

Eurasian Collared-Dove in North America and the Caribbean



Eurasian Collared-Dove in the Dry Tortugas: spring 1999.
Photograph/Andrew W. Kratter

CHRISTINA M. ROMAGOSA *
and **TERRY McENEANEY †**

In the mid-1980s, a population of *Streptopelia* doves in southern Florida was identified as the Eurasian Collared-Dove (*Streptopelia decaocto* Frivaldszky) (Smith & Kale 1986, White 1986). Birdwatchers are now witnessing the expansion of this species across the North American continent and the Caribbean Islands. Sightings at new locations are reported monthly as the range of the Eurasian Collared-Dove expands as a result of either natural dispersal or local release.

This article picks up where P. William Smith (1987) left off when he first introduced the North American birdwatching community to the Eurasian Collared-Dove. Its purpose is to present the most current information on identification problems with the Ringed Turtle-

Dove (*Streptopelia 'risoria'*) as well as new information on distribution, range expansion, and future projections for the Eurasian Collared-Dove as it becomes established in North America and the Caribbean.

RINGED TURTLE-DOVE

The Ringed Turtle-Dove (*S. 'risoria'*)—or Barbary Dove as it is known throughout Europe—is a domesticated form of the African Collared-Dove (*S. roseogrisea*) (Goodwin 1967). The single quotes around the specific epithet indicate that many authors do not consider it to be a valid species due to years of domestication and captive rearing (Goodwin 1967). It is very popular among dove fanciers and is bred to produce various color varieties. The most commonly seen variety is the cream-colored blonde. Other varieties include rosy, fawn, tangerine, pure white, and several pied forms (Lockhart 1997). In recent years, backcrossing with wild *S. roseogrisea* has resulted in a "wild" color variety (Goodwin 1983) which is similar to the parent African Collared-Dove and most closely resembles the Eurasian Collared-Dove. The Ringed Turtle-Dove is frequently found around the world in a feral or semi-feral condition, but colonies seldom

prosper unless they are fed by humans and the population is augmented by additional release.

RESOLVING IDENTIFICATION DIFFERENCES

The Ringed Turtle-Dove can be confused with Eurasian Collared-Dove, and extreme care must be taken to separate the two species. Complicating the matter further, hybrids have been found in St. Petersburg, Florida (DeBenedictis 1994, Smith 1987), and Joliet, Illinois (Bohlen 1998) and also occur in captivity (J. Pire and M. Pierce, pers. comm.). Buff-colored, pied, and tangerine varieties of the Eurasian Collared-Dove have been recorded (Goodwin 1973, J. Pire, pers. comm.), and cream-colored individuals were observed in south Florida (Smith 1987) and in Guadeloupe (Barre et al. 1996).

Explaining the visual differences between Ringed Turtle-Doves and Eurasian Collared-Doves is difficult due to the subtleties of dove coloration and the tremendous variation now found within Ringed Turtle-Doves (Smith 1987). Body shading can appear differently

* Department of Wildlife Ecology and Conservation, P.O. Box 110430, University of Florida, Gainesville, Florida 32611-0430 (cmrsage@grove.ufl.edu)

† Bird Management Biologist, P.O. Box 168, Yellowstone National Park, Wyoming 82190

depending on light and varies with season, age, and sex. Smith (1987), Blackshaw (1988), and DeBenedictis (1994) provide important field marks that should be considered when making an identification (Table 1). Those features marked with an asterisk in Table 1 are the most reliable; however, a holistic approach to identification is recommended in the field.

Hybrids often have a blend of the features described in Table 1. In Denmark, hybrids of the two species were smaller and paler than Eurasian Collared-Dove and lacked the full extent of black on the narrow outer web of the rectrices (Fisher 1953)—a feature defining Ringed Turtle-Doves and hybrids (Figs. 1 and 2). A convoluted vocalization syntax can also result. Hybrids tend not to retain the typical three-note call of a pure Eurasian Collared-Dove; rather, the call is a combination of that of the two species (J. Pire, pers. comm.). Even if a hybrid does have a three-note call, it apparently cannot produce the three-note call more than one time in succession: on the second try, the hybrid gives the call combination derived from its two different parents. The combined vocalization is variable; not all hybrids exhibit the same combination. New *Streptopelia* populations should be examined carefully before hybridization occurs and further complicates identification.

EURASIAN COLLARED-DOVE:

NATIVE AND EURASIAN RANGE EXPANSION

In its Old World range, the history of Eurasian Collared-Dove is complicated. The species is believed to be native to India, Sri Lanka, and Myanmar (del Hoyo et al. 1997), where it remained until it expanded into Turkey and the Balkans in the 16th century either by natural dispersal or by human introduction (Voous 1960, Long 1981). In the early 1900s, Eurasian Collared-Dove began its impressive range expansion across Europe, colonizing Yugoslavia in 1912, Hungary in 1930, Germany in 1945, Norway in 1954, Britain in 1955 (a previous report was of questionable origin), and Spain in 1974 (Fisher 1953, del Hoyo et al. 1998). It was possibly introduced to northern China and Korea from India (Goodwin 1967)—although it could have arrived naturally from western China (Vaurie 1961)—and to Japan from China in the 18th or 19th century (Fisher 1953, Voous 1960, Goodwin 1967). Its successful expansion has been attributed to a change in a favorable gene (Mayr 1951), amelioration of habitat, and the expansion of cultivation (Mayr 1965).

Eurasian Collared-Dove exhibited remarkable population growth in Britain—from 4 birds in 1955 to about 19,000 in 1964 (Hudson 1965). Current population estimates of Eurasian Collared-Doves in areas of the Western Palearctic are overwhelming: about 518,000 pairs in Germany in the mid-1980s; 200,000 pairs in Britain during 1989–1991; and 100,000 to one million pairs in Turkey in 1998 (Snow & Perrins 1998).

The dove dispersed into all habitable areas and began breeding shortly after its arrival. Breeding was documented in Britain, Norway, Sweden, and France within two years (Fisher 1953, Hudson 1965, Snow & Perrins 1998). The Collared-Dove can breed throughout the



Figure 1. This Eurasian Collared-Dove was photographed in March 1998 on Cedar Key, Florida. Note the grayish coloration on the undertail coverts and especially the black extending distally along the outer tail feather. This extension creates a 'W' or 'M' pattern which is fairly conspicuous and diagnostic. Photograph/Christina Romagosa

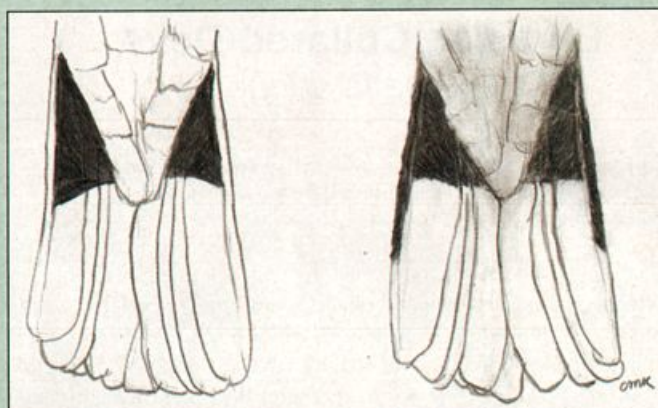


Figure 2. Undertail pattern of Ringed Turtle-Dove (left) and Eurasian Collared-Dove (right). Ringed Turtle-Doves have whitish undertail coverts and show less black on the rectrices; the black does not extend to the outer web of the outer rectrix. Eurasian Collared-Doves have gray undertail coverts, and the black on the rectrices extends to the outer edge of the outer rectrix. The degree to which the black extends distally on the outer tail feather of Collared-Doves varies from individual to individual, but the pattern of distal extension relative to that of the inner rectrices is a diagnostic character. Hybrids tend to have a pattern similar to that of the Ringed Turtle-Dove.

TABLE 1. DIFFERENCES BETWEEN EURASIAN COLLARED-DOVES AND RINGED TURTLE-DOVES
(The most important characteristics are marked with an asterisk.)

	Eurasian Collared-Dove	Ringed Turtle-Dove
*Song	three-note kuk-koo-kook	two-note kooek-krrrooo(aw)
*Call	harsh mew given in flight or while alighting	soft jeering laugh
Color	pale sandy brown, with buffy gray neck and head tinged with pink; underparts brownish-gray	variable, often creamier and lacking gray and pink tones
Wings	primaries darker than rest of wing; three-toned wing; primaries very dark, gray "wrists," brownish upper-wing coverts	primaries often not much darker than rest of wing; wing usually two-toned; primaries darker than rest of wing
*Tail	underside of outer web of outer rectrix black at base, with outer black margins extending distally to form a shallow 'w'	underside of outer web of outer rectrix white; black on rectrices does not extend farther than undertail coverts
Vent	gray	whitish
Size	much larger than Mourning Dove	usually only somewhat larger than Mourning Dove



Figure 3. Current distribution of Eurasian Collared-Dove in the Caribbean. Arrows indicate islands with known populations.

year in most of Europe by feeding on predictable and persistent supplies of commercial crops and can achieve a high reproductive output of 3–6 broods per year (Cramp 1985) depending on the severity of the climate. When food is abundant, Eurasian Collared-Doves frequently start a new clutch while still attending to dependent fledglings and sometimes while young are still in the nest (Robertson 1990).

Eurasian Collared-Dove inhabits arid country with trees or scrub, usually near cultivation, and is considered resident in India (Cramp 1985). In Europe, the species is associated with human settlements, both urban and rural, where food and shelter are plentiful (Coombs et al. 1981, Hengeveld 1989). The dove usually shuns urban centers, areas of extensive monoculture, and forest (Coombs et al. 1981). It relies largely on waste grain that is associated with agriculture (Goodwin 1967) and will often roost in barns (Coombs et al. 1981).

DISCOVERY AND EXPANSION IN THE CARIBBEAN AND NORTH AMERICA

Too much time has passed to permit unequivocal identification of the exact source of the North American population. According to Green (1977) and Smith (1987), a local breeder brought the Eurasian Collared-Dove to Nassau, Bahamas, in the early 1970s. In December 1974, several individuals escaped when the aviary where they were housed was burglarized. The breeder released the remaining Collared-Doves shortly thereafter—believed to be a total of no more than 50 birds. By the mid-1980s, the species was very common on Andros, Abaco, Grand Bahama, Spanish Wells, Bimini, and several of the Berry Islands. An additional population was released on Abaco from Nassau in the early 1980s to relieve hunting pressure on the native White-Crowned Pigeon (*Columba leucocephala*) (Smith 1987). Eurasian Collared-Dove probably arrived on Abaco by natural dispersal as well.

Eurasian Collared-Dove is found on several other Caribbean islands (Fig. 3). First noted in Cuba in 1990 (Garrido & Kirkconnell 1990), it is now common in the city of Havana and is found on the Guanahacabibes Peninsula (Raffaele et al. 1998). The species has been

reported from the Cayman Islands and may be found on other islands in the Greater Antilles—where it may perhaps be misidentified as Ringed Turtle-Dove. The Lesser Antillean populations likely were derived from an introduction into Guadeloupe in 1976 (Barre et al. 1996). About 30 years ago, an individual purchased several pairs of Eurasian Collared-Doves in Paris and brought them to Guadeloupe. Approximately 20 birds were released in 1976 when a nearby volcano threatened to erupt. The populations found in Montserrat in 1990 (James Daley, pers. comm.), Dominica in 1987 (Smith 1995), St. Kitts and Nevis in 1995 (Francis 1996), and Martinique in 1994 (Barre et al. 1996) may have come from the Guadeloupe

introductions, although the possibility of additional introductions cannot be ruled out.

It is generally assumed that the Florida population of Eurasian Collared-Doves arose from individuals that dispersed from the Bahamas and its surrounding islands. The species probably arrived in Florida in the early 1980s (Smith 1987), although the precise date of its arrival is uncertain due to confusion with Ringed Turtle-Dove. Eurasian Collared-Doves may have reached Florida as early as the late 1970s. Before Smith and Kale's (1986) identification of Eurasian Collared-Doves in Florida, all North American *Streptopelia* populations were believed to be Ringed Turtle-Doves. The species increased its range in Florida within a decade of its discovery (Fig. 4a). The Florida population is the likely source for many populations established subsequently in the southeastern states.

Georgia's first Collared-Dove record was a bird that was shot by a hunter in 1988 (P. Howard, pers. comm.). Eurasian Collared-Doves were reported in Arkansas in 1989 (M. Parker, pers. comm.), Alabama in 1991 (Holmes 1991), Tennessee in 1994 (R. Knight, pers. comm.), Texas in 1995 (G. Lasley, pers. comm.), and Montana in 1997 (M. Tempel and T. McEneaney, pers. obs.) (Fig. 4b). Unfortunately, there is no certainty that these first reports corresponded with the actual arrival of the Eurasian Collared-Dove. Populations of *Streptopelia* doves were found in Joliet, Illinois, as early as 1982 (Bohlen 1998); this population includes Eurasian Collared-Doves, Ringed Turtle-Doves, and hybrids (Bohlen 1998). Individual doves, which are assumed to be dispersers from the Florida population, have been found in Long Island, New York, in 1996; Conneautville, Pennsylvania, in 1996 (P. Hess, pers. comm.)—the same or a different individual reappearing in 1999 (*North American Birds*, this issue); Portland, Oregon, in 1998 (H. Nehls, pers. comm.); and Ortonville, Minnesota, in 1998 (Eckert 1999) (Fig. 4c). The Eurasian Collared-Dove appears to be following a pattern described as "jump" dispersal, where there is long distance dispersal of individuals with the larger population gradually filling in the gap (Pielou 1979). This pattern is similar to that observed for the species during its invasion in Europe (Hudson 1972).

Many of these individual doves—and populations in some states—may be the result of a local introduction. Some dove fanciers

Figures 4a, 4b, and 4c. The explosive nature of Eurasian Collared-Dove reports from 1986 to 1999 is readily apparent. All mapped sighting data were carefully researched and verified; see "Note from the Authors" on p. 352 regarding sources and a cautionary word on how best to interpret the maps.

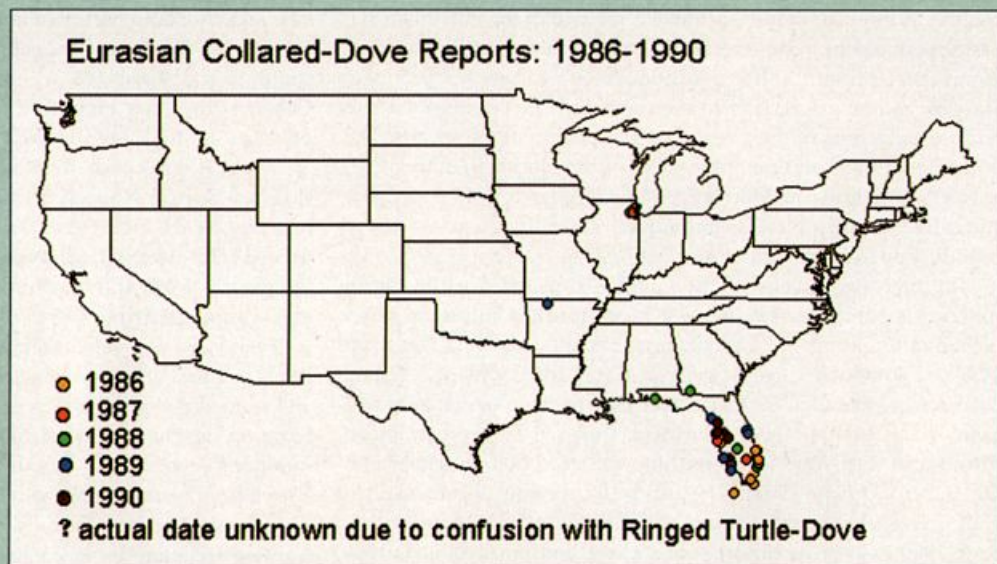


Figure 4a

who own Eurasian Collared-Doves may confuse them with Ringed Turtle-Doves or may not admit to others that they own Eurasian Collared-Doves. While conducting surveys to identify individuals who own Eurasian Collared-Doves, C. M. Romagosa received several requests asking for breeding stock. Smith (1987) had the same experience while researching captive status in the mid-1980s. Eurasian Collared-Dove is not as popular in captivity as Ringed Turtle-Dove due to its aggressiveness toward other birds and its wariness with humans. These traits have led to its release in several states (anon., pers. comm.). (See "Note from the Authors" below on the issue of anonymity.) Populations in California first appearing in Ventura in 1992 (P. Lehman in litt.) are a result of doves that were released in the area (anon., pers. comm.). The small population in King City, California, is also a locally introduced population (H. Banks, pers. comm.). Individuals released in Braggadocio, Missouri, were obtained from an auction in Tennessee (anon., pers. comm.). Bohlen (1998) suspects that the *Streptopelia* population in Joliet, Illinois, originated from released birds. The appearance and eventual nesting of Eurasian Collared-Doves in Memphis, Tennessee, in the spring of 1994 was thought to be from a release of captives (R. Knight, pers.

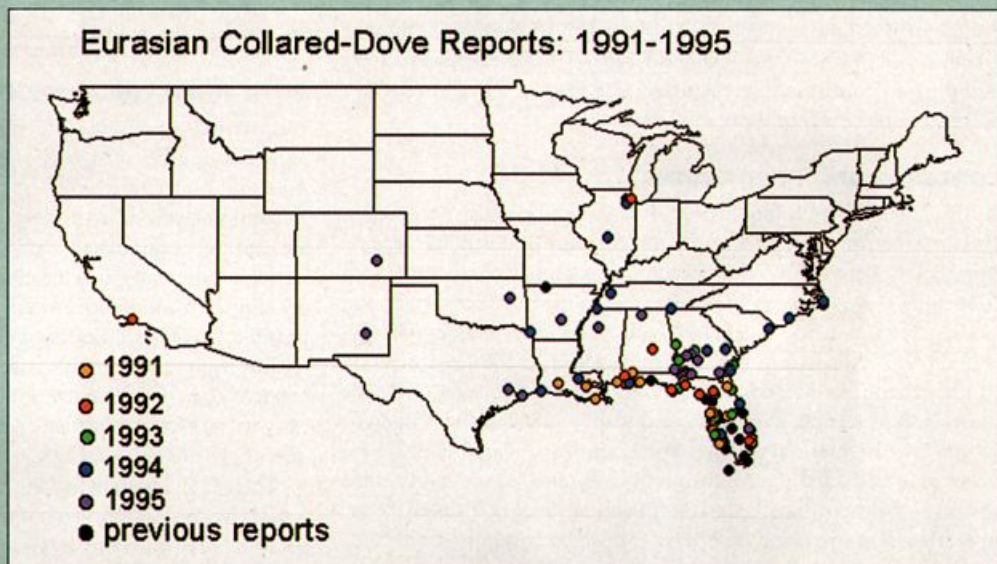


Figure 4b

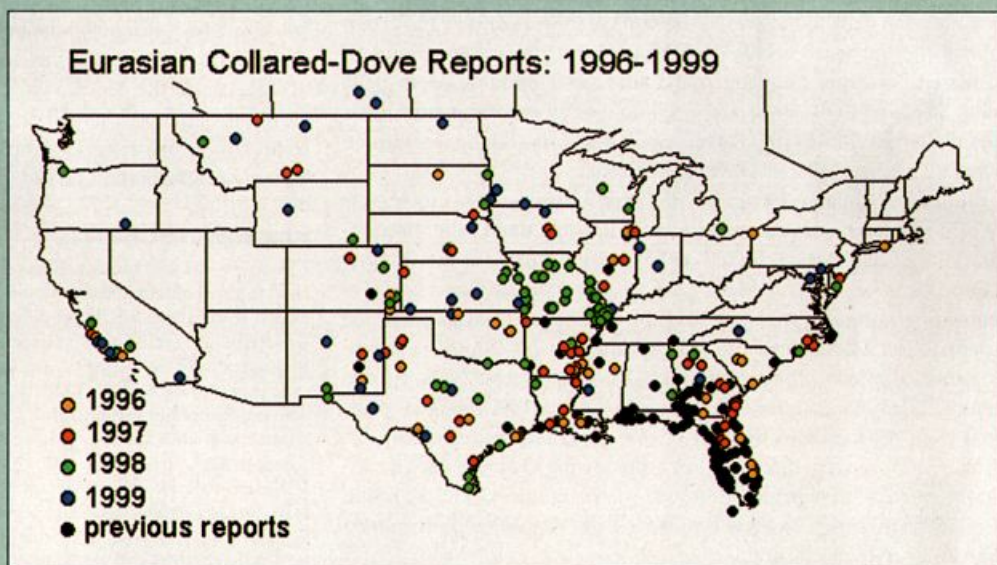


Figure 4c

comm.). A population in Houston was released in the mid-1990s (G. Lasley, pers. comm.), and several other releases have occurred in Texas (anon., pers. comm.), although the dove may also have reached these areas by natural dispersal from the southeast. Such releases obscure our understanding of the actual dispersal pattern of the species. The potential for translocation of the species from Florida to other places in North America could further confound the issue. C. M. Romagosa currently is using molecular techniques to identify point sources of introduction in North America.

The breeding biology of the Eurasian Collared-Dove in North America is poorly known. Nesting is documented in several states including California (K. Garrett, pers. comm.), Alabama (Drennen 1997), Colorado (M. Janos, pers. comm.), and Montana. Nesting occurred in Nebraska less than a year after the species first appeared there (Grzybowski 1998). Eurasian Collared-Doves can breed throughout the year, and breeding was recorded in Florida in December (McNair 1997). The incubation period documented in Gulf Breeze, Florida, was 14 days, with fledging after 17 days (Rose & Rose 1999). Given its historic range expansion throughout Europe (Fisher 1953, Hudson 1965) and its rapid invasion of Florida (Smith 1987, Hengeveld 1993, Romagosa & Labisky in press) and the Southeast, the Eurasian Collared-Dove probably will colonize most of North America within the next few decades. Climatically warm areas and the mid-continental cereal production areas where grain spillage is commonplace will be especially vulnerable.

CONCERNS AND PREDICTIONS

As this species spreads into habitats it had not previously occupied in North America, it may cause problems for indigenous species. Eurasian Collared-Dove may become a potential competitor with Mourning Dove (*Zenaidura macroura*) due to their similar dietary and nesting requirements. Kale (1984) observed that *Streptopelia* spp. seemed to be displacing the Mourning Dove in localized areas in southern Florida. Interactions observed between Eurasian Collared-Doves and Mourning Doves have led many to believe that Collared-Doves may be more aggressive. For example, Collared-Doves have been observed chasing Mourning Doves and other native bird species—Northern Cardinals (*Cardinalis cardinalis*), Painted Buntings (*Passerina ciris*), and Blue Jays (*Cyanocitta cristata*)—from feeding stations in southeastern Florida (Romagosa & Labisky in press). It should be noted, however, that Mourning Doves have been seen chasing Eurasian Collared-Doves in the same manner. Concern has arisen about the apparent decrease of Mourning Doves where Eurasian Collared-Doves are abundant, as in Cedar Key, Florida (C. M. R., pers. obs., Stedman 1998). Birdwatchers should be aware of potential competition, and Mourning Dove populations should be monitored where Eurasian Collared-Doves are present.

Eurasian Collared-Doves are not without predators in their New World range. Their preference for suburban areas and other human-associated habitats is linked to predation from domestic cats (Coombs et al. 1981, C.M.R., pers. obs.). Collared-Doves are also becoming a popular prey item for raptors. Cooper's Hawks (*Accipiter cooperi*) (C. M. R., pers. obs., B. Anderson, pers. comm.), Sharp-shinned Hawks (*Accipiter striatus*) (H. Banks, pers. comm.), and Short-tailed Hawks (*Buteo brachyurus*) (Ogden 1992) have all profited from the increased number of easy prey. Remains of a Eurasian Collared-Dove were discovered in a Burrowing Owl (*Athene cunicularia*) burrow in Florida (P. Bowen, pers. comm.). The Eurasian Collared-Dove increase may be a blessing to native hawks in suburban and rural/agricultural settings.

Eurasian Collared-Doves have also found their way into hunters'

bags and have been harvested in Georgia (G. W. Steele 1998, website), Missouri (J. H. Schulz, pers. comm.), Mississippi (R. D. Elmore, pers. comm.), and Texas (M. K. Skoruppa, pers. comm.). The larger Collared-Dove may become attractive to hunters, possibly reducing pressure on Mourning and White-winged (*Zenaidura asiatica*) doves.

There is still much to learn about the status of the Eurasian Collared-Dove in North America. More observation and research on breeding habits, movements, and life history of this species is sorely needed before we can begin to understand what effects it may have on indigenous North American birdlife. Other introduced bird species—e.g., House Sparrow (*Passer domesticus*) and European Starling (*Sturnus vulgaris*)—have taken hold and become permanently established as a part of our avifauna without our having fully documented and studied the initial phases of their expansion. With the Collared-Dove, we now have an excellent and rare opportunity to identify and monitor a species newly introduced into our habitats during this initial phase. The phenomenon seems particularly intriguing since the species seems to be spreading so rapidly over such a wide region, forming so many localized breeding populations, and potentially affecting other related genera. Documentation of both indigenous and nonindigenous dove demographics could provide valuable information for wildlife managers in the years to come.

NOTE FROM THE AUTHORS

We obtained most of the information for the maps in this article from published sources such as *North American Birds* (also *Field Notes* and *American Birds*), rare bird alert postings on the internet, and personal communications with several individuals. Due to the massive amount of accumulated data and potential reporting error from sources, some dates and locations may be inaccurate. Please contact the authors if you notice any errors; we would like to be as accurate as possible in our continuing research. There are very few verified records from Canada at this point, and none that we are aware of from Mexico. There have been various reports of Eurasian Collared-Doves close to the Mexican border, and there is no reason to believe that the doves have not crossed it.

There is an inherent bias with the flood of Eurasian Collared-Dove reports in the past few years. With greater public awareness, the number of reports will increase, giving the appearance of a sudden dispersal of doves to an area. This phenomenon was evident after a request for information on the Eurasian Collared-Dove in Missouri was posted (Low 1998). Readers must be aware of this potential bias and view the accompanying maps (Fig. 4) with this in mind.

Because of the delicate issue of the source of Eurasian Collared-Dove introductions, several people asked to remain anonymous. We respect their privacy and appreciate their willingness to contribute important information on the species.

ACKNOWLEDGMENTS

This paper was very much a collaborative effort, and we are greatly indebted to all that have contributed. We would like to thank all state and provincial bird record committees for responding to our questionnaire regarding Eurasian Collared-Dove verification and distribution. In the few instances where questionnaires were not returned, we took the liberty to seek advice from other state experts. Due to space limitations, we cannot thank everyone individually who has assisted in this undertaking over the last two years. We thank you for all your assistance and hope you enjoy the fruits of this group effort. For their considerable help and expertise we thank: P. Baicich, H. Banks, H. D. Bohlen, J. Dinsmore, R. D. Elmore, J. Frank, T. H. Kent, A. Kratter, G. Lasley, N. Moore, H. Nehls, M. Parker, J. Pire, J. H. Schulz, P. Springer, H. T. Taylor, M. Tempel, S. Williams, and J. D. Wilson. T. Schiefer compiled Eurasian Collared-Dove sightings through 1996 and was kind enough to send these to C. M. R. via email. We would also like to thank D. Roberson, D. W. Steadman, T. Will, M.

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CORRIGENDUM: Lawry Sager's name was misspelled in the credit for his Wood Thrush photograph in Pictorial Highlights on page 344, Spring Migration, Volume 53, No. 3, 1999.

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