-FACED GROSBEAK, *Caryothraustes poliogaster*, Pr — 13 June, (Tr — 17 June) — only one pair seen along lumber road; moderately high in trees.
- BLUE-BLACK GROSBEAK, *Cyanocompsa cyanoides*, Pc — obvious and vocal; courting pairs; seen in undergrowth; more common here than in most forests we have been in; for instance, we did not see any at Tikal (15 to 22 June) though it is listed by Smithe (1966) as "fairly common".
- WHITE-COLLARED SEEDEATER, *Sporophila torqueola*, Sa, La, Ma, (Ta) — any open space suffices for this common species.
- BLUE-BLACK GRASSQUIT, *Volatinia jacarina*, Sa, Ma — another very common widespread species.
- OLIVE SPARROW, *Arremonops rufivirgatus*, Mu — seen in brush in savanna; stripes on crown definitely brown; back dull olive. The following species was found only a hundred or so meters away in second growth forest. These birds had crown stripes that looked dull black. In spite of the dull light in the forest, the

back looked much brighter — a yellow olive green. Both birds seemed to forage on, or very close to the ground.

GREEN-BACKED SPARROW, *Arremonops chloronotus*, Wu, Pr — 13 June, (Tr — 16 June) — see preceding species.

BOTTERI'S SPARROW, *Aimophila botterii*, Su — several pairs around the *aguada* near Polol.

ACKNOWLEDGMENTS

We wish to thank Dr. Pahl for his encouragement in preparing this report, and Lloyd Kiff, Curator of the Western Foundation of Vertebrate Zoology in Los Angeles, California, for his review and comments. We also would like to express our appreciation to Kenn Kaufman for his editorial guidance.

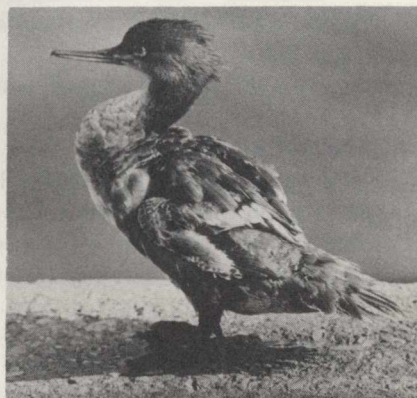
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This elegant shot of a duck in most inelegant plumage graced our preceding back cover. Can you, in the absence of any obvious field marks, identify it to species?

Answer to Snap Judgment 9

KENN KAUFMAN



Ducks come in a variety of different packagings. Fortunately for us, most species are not so ambitious as the Oldsquaw *Clangula hyemalis*, in which both sexes go through three distinct plumages every year; but still, we have the challenge of identifying females, juveniles, and ducks in the cryptic "eclipse plumage" that many assume while molting the flight feathers. The best way to deal with this plethora of plumages is to focus on more consistent characteristics of shape and structure.

Our "Snap Judgment" duck provides a case in point. Clearly this bird is not at its best. Ratty and disheveled, completely without usable flight feathers, it has been captured on film at its most embarrassing time of year: full "eclipse." Virtually no pattern at all is discernable in the photograph . . . and yet, most readers will have identified this bird to the subfamily level at first glance. Its bushy-headed look (implying it would have a crest in more prosperous times), steep forehead, long body, and very long narrow bill mark it immediately as a merganser.

All right, so which merganser? Continue to look at the bill; it will provide all the clues you need.

Half of the possible species can be ruled out immediately on bill length. The Hooded Merganser *Lophodytes cucullatus* and that vagrant merganser, the Smew *Mergus albellus*, have proportionately much shorter bills (in addition, the Smew would show strongly contrasted white cheeks in any plumage). So the choice comes down to the two large species, Red-breasted Merganser *M. serrator* and Common Merganser *M. merganser*. Birders who see both species regularly will probably sense that this one is a Red-breasted, because of the thin-looking bill. This is correct — but since thinness of the bill is only relative, it is worthwhile to analyze what creates this impression.

In both species the bill is thick at the base and tapers to a thin tip. In the Common the slope of the culmen (upper ridge of bill) from base to tip is fairly straight, but in the Red-breasted it is more *concave*, so that the entire distal half of the bill appears just as thin as the tip. The feathering at the bill base adds to the impression. On the Red-breasted, the feathering extends farther forward on the upper mandible than on the lower, while on the Common the upper mandible feathering ends much farther back

(see diagram); of course this degree of detail can be discerned only at close range, but even at some distance it causes the bill of the Common to appear more massive at the base.

Another point for close-range studies — an esoteric but reliable one — concerns the position of the nostril: on the Common it is closer to the mid-point of the bill than to the base, but on the Red-breasted (as you can see in the photograph) it is clearly closer to the base of the bill.

This summering **Red-breasted Merganser** was photographed by Alan Wormington.



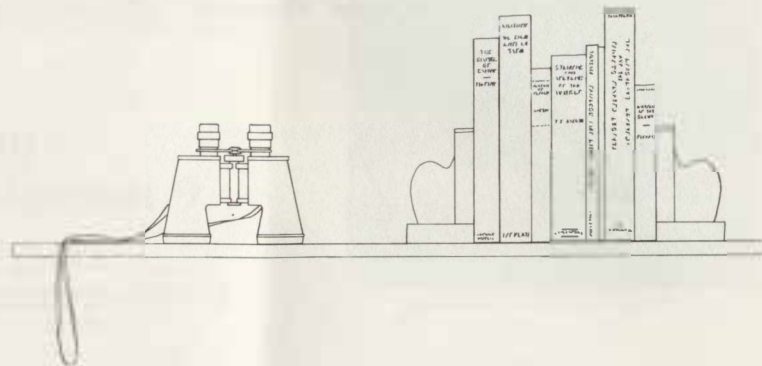
Bills of Common Merganser *Mergus merganser* (left) and Red-breasted Merganser *M. serrator* (right), comparing shape, position of nostril, position of feathering at base.

TAMAULIPAN BIOTIC PROVINCE — Announcing an International Symposium on the Tamaulipan Biotic Province. The Symposium will include all ecological aspects of the biome: vegetation, invertebrates, ecological structure and function, biological resources (use and effects), and management. It will include aspects of applied science and conservation. The meeting will be held at La Quinta Royale Motor Inn, Corpus Christi, Texas, on October 28, 29, 30, 1982. Those interested in contributing papers should submit an abstract by 1 August 1982; abstracts for contributed papers must be received by 1 September 1982. For information on either, contact Gene W. Blacklock, Curator, Welder Wildlife Foundation, P.O. Drawer 1400, Sinton, Texas, 78387 or David Riskind, Head, Resource Management Section, Texas Parks and Wildlife Department, 4200 Smith School Road, Austin, Texas, 78744. For information on registration contact Jimmie R. Picquet, Director, John E. Conner Museum, Texas A&I University, P. O. Box 2172, Kingsville, Texas, 78363.

Reviews

Edited by

ELAINE COOK



Rare Birds of the West Coast — Don Roberson. 1980. Pacific Grove, California: Woodcock Publications. xxxii + 496 pp., 10 color plates, photos, drawings, maps, graphs. \$24.95 plus \$1.50 shipping.

Publisher's address:
Woodcock Publications
P.O. Box 985
Pacific Grove, CA 93950

BEGINNING IN THE early 1960's, field ornithology along the west coast of North America was "turned on its ear" by rapid advancements in our knowledge of bird distribution and techniques of field identification. During this period the number of active observers was rapidly increasing all along the West Coast, and during the 1960's and 1970's there was a phenomenal increase in the number of rare birds reported from Alaska, British Columbia, Washington, Oregon, and California. This was not only the result of the increase in observer numbers and the bettering of field identification skills, but also of the "discovery" of where and when to look for rare birds. It was not until this time that such areas as the western Aleutians, a number of coastal locales characterized by isolated clumps of vegetation, California's offshore islands, and the isolated water bodies and desert oases of eastern Washington, Oregon, and, especially, California were covered more extensively.

Coming out of this "revolution" in West Coast birding is Don Roberson's new book, *Rare Birds of the West Coast*. Modeled after J.T.R. Sharrock's *Rare Birds in Britain and Ireland*, this book has an annotated text with maps, graphs, and a generous supply of documenting photographs for all 288 species of "rarities" that have occurred in Alaska, British Columbia, Washington, Oregon, and California through 1979. In this book, a "Rarity" is defined (although there are a number of exceptions) as a species which has been averaging fewer than four records per year in a given state or province and, in the case of Alaska, any Eurasian species not covered adequately by the standard North American field guides. In addition, the author discusses the patterns and theories of vagrancy and, importantly, gives rather extensive notes and essays on the field identification of many of the tougher species. Also included are several color plates,

largely of Eurasian species, done by a number of artists.

Here is a single volume which gives the status and distribution of every rarity that has occurred on the West Coast. It contains much valuable information for the field ornithologist interested in bird distribution, and for all birders interested in rare birds in general and in bettering their field identification skills past the "field guide stage." For these reasons, not only will observers living on the West Coast and those contemplating visiting the area find this book valuable, but so will those living in the remainder of North America and elsewhere.

Don Roberson has produced a compilation of identification knowledge from several of the top birders from the West Coast. In general, his presentations are excellent. However, there are also some inaccuracies. The author rightly professes that not all the information he presents is fool-proof; still, a problem that does crop up in a number of instances in the book is Roberson's inclusion of identification criteria based only on very limited field or museum experience with the species. Inaccuracies have resulted. Examples of this can be found in the over-simplified discussion of the differences between nominate Manx Shearwater and "Newell's" Shearwater, and in the statement that Mourning Warbler is more apt to forage above ground away from dense cover than is MacGillivray's. It should be said, again, that *most* of what is written on field identification in this book is excellent.

To assist in the discussion of field identification problems, ten color plates are included which depict some 100 species. Painted by five different artists, their overall quality, accuracy, and usefulness vary greatly. Some are very good (i.e. waterfowl and pipits), others are likely good only for gaining an impression of a species' general appearance, while a few are actually misleading.

The theories on vagrancy summarized by the author are both interesting and enlightening. A number of references to excellent journal articles on the subject are cited. Again, in a significant number of cases, (e.g. Manx Shearwater, Northern Three-toed Woodpecker, Wood Warbler), Roberson has over-stated the facts and has described a "pattern" of records or given theories for the species' occurrence without sufficient supportive evidence. The author's proposed migration pattern in Stilt Sandpiper that explains the species being a rarity only in Oregon is absurd (relative sparseness of observer coverage there is more likely the cause). In addition, the term "overshoot" is probably not appropriate for many of the rare visitors to the western Aleutians as they breed still farther to the north in Siberia.

What may very well be the biggest "problem" with this book is the over-abundance of grammatical and typographical mistakes. These take the form of errors in date, local place names, county names, state names, and location of dots denoting record locations on the state maps. A number of references cited by Roberson in the main text are not found in the "literature cited" section in the appendix. Given the monumental task of gathering such a volume of data for a book like this, there are bound to be scattered errors in the final edition of any such undertaking; however, the number present in *Rare Birds of the West Coast* is excessive. While these many errors do not actually take away from the reader's appreciation for the overall number and pattern of records of rare birds, they will cause problems for the researcher who wishes to cite *specific* records. It is recommended that if one wishes to use specific records found in *Rare Birds of the West Coast*, one should double check the data in other sources, such as *American Birds*.

A number of inaccurate or unsubstantiated claims as to the local status of species also exist. Examples would include the statement that "white-vented" Manx Shearwater may be more likely to occur off California from June-September than the "dark-vented" Manx and that *P. p. puffinus* is definitely the "white-vented" form occurring. that Stilt Sandpiper "occasionally" winters in Southern California away from the Salton Sea (there is only one such record), and that there is no record of a wintering McCown's Longspur for the coast (there is one).

While the author properly indicates that state records committees have not yet voted on some records he includes in his book, he may still have included records for which there was particularly little support, even from the actual observer of the sighting as is the case with the

Northern Three-toed Woodpecker in California. In other instances, such as with the September 1978 California Rufous-necked Stint (many believe it was a Semipalmated Sandpiper) and the May 1980 Attu Is., Alaska, "Common" Reed Bunting (some believe it was a Pallas' and others think it best to leave it unidentified) there are no statements to the effect that the identifications are publicly known to be very controversial. In the case of the Reed Bunting, Roberson actually discusses the *subspecies* involved. This, I believe, is one of several cases where the author needlessly puts himself "out on a limb." Roberson should have followed a more cautious course. On the other hand, the book's Appendix C, "Selected Reports Not Used", was a good idea and is presented well.

A more minor problem in this book involves the graphing of a "typical" year's records for some species instead of all records for the species. For example, in the Black-and-White Warbler one may get the impression from the graph that the species is unrecorded in California in February and March and nearly so in January, which is far from correct. In such cases it would have been better to change the scale to accommodate all records.

Like the author, I, too, enjoy seeing photographs of rarities. Roberson was correct in only including photos of actual West Coast rarities, and his generous inclusion of photos is one of the more appealing aspects of the book. My only complaint with the photos is the inclusion of those of specimens (not needed, unless used in conjunction with a discussion on identification) and those of very questionable quality. There comes a point when the author's statement, "any photo is better than no photo," does not hold true. Some photos may very well have suffered unexpectedly in the printing of the book, yet some were probably too poor from the start to appear (e.g. Olive-backed Pipit).

Two photos in the book appear to be misidentified. The Oregon Least Tern is likely being accompanied by two Common Terns, definitely not by Forster's. The Oregon "Black-headed" Gull shows a white undersurface to the primaries and may well be only a worn Bonaparte's.

Indeed, as this review comes to a close it appears as though a goodly amount of emphasis has been placed on what I see to be drawbacks to *Rare Birds of the West Coast*. This is *not* meant to say that this is not a very good book worth owning. It is only meant to point out these drawbacks to the owner of the book. It is an excellent sourcebook for the records of every "rarity" that has occurred in Alaska, British Columbia, Washington, Oregon, and California, it is accompanied by a plethora of enjoyable rarity photos, and the identification sections are extremely valuable. Buy it. — *Paul Lehman*

The Complete Birds of the World — Michael Walters. 1980. North Pomfret, Vermont: David & Charles. 340 + xii pp. \$35.00.

Publisher's address:
David & Charles
North Pomfret, VT 05053

WITHIN THE LAST DECADE, numerous attempts at world bird checklists have been published. This one caught my eye because of the ambitious title and because several reviewers mentioned it in a favorable vein. But now that I have looked carefully at the book, I can only conclude that those reviewers did not do the same. *The Complete Birds of the World* is provably full of inaccuracies and arguably an insult to the intelligence of American readers.

To deal with factual errors first: the basic idea and format are not bad. The book proposes to list every extant or recent bird species, stating for each the Latin name, standard English name, distribution, and where known the habitat, food, nest site, clutch size, incubation period and fledging period, all of the latter information being presented in telegraphic style. This would be a valuable one-volume reference source if the information were reliable . . . but once you've taken a long look at this book, you won't trust it as far as you can throw your binoculars.

Consider the range descriptions. Admittedly this is a difficult subject, and some leeway should be allowed, but the number and magnitude of errors in this book are appalling. Here is a small sample from the dozens of errors I found in a few minutes of browsing. The Whip-poor-

will *Caprimulgus vociferus* is listed as inhabiting "Central America and south-western USA" (what about all those in eastern North America?); the Spot-tailed Nightjar *C. maculicaudus* is granted "Scattered localities in tropical South America" (but actually occurs north to Mexico). Both Great Swallow-tailed Swift *Panyptila sanctihieronymi* and Black-capped Swallow *Notiochelidon pileata* are stated to be restricted to Guatemala, but both are actually more widespread. The ranges of two nightingale-thrushes, Russet *Catharus occidentalis* and Ruddy-capped *C. franzi*, are mangled beyond comprehension, and the Veery *C. fuscescens* is accused of breeding in Central America. Neither Spotted Rail *Pardirallus maculatus* nor Yellow-breasted Crake *Porzana flaviventer* is acknowledged to occur in Mexico. Are these errors too minor to mention? Well, Little Gull *Larus minutus* is not listed as occurring in the New World; for that matter, neither is Cattle Egret *Bubulcus ibis*. Ridiculous! These are all cases where the correct information was easily available; how good are the data for more remote regions of the world?

Other aspects of the information content are just as bad. The book claims to list every species, including those of dubious validity, but there is no mention of Chilean Skua *Catharacta chilensis* or Socorro Dove *Zenaida graysoni*. Habitat descriptions are usually missing; when present, they may be vague or misleading: Yellow Rail *Coturnicops noveboracensis* is attributed to "meadows and ravines," while the Band-backed Wren *Campylorhynchus zonatus* of tropical rain forests is said to inhabit "dry forest and clearings." Why bother to fake this sort of information?

You may have guessed by now that I am irritated by this book. I am; what finally set me off was the way the book's author compounds ignorance with arrogance in the matter of English names. Of course this subject invites petty arguments, but *standardization* of English names is clearly to be desired. We have a good start on standardized names in the Western Hemisphere — thanks to the A.O.U. north of the border and the work of Eisenmann and Meyer de Schauensee on Neotropical species — but this book's British author, Michael Walters, blithely ignores these established names whenever he chooses. We could allow for British preference for those species that occur on both sides of the Atlantic, but such is not the case with our Dusky Flycatcher *Empidonax oberholseri*: why bring back the confusing older name of "Wright's Flycatcher?" And what can be the whimsical reasons for changing *Larus californicus* to "Californian Gull," or *Myiarchus cinerascens* to "Ashy-throated Flycatcher?" Ignoring taxonomic fact as well as correct names, Walters resurrects the "Black-eared Bushtit," and then calls *Psaltriparus minimus* the "Coast Bushtit."

Walters seems to dislike group names. In his book the Brush-Finches of the genus *Atlapetes* are just called "finches," the Nightingale-Thrushes of *Catharus* are simply "thrushes," despite the fact that we find these names useful to distinguish them from the many other finches and thrushes. (Brevity may be his aim, but if so he misses the mark when he calls *Parotia carolae* "Queen Carola of Saxony's Six-plumed Bird of Paradise" — no kidding!) The Ground-Doves get the worst treatment. The Plain-breasted Ground-Dove *Columbina minuta* is called "Grey Ground Dove;" the Ruddy Ground-Dove *C. talpacoti* is given *three* alternative names, all incorrect: "Ruddy Dove, Stone Dove, Cinnamon Dove." And *C. passerina* — which we have called a Ground Dove for generations, and for which the modified name of Common Ground-Dove is perfectly acceptable — is called "Rosy Dove" in this book. Come now, Mr. Walters, how would you like it if we came over to Britain and renamed your Common Lapwing *Vanellus vanellus* the "Ungainly Plover," or your Fieldfare *Turdus pilaris* the "Dirt-colored Thrush?" There are some ornithologists over here in the Colonies nowadays, and they are not likely to be impressed by nomenclatural meddling from the Mother Country... especially not in a work so shot full of errors as this one. — *Kenn Kaufman*

Finding Birds Around the World — Peter Alden and John Gooders. 1981. Boston, Massachusetts: Houghton Mifflin Company. xxxviii + 683 pp., maps. \$17.95.

Publisher's address:
Houghton Mifflin Co.
2 Park Street
Boston, MA 02107

THIS BOOK could be of use to almost anyone interested in birds who is planning a trip anywhere in the world. It will not tell anyone anything new about their own home areas, nor is it designed to do so. What it is designed to do is provide enough information to allow the neophyte or professional ornithologist alike to "get started" in almost any country in the world. As noted by Roger Tory Peterson in the Foreword, "this book is certainly not the last word about every region but it is certainly the first word in print about many tropical areas." As such it should be welcomed by the casual birder, scientist, graduate student, almost anyone that is going someplace new and hasn't the slightest idea what to expect.

The format is straightforward. Each of 111 chapters details a region — city, national park, remote jungle lodge — beginning in the Americas and gradually proceeding eastward, ending with Australia, the western Pacific and New Zealand. For each chapter an introduction of five hundred words or so highlights the ornithological attraction, climate, vegetation, facilities, sights to see (or avoid), and frustrations to be encountered. This is followed by a black-and-white sketch map and a slightly abridged checklist for the region. The maps are drawn and labeled free-hand in a "no-frills" style that may seem crude to those accustomed to slick, glossy, full-color products that emphasize style more than content. Don't be misled. The maps, along with the checklists, are the "heart" of the book and are an excellent and eminently usable distillation of simplicity, clarity and necessary detail. The checklists include 80-90 per cent of the species found in each region discussed, or essentially all of the species the temporary visitor is likely to encounter. Because in the majority of cases the area lists have been assembled with the aid of contributors who have extensive knowledge of the areas, the lists are remarkably trustworthy. Symbols detailing abundance, visibility, status and elevation greatly enhance the value of the lists.

In an introductory section the prospective traveler is given a variety of wry advice on subjects ranging from hotels, tours, bookings and transportation to health and what to wear or take along on trips. Much of the advice in these sections may seem like common sense, and mostly it is, but it is all too often forgotten or ignored. It is worth reading. Also in the introduction one finds four continental maps that show the approximate locations of the areas discussed in detail in the chapters that follow. These maps (also sketched free hand) are rather small and cluttered and might have been more accessible if placed on the inside of the front and back covers.

In a book of world scope such as this, one inevitably has to deal with the many nuances of global taxonomy, inappropriate names and duplication of common bird names from region to region (for example, as noted by the authors, there is a White-necked Raven in Africa and one in the Americas). To this end the authors have juggled a certain number of common names or coined new ones in order to make a lot of fuzziness fit into place. Unlike many bird guides that impose their personal prejudices upon the unsuspecting reader and then leave him to his own devices to sort out the bewildering muddle of unfamiliar names, the authors of this book have done a service to the reader by preparing an extensive taxonomic cross-index. The index lists common names, alternate names and scientific names. Easy entry into the taxonomic index is facilitated by an adjacent alphabetical index. The taxonomic index makes the text and checklists infinitely more credible and verifiable and may perhaps aid in the advancement of a non-trivial set of common names for the birds of the world. A regionalized bibliography in the rear of the book will also be of considerable use to those readers that need to become acquainted with general guides and checklists that are available.

In a book of such global scope, one is prompted to ask whether it is possible to actually plan

a holiday to a distant land based solely on the information in this book. Honestly, the answer is probably no, because with rare exceptions the information is not complete enough and too few localities are discussed within each country. Also, at a thick 683 pages, it just might be a little bulky for most weight-conscious travelers to carry along. **Finding Birds** is nonetheless the first of its kind, a world travel guide for birders; it details information on a wealth of localities heretofore never mentioned in print, and it is written in a light-hearted, highly readable style by two premier globe-trotting members of the birding jet set. It is a gold mine of travel tips, maps and other hard-to-obtain information. Even if you never go anywhere it will provide hours of vicarious armchair traveling, and if you do go somewhere, it just might save you grief and some money. — *Steve Hilty*

Birds of Southern California: Status and Distribution — Kimball Garrett and Jon Dunn. 1981. Los Angeles, California: Los Angeles Audubon Society. viii + 408 pp., line drawings by Lee Jones, bar-graphs, maps. \$18.95.

Publisher's address:
Los Angeles Audubon Society
7377 Santa Monica Blvd.
Los Angeles, CA 90046

IT SEEMS that everything done in Southern California is done with great intensity. Certainly the birding is. Members of the hard-core corps dash about the varied landscape at all seasons, sometimes in single-minded search of Rare Birds but more often (fortunately) with attention to the more regularly occurring species as well. Their investigations have so radically and continuously altered what was known of the Southern California birdlife that it had become difficult for most birders to keep track of exactly what was known. Clearly there was a need for a reliable reference source on the subject.

That need has now been met with the publication of this authoritative work. The authors, Kimball Garrett and Jon Dunn, rank among North America's leading field ornithologists; the depth of their experience, knowledge and understanding of their region's birdlife is evident on every page.

Following a worthwhile series of introductory chapters (on such general topics as faunal regions, habitats, taxonomy, and population trends), the main body of the book uses a format that allows for both quick reference and thorough treatment. It leads off with a section of bar-graphs to show seasonal status; each species (or, in some cases, each recognizable subspecies) may be graphed up to four times to indicate different timing of occurrence in different regions of Southern California. The text account for each species begins with a brief summarizing paragraph, followed by a variable amount of clarifying detail — from a few lines to a page or more, depending on the complexity of the species' distribution and seasonal status. This is perhaps the point at which Garrett and Dunn most clearly display their expertise: they are not generalizing or guessing; all the patterns they describe are backed up with specific dates and localities. And yet the wealth of detail never becomes overwhelming or confusing, because the authors know when (and how) to summarize their information. For best treatment of some species with complicated breeding ranges not easily described in words, there is a series of range maps in the back of the book. The combination of bar-graphs, maps and detailed text guarantees that the user will never be in doubt as to the significance of his or her own observations in Southern California.

One other manifestation of the authors' expertise deserves to be mentioned. Even though Kimball and Jon had had exhaustive field experience throughout their region and knew as much as anyone about the subject, they wisely chose to have all the draft material for the book reviewed for accuracy by a number of other knowledgeable persons. We hope that someday all bird book authors will practice the same level of scholarship — and produce books as thorough and reliable as this one. — *K.K.*

CORRECTIONS TO GULL PAPER

Please note the following errata to a paper published recently in this journal (Weber, J. W., 1981. The *Larus* gulls of the Pacific Northwest's interior, with taxonomic comments on several forms. Part II. *C. B.* 2 (3): 74-91). These corrections were sent by the author prior to publication, but we inadvertently failed to make the necessary changes. Our apologies to Mr. Weber.

- Page 80, paragraph 1, line 16: insert the phrase "(also flesh-footed)" after "occidentalis"
- Page 82, paragraph 1, line 8: "its tips" should read "its wing tips"
- Page 82, paragraph 2, line 2: replace "mitigates" by "militates"
- Page 82, paragraph 2, lines 5 and 6; phrase in parentheses should read "in which the evidence suggests convergence through time"
- Page 88, second line from bottom: "Tables 3 and 4" should read "Tables 3, 4, and 5"
- Page 90: reference to Dement'ev *et al.* is to Vol. 3; "Garden City" should be "Garden City, New York" in reference to Bull
- Page 91: reference to Selander is to Vol. I of Farner and King; delete reference to Vaurie

We also received the following comments from Jeff Gilligan of Portland, Oregon:

I am writing in regard to the recently published article by Mr. John Weber concerning the *Larus* gulls in the interior of the Pacific Northwest (Continental Birdlife. Vol. 2, No. 3). I enjoyed the erudite discussion regarding their status in eastern Washington and Idaho. I am however totally appalled by the inaccurate reference on page 88 regarding their status in Oregon. Mr. Weber states that "Because of their occurrence in eastern Washington or Idaho, it is possible that one or more of the following has been overlooked in eastern Oregon: *hyperboreus*, *glaucescens*, *argentatus*, *thayeri*, *canus*, *sabini*, *tridactyla*, and perhaps *glaucoides*." All of these species except for *thayeri*, *tridactyla*, and *glaucoides* have been well established to occur east of the Cascade Mts. in Oregon. There is even a published report of *tridactyla* in "American Birds". The other species noted in eastern Oregon are represented in "Oregon Birds" and "American Birds". *Glaucescens* is even fairly common along the Columbia River east of the Cascade Mts., and has been found to breed at one location in recent years. It would require an article of significant length to correct the misinformation regarding these gulls in eastern Oregon. Readers are more appropriately referred to the forthcoming book regarding the status and distribution of Oregon birds to be published by the Portland Audubon Society.

Recent Literature in Field Ornithology

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- Thiollay, J.M. 1980. **Spring hawk migration in eastern Mexico.** *Raptor Res.* 14 (1): 13-20.
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- Ennis, Thomas. 1979. **The status of Sabine's Gull *Larus sabini* Sabine in Northern Ireland.** *Ir. Nat. J.* 19 (12): 430.
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- Dixon, Keith L., and Dennis J. Martin. 1979. **Notes on the vocalizations of the Mexican Chickadee.** *Condor* 81 (4): 421-423.
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FULL TITLES, AND PLACES OF PUBLICATION, OF SERIALS CITED ABOVE

Condor Cooper Ornithological Society, Los Angeles, California. *Corella* Australian Bird Study Association, Sydney, Australia. *Inland Bird Banding* Inland Bird Banding Association, Wisner, Nebraska. *Irish Naturalists' Journal* Irish Naturalists' Journal Committee, Belfast, Ireland. *Journal fur Ornithologie* Deutschen Ornithologen-Gesellschaft, Berlin, Germany. *Journal of Field Ornithology* Northeastern Bird-Banding Association, Concord, Massachusetts. *Raptor Research* Raptor Research Foundation, Provo, Utah. *Southwestern Naturalist* Southwestern Association of Naturalists, Natchitoches, Louisiana. *Var Fagelvarld* Sveriges Ornitologiska Forening, Stockholm, Sweden. *Western Birds* Western Field Ornithologists, Coronado, California. *Wildlife Society Bulletin* Wildlife Society, Washington, D.C. *Wilson Bulletin* Wilson Ornithological Society, Ann Arbor, Michigan.

