

THE  **HIO CARDINAL**

Devoted to the Study and Appreciation of Ohio's Birdlife • Vol 33, No 3 SPRING 2010





Unpredictable, but a regular visitor to Ohio, this Cattle Egret stares intently at a group of shorebirds 03 May, Fernald NP, **Hamilton**. Photo by Ruhikanta Meetei.

**Front Cover:** Elegant in her breeding plumage, this photogenic female Wilson's Phalarope, was one of nine seen this spring in Ohio. Photo by Ruhikanta Meetei 03 May, Fernald NP, **Hamilton**.



This Purple Gallinule, a weak-flying visitor from the southern swamps, thrilled scores of birders and was photographed by Judy Semroc on 02 May. The bird remained at Columbia Reservation in **Lorain** until 23 May. Two other individuals found each other, leading to Ohio's first nesting record (fledging 6 chicks), documented by Su Snyder and Dave Slager in Richland.

### Instructions for Contributors

*The Ohio Cardinal* would not exist without contributions from Ohio birders. We solicit sightings, notes on unusual observations, in-depth scientific articles, historical accounts, book reviews, essays, artwork, and photographs related to Ohio and its birdlife. Please refer to our website ([www.ohiobirds.org/publications/cardinal/aboutcardinal.php](http://www.ohiobirds.org/publications/cardinal/aboutcardinal.php)) for general guidelines on style and formatting.

Reports of bird sightings for each season are requested and should be submitted directly, by e-mail or postal mail, to the editor (contact information on page *i*). Deadlines are as follows:

**Fall** (Aug, Sep, Oct, Nov) - 25 December

**Winter** (Dec, Jan, Feb) - 25 March

**Spring** (Mar, Apr, May) - 25 June

**Summer** (Jun, Jul) - 25 August

**Back cover:** A review species in Ohio, this Black-necked Stilt delighted birders at Fernald NP, **Hamilton**, 04 May. Photo by Ruhikanta Meetei.



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# THE OHIO CARDINAL

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*The Ohio Cardinal* is a quarterly publication devoted to the study and appreciation of Ohio's birdlife. Logo designed by Julie Zickefoose, <http://www.juliezickefoose.com>.

**On the cover:** Elegant in her breeding plumage, this photogenic female Wilson's Phalarope, caught here by Ruhikanta Meetei on 03May at the Fernald NP in **Hamilton**, was one of nine seen this spring in Ohio.



# EDITOR'S NOTES

By Jill M Russell, PhD

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## Greetings, Ohio Birders!

You will probably notice some changes to *The Ohio Cardinal* in this issue. We have undergone a minor “face-lift” and reorganized the journal in order to make it more readable. Our new logo was designed by the immensely talented Julie Zickafoose, and, together with Debbie Griffith, our extraordinary assistant editor, we have updated the layout of the text inside. I have come onboard as the new editor of the *Cardinal*, with experience as: a birder, the spouse of a birder, a bird bander, a research scientist, a college professor, an editor and publisher of a newspaper, an executive director of a non-profit organization dedicated to conserving and protecting avian populations, a mom, a fiber artist, and a sometime-jogger. Oh, and did I mention that I like birds? My goal as editor of the *Cardinal* is to keep the journal true to its original purpose by continuing to publish the species

counts, while bringing back more diversity of content.

The *Cardinal* began as and remains a collaboration among Ohio birders, with hundreds sharing in each issue’s sightings reports, photographs, artwork, articles, and field notes. That’s where you, our Ohio Birders come in. I need your help.

Do you like to write? Do you have a funny birding story you’d like to share? I mean, really, birders are pretty funny (quirky?) people. I know; I’m married to one! How about some information on your favorite birding spot? Many of us have been watching the birds that come to our backyard birdfeeders for years. What trends are you seeing? Is your Northern Cardinal coming back every winter? Do you have a photograph you’d like to share? Those of you who are experienced birders, how about sharing some tips on field identification? We have amazing birding/nature centers in Ohio

that provide a wealth of services and information to the public. How about providing some history of birding in your area? For the academics in the group, how about encouraging your students to submit manuscripts on their research projects to the *Cardinal*? This journal is a great platform for getting peer-reviewed articles out to the public and like-minded individuals.

You will see that we will be “tweaking” *The Ohio Cardinal* in the next few issues, as we include more information from bird-banding stations around the state, photographs, and stories from our readers. So, please consider submitting your bird-related stories to the *Cardinal*. Send your submissions to:

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We thank you for your continued patience as Andy Jones and I diligently work on the completion of the 2009, 2010 and 2011 issues of the *Cardinal*. Please note that page numbers for this issue begin on page 150. This will allow us to use page numbers 1-149 for the Fall & Winter 2010 issues, which will be coming out within the next six months. It is our goal to be caught up with the publication of all issues of the *Cardinal* in 2012.



New *Cardinal* Editor Jill Russell holding a family of Boreal Owl chicks at her research site in Alaska.

# SEASON OVERVIEW

By David E Russell, PhD

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Once again, Mother Nature made birding challenging this spring. After a slow start in March, with below-average temperatures from Cincinnati through Columbus to Cleveland, the heat lamps were suddenly cranked on and warm temperatures hit with a rush. By the second week of March, 60°-plus temperatures were popping up around the state—including Columbus, with four days that were over 60° Fahrenheit, more than 20 degrees above average. Cincinnati recorded 16 days above 60° in the last three weeks of March, including 73° on 31 March. The temperatures didn't let off as we progressed into April: in the first two weeks, Cincinnati had six days of 80°-plus weather and Columbus and Cleveland had three, with Cincinnati recording 21 days of above-average temperatures for the month. A sudden cooling off, including night-time lows in the 30s from Cincinnati to

Cleveland, during the last week of April lead into a gloomy May. Cincinnati recorded only five sunny days in the first 18 days of May, Cleveland had measurable rainfall 11 of the first 18 days, and Columbus had only four sunny days in the first 23 days of the month. This erratic weather made finding birds a challenge. The trees, responding to early warm temperatures, began budding earlier than usual, so by the time the warblers were making their push through the state in late April and early May, most trees were completely leafed out. Even typically late-leafing species such as oaks and walnuts, favorites of birders hoping for a glimpse of our migrants in the green sea of vegetation, had leafed by early May, making locating vireos, warblers, and flycatchers a challenge. The wet, overcast conditions during the first couple of weeks of May only compounded the difficulty in locating birds. Despite

the challenges, 12 review species were found during this period—some of which we are beginning to expect annually, such as Eurasian Collared-Dove (including nesting documentation), Black-necked Stilt, Glossy Ibis, Eared Grebe, and Kirtland's Warbler. But the appearance of a Scissor-tailed Flycatcher in Hamilton County, a Pacific Loon in Warren County, and no less than 11 Purple Gallinules (eight from a documented nest in Richland County) certainly were a surprise. Feeders were also important in bringing in rarities: a female Spotted Towhee frequented a Holmes County feeder long enough for over 340 birders to enjoy her, and the Golden-crowned Sparrow again wintered at its feeder in Hancock County through at least 18 April. The often-hoped-for but rarely encountered Smith's Longspurs made a brief visit to Killdeer Plains WA in late April. Similarly, many birders had the rare opportunity to see a breeding plumage Ruff, complete with his black mane, at Big Island WA 26 April through 1 May in Marion County.

Waterfowl diversity was average this spring, with

considerably lower numbers of individuals noted for most species compared with recent years. This might be due in part to the warm early-spring temperatures melting ice and allowing birds to make quick progress north, eliminating the large aggregations of birds typically found just behind the freeze-line as it progresses northward through the state. Only single individuals of Greater White-fronted, Ross's, and Cackling Geese were reported throughout the state, with only scattered reports of individual Snow Geese and a high count of 24 reported at Ottawa on 7 March. Six Eurasian Wigeons and the 86 Long-tailed Ducks reported took some of the sting out of otherwise lackluster waterfowl numbers around the state. Due possibly to the rain and poor field conditions during the prime migration window in the first couple of weeks of May, warbler and sparrow diversity and numbers appeared uninspiring this spring. Little was found that was unexpected, and overall numbers were low.

# CONVENTIONS AND ABBREVIATIONS

The following conventions are used throughout all seasonal reports. Taxonomic order and nomenclature are those of the *Check-list of North American Birds*, (1998: 7th ed), as updated through the 51st Supplement (2010) available at <http://www.aou.org/checklist/north/print/php>. All credible sightings are published even if they have not yet been reviewed by the Ohio Bird Records Committee. Underlined Common Names indicate those on the OBRC Review List; documentation is needed to add reports of these species to official state records, or to attributed reports herein. **County names** are in bold italics. The following abbreviations are used in these accounts:

*et. al.* = and others

*fide* = third party submission

Hocking = Hocking Hills SP

Killdeer = Killdeer Plains WA

Magee = Magee Marsh WA

Maumee = Maumee Bay SP

MP = Metropark

Metzger = Metzger Marsh WA

NP = Nature Preserve

NWR = National Wildlife Refuge

ONWR = Ottawa NWR

RBA = Rare Bird Alert

Shawnee = Shawnee SF

SF = State Forest

SP = State Park

WA = Wildlife Area

WS = Wildlife Sanctuary

# SPRING REPORT

By Sean Williams

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## Greater White-fronted Goose

Only one reported, at Blendon Woods MP in **Franklin** on 13 Mar (Kristi Rowland).

## Snow Goose

Single-digit numbers reported 5 Mar to 2 May in **Darke, Greene, Lorain, Lucas, Mahoning, Medina, Muskingum, Ottawa,** and **Wyandot**, with 24 at ONWR on 7 Mar (March monthly census).

## Ross's Goose

One reported on 5 Mar in **Lawrence** (Todd Deal).

## Cackling Goose

One reported on 12 Mar at Killdeer, **Wyandot/Marion** (Will Condit).

## Canada Goose

Numerous reports from throughout the state.

## Mute Swan

This species is widely reported but concentrated in the northern



How could an event like the *Biggest Week in American Birding* get even bigger? Kenn Kaufman accomplished this with his discovery of a male Kirtland's Warbler 14 May along East Beach, Magee, **Ottawa**. The bird remained for much of the day, actively foraging in and around the estimated 1,000 excited birders who got to see and photograph this rare, and even more rarely found, species. Dave Lewis captured this beautiful image as the bird worked its way through the willows and sumacs along the beach.

counties. Twenty-eight was the high count on 7 Mar at ONWR during the monthly census.

## Tundra Swan

Many reported around the state, with **Lucas, Ottawa,** and **Wayne** recording numbers in the

hundreds during March. On the monthly census at ONWR on 7 Mar, an impressive 1,049 were reported.

### Wood Duck

Strongly reported throughout the state during migration, though never more than a few dozen at once.

### Gadwall

Ordinary numbers were reported throughout migration, with up to 200 seen at ONWR on 17 Apr (Aaron Bartley).

### Eurasian Wigeon

An individual stayed at TJ Evans Park in *Licking* from 1 to 6 Mar (Mike Smith). One was at Paulding Sewage Lagoon in *Paulding* on 10 to 11 Mar (Doug and Micki Dunakin). Another was seen at ONWR on 14 Mar (Ken Ostermiller), one at Funk Bottoms WA 4 to 7 Apr (Su Snyder), one at Big Island WA on 24 Apr (Jay Stenger), and one at Pickerel Creek WA on 8 May (Steve Landes).

### American Wigeon

Two hundred and twelve were counted at Killdeer on 19 Mar (Charlie Bombaci). One stayed as late as 23 May at Pickerel

Creek WA, *Sandusky* (Ken Ostermiller).

### American Black Duck

The high count for this species was 328 at Blendon Woods MP on 2 Mar (Sylvia Townsend). Seven were reported on 16 May at Magee (Amy Kearns).

### Mallard

The high count of 473 was from the ONWR monthly census on 7 Mar.

### Blue-winged Teal

The most notable count, 110 individuals, came from Big Island WA on 4 Apr (Gene Stauffer).

### Northern Shoveler

Reported in modest numbers throughout spring migration.

### Northern Pintail

An average migration for the species, with high counts of 200 to 300 coming from Funk Bottoms WA, *Ashland*, on 11 Mar (Ken Ostermiller).

### Green-winged Teal

Reports around the state did not exceed 100 individuals, with three birds remaining through the end of May at Pickerel Creek WA (Ken Ostermiller).

### Canvasback

As many as 88 were seen at East Fork SP in *Clermont* on 6 Mar (Bob Foppe). Almost all individuals were reported in March, except a few in early April.

### Redhead

High counts of 321 came from the monthly census of ONWR on 7 Mar with another estimated 300 from Metzger on 27 Mar (Andy Sewell, Brad Sparks). One lingered to 6 May at Winton Woods in *Hamilton* (John Marvin).

### Ring-necked Duck

Up to 515 were reported from Cowan Lake in *Clinton* on 15 Mar (Bob Powell). One stayed up to 30 May at Adams Lake SP in *Adams* (Greg Cornett), another to 30 May at Mill Creek WS in *Mahoning* (William Jones).

### Greater Scaup

Up to 500 were counted at Metzger on 27 Mar (Andy Sewell, Brad Sparks). One was reported at Mentor Headlands Beach on 16 May.

### Lesser Scaup

One thousand birds were reported at Crane Creek Estuary on 4 Apr (Joachime Bellomo

and Chris Goulart), and another 900 were at Findlay Reservoir in *Hancock* on 25 Mar (Dave Slager). One stayed at Metzger as late as 12 May (Michael McCloy).

### Surf Scoter

One was at Caesar Creek SP in *Warren* 20 to 27 Mar (Rick Asamoto, Larry Gara), one was at Chippewa Lake in *Medina* on 23 Mar (Ken Ostermiller). One was at Pleasant Hill Lake in *Richland* on 24 Mar (Su Snyder), a pair was at Bresler Reservoir in *Lima* (Russell Owl), and another was reported at Findlay Reservoir in *Hancock* on 30 Mar (Rob Sams).

### White-winged Scoter

Three were seen at Avon Lake Powerplant in *Lorain* on 7 Mar (Dan Gerard and Irene Krise).

### Black Scoter

One was seen at Caesar Creek SP in *Warren* on 24 Mar (Jay Lehman). Two were reported from Clear Fork Reservoir in *Richland* on 13 Apr (Gary Cowell).

### Long-tailed Duck

An impressive 84 were reported around the state in spring migration, with almost all birds reported between 17 Mar and

4 Apr. Single-digit numbers came from *Ashtabula*, *Clark*, *Delaware*, *Franklin*, and *Lorain*. Thirty were reported from Berlin Reservoir in *Portage* on 22 Mar (Jeff Harvey). Twelve were reported from Pleasant Hill Lake in *Richland* on 22 Mar (Gary Cowell), and ten were seen at Berlin Reservoir in *Mahoning* on 24 Mar (Chuck McClaugherty).

#### **Bufflehead**

Five hundred individuals was an impressive count on 27 Mar at Metzger (Doug Knowles). Two lingered until 21 May at Pickerel Creek WA (Mike Bracken).

#### **Common Goldeneye**

Moderate numbers were reported throughout the state in spring migration.

#### **Hooded Merganser**

Up to 40 were seen at Hoover Reservoir in *Delaware* on 20 Mar (Brad Sparks). Similar high-count numbers were reported around the state, which is not unusual.

#### **Common Merganser**

The ONWR monthly census reported 142 on 7 Mar; otherwise, numbers were moderate.

#### **Red-breasted Merganser**

As many as 2,000 were reported from Perry Township Park in *Lake* on 12 Apr (Laura Dornan). Other counts of over 100 birds came from *Cuyahoga*, *Delaware*, *Geauga*, *Hancock*, *Medina*, and *Lorain*.

#### **Ruddy Duck**

Impressive counts of 550 came from Pipe Creek in *Erie* on 2 Apr (Aaron Bartley) and from Wellington Upground Reservoir in *Lorain* on 2 Apr (Ken Ostermiller). Five hundred were reported from LaDue Reservoir in *Geauga* on 12 Apr (Laura Dornan).

#### **Northern Bobwhite**

Several reported: one at Lake Waynoka in *Brown* on 18 Apr two at Delaware WA on 3 May (Craig Moore); six around Miami Whitewater Forest in *Hamilton* from 8 to 25 May (Joshua Eastlake, Laura Keene, Jay Stenger, Kirk Westendorf); one at Germantown MP, *Montgomery*, on 4 May (Chris Birch); and one at Ross Lake in *Ross* (Joe McMahan).

#### **Ruffed Grouse**

Reported drumming at Shawnee 3 Apr to 29 May (Tom Bain,

Nancy Baker, Paul Cordero, Greg Cornett, Mark Martucci, Bruce Miller, Andy Sewell, Brad Sparks). Others were reported at Eulett Center in *Adams* on 28 May (Greg Cornett) and at Vinton Experimental Forest in *Vinton* on 6 and 15 May (Greg Gagne).

#### **Wild Turkey**

Reported in expected numbers in their normal range, with 49 being a high count in *Hamilton* on 7 Mar (Joshua Eastlake).

#### **Red-throated Loon**

Three were seen at Magee on 18 Apr (Gary Moon). One remained at Caesar Creek SP in *Warren* 10 to 17 Apr.

#### **Pacific Loon**

One was documented by Rick Asamoto at Caesar Creek SP in *Warren* on 2 May.

#### **Common Loon**

Moderate numbers were reported around the state throughout migration.

#### **Pied-billed Grebe**

Usual numbers reported throughout migration as they settled into the various marshes where they breed.

#### **Horned Grebe**

Up to 90 reported at Caesar Creek SP in *Warren* on 21 Mar (Bob Foppe).

#### **Eared Grebe**

Four were reported: one at Caesar Creek SP on 23 Mar (Andrew Core), one at LaDue Reservoir in *Geauga* on 29 Mar (Dan Gerard), one at Buck Creek SP in *Clark* on 11 Apr (Rick Asamoto), and one at Woods Road Wetland in *Darke* on 28 Apr (Regina Schieltz).

#### **Double-crested Cormorant**

Average numbers were reported, with a high count of 200 at the Cuyahoga River Flats in *Cuyahoga* on 9 Apr.

#### **American White Pelican**

Fourteen were reported. Nine was a high count on 14 May at Magee (Kenn Kaufman), four were at Old Woman Creek Estuary in *Erie* on 7 to 9 May, and one was at Pickerel Creek on 16 May (Craig Caldwell).

#### **American Bittern**

The first was reported on 9 Apr at Girdled Road Reservation in *Lake* (John Pogacnik), two were reported flying around Hinckley Reservation on 23 Apr

(Irene Krise), and one each was reported at Metzger and Magee 24 Apr to 22 May. One was reported at Spring Valley WA on 20 and 29 Apr (John Habig, Paul Dubuc), another was reported at Edgewater SP in *Cuyahoga* on 30 Apr (Dan Gerard), and one was at Killbuck Marsh WA on 11 May (Andy Newman).

### **Least Bittern**

One was seen at East Fork SP in *Clermont* (William Hull), one was heard calling at ONWR on 15 May (Craig Caldwell), and another was calling 15 to 20 May at Metzger.

### **Great Blue Heron**

Average numbers were reported around the state, though an impressive count of 220 came from a boat survey at Hoover Reservoir on 23 May (Charlie Bombaci).

### **Great Egret**

Birds returned the first week of April, with the largest numbers reported coming from the lakefront.

### **Snowy Egret**

Reports commenced in mid-April along the lakefront, which included *Cuyahoga*, *Erie*, *Lucas*,

and *Ottawa*. Inland reports came of an out-of-place bird on the rocky riverbed of the Olentangy River in *Delaware* (Sean Williams), and a notable two were seen in *Hamilton* on 18 May (William Hull).

### **Little Blue Heron**

Four were reported in spring migration. One was at Cuyahoga River Flats in *Cuyahoga* on 10 Apr (Wes Hatch), one at Magee on 24 Apr (Jessica Mandich), one in Sylvania, *Lucas* on 2 May (Matt Anderson) and another at ONWR on 9 May (ONWR data).

### **Cattle Egret**

An impressive total of 68 was reported; 18 were remarkable in *Erie* on 11 May (Andy Jones), and 8 were in a field in *Erie* on 13 May (Doreen Linzell and Dan Sanders). Other reports came from *Clermont*, *Darke*, *Hamilton*, *Lucas*, *Montgomery*, *Ottawa*, and *Richland*.

### **Green Heron**

The majority of reports started in the last week of April, with one notable early bird on 10 Apr in *Hamilton* (Mark Gilsdorf).

### **Black-crowned Night-Heron**

Nineteen was a nice count on 18

Apr in *Cuyahoga* (Irene Krise), with reports of fewer individuals coming from *Delaware*, *Franklin*, *Hamilton*, *Hancock*, *Lake*, *Lucas*, and *Ottawa*.

### **Yellow-crowned Night-Heron**

The roost at Preston Road in *Franklin* continues to hold these birds, which arrived on 31 Mar (Bill Whan), and as many four were reported on 6 Apr (Lawrence DeAtley). No other reports.

### **Glossy Ibis**

A great record of four birds came from Highlandtown WA in *Columbiana* on 26 to 29 Apr, and another was reported at Big Island WA in *Marion* on 9 May and remained through the end of the month.

### **White-faced Ibis**

A single individual was documented in *Marion* on 7 to 14 May (Gary Smidutz).

### **Black Vulture**

Reported in normal numbers in their southern threshold in the state, with 40 being the high count from Hocking in *Hocking* on 6 Mar.

### **Turkey Vulture**

Reported in abundance

throughout the state, but most reports did not exceed 100 birds. However, on 1 Apr, the Conneaut Hawk Watch tallied 1,195 birds.

### **Osprey**

The first report came on 20 Mar at Hoover Reservoir in *Delaware* of two birds (Bill Tacon), with numbers steadily growing thereafter in 37 counties.

### **Bald Eagle**

Reported statewide in single-digit numbers, so 15 at Winous Point Shooting Club on 5 May were a concentration (Kenn Kaufman).

### **Northern Harrier**

Reported strongly throughout March and April, with numbers tapering off in May.

### **Sharp-shinned Hawk**

Reported well in migration, especially at Edgewater SP in *Cuyahoga* on 30 Apr, when 315 were counted (Dan Gesualdo).

### **Northern Goshawk**

Only one report, which was from Edgewater SP on 30 Apr in *Cuyahoga* (Dan Gesualdo).

### **Red-shouldered Hawk**

Steady reports throughout the state during spring.

**Broad-winged Hawk**

Dozens reported in migration throughout mid-April to mid-May, highlighted by 230 reported from Edgewater SP in *Cuyahoga* on 30 Apr (Dan Gesualdo).

**Red-tailed Hawk**

Many reported around the state, with 25 seen on a hawkwatch at Edgewater SP in *Cuyahoga* on 30 Apr (Dan Gesualdo), and 125 on 1 Apr at the Conneaut Hawk Watch.

**Rough-legged Hawk**

All reports but one come from March in *Montgomery*, *Richland*, *Wayne*, and *Wyandot*. A very late bird was reported on 27 Apr at Big Island WA in *Marion* (Charlie Bombaci).

**Golden Eagle**

Only one reported, over the Ohio turnpike from *Lorain* on 4 Mar (Chris Decker).

**American Kestrel**

Moderate numbers were reported statewide.

**Merlin**

Nine birds were reported, with three in March, two in April, four in May, from *Cuyahoga*, *Delaware*, *Franklin*, *Knox*,

*Lucas*, *Ottawa*, and *Summit*.

**Peregrine Falcon:** A couple dozen were reported consistently throughout the state, with up to five at once in *Cuyahoga* (Melissa Gallop). Reported in 14 counties overall.

**Virginia Rail**

Modest numbers reported in marshes around the state beginning on 8 Apr, with five being the high count from Mill Creek WS in *Mahoning* on 25 Apr (William Jones *et al.*).

**Sora**

The bulk of initial reports came in the first and second weeks of April, with over 20 counties reporting this species, in numbers of six or fewer.

**Purple Gallinule**

A fantastic sighting of one bird at the Columbia Reservation in *Lorain* on 2 May (Linda Paull) that hung around through 23 May was quickly followed by a report from a yard in Medina not 20 miles from the *Lorain* bird on 4 May. Jim McCormac rushed to the scene, but the bird had fled the lawn. The injured bird was later captured, rehabbed, and successfully released. These birds were closely followed by one

individual from *Greene*; 9 May (Stanley Lessig), and an amazing eight individuals (two adults and six juveniles), documented by Su Snyder and Dave Slager in *Richland*, was accepted as an Ohio nesting record.

**Common Moorhen**

Only a few dozen reported around the state, with the vast majority coming from Magee and Metzger and ONWR. Counts of 15 came from ONWR on 15 May (Amy and Noah Kearns) and from Metzger on 22 May (Ken Ostermiller).

**American Coot**

Strong numbers reported around the state, with many counties reporting over 100 birds at once. Six hundred was a high count on 2 Apr at Pipe Creek WA (Aaron Bartley), but 380 also impressive at *Hardin* wetlands on 4 Apr (Rick Counts).

**Sandhill Crane**

Most reports came from *Lorain*, *Lucas*, *Ottawa* and *Wayne*, with 31 reported in *Highland* on 6 Mar (Robert Foppe) and 22 on 2 Apr at *Hardin* wetlands (Rick Counts). Other reports mostly included single birds or small groups.

**Black-bellied Plover**

The first report came on 28 Apr in *Marion* (Ben Warner, soon followed by others). Thirty-two were counted at ONWR on 15 May (Brad Sparks), with lower numbers being reported from *Ashtabula*, *Hamilton*, *Hancock*, *Lucas*, and *Sandusky*.

**American Golden-Plover**

The first report came on 2 Apr from *Hardin* wetlands of a sizeable 132-bird flock (Rick Counts). *Delaware* and *Marion* reports soon followed, with a migrating flock of 56 observed flying over Ohio Wesleyan University on 15 Apr (Sean Williams). Other counties reporting sightings were *Darke*, *Franklin*, *Hardin*, *Lucas*, *Marion*, and *Ottawa*.

**Semipalmated Plover**

The first report was on 24 Apr of 3 birds in *Hamilton* (Joe Kappa), but peak numbers didn't come until the second and third weeks of May. Twenty-two were seen in Conneaut Harbor on 22 May (Mark Vaas).

**Killdeer**

Reported widespread throughout Mar to May in normal counts.

**Black-necked Stilt**

Two were reported in May. One was at Fernald NP in *Hamilton* on 3 to 4 May, and another was a one-day wonder on 25 May at ONWR (Doreen Linzell and Dan Sanders).

**American Avocet**

Two flocks were reported at the end of April. Thirty were seen at Maumee in *Lucas* on 24 Apr (Dana Bollin), and 25 were reported five days later at Cowan Lake in *Clinton* (Larry Gara).

**Spotted Sandpiper**

The first reports came from several locations on 10 Apr. Numbers quickly increased; 13 were reported on 16 Apr in *Delaware* (Sean Williams). Normal numbers reported throughout migration.

**Solitary Sandpiper**

This species was reported in high numbers. Sixty-one were reported in *Richland* on 3 May (Robert Foppe). An early report came from Delaware WA in *Delaware* on 2 Apr (Sean Williams). Other counties reporting more than 10 were *Delaware, Hamilton, Holmes, and Ottawa*.

**Greater Yellowlegs**

Many reported throughout the state, frequently more than 10 at a time. The first report came on 20 Mar from *Darke* (Regina Schieltz), and up to 85 were present at Big Island WA on 26 Apr, when a Ruff was also present.

**Willet**

Twenty-three were reported on 5 May at Pipe Creek WA in *Erie* (Larry Richardson), six at Caesar Creek SP SP on 2 May, two in *Darke* on 2 May (Regina Schieltz), and two in *Pike* on 2 May (Dave Hess). Single reports came from *Cuyahoga* on 2 May (Mark Anderson) and at Big Island WA 25-27 Apr.

**Lesser Yellowlegs**

Reported first on 2 Apr in *Delaware* (Sean Williams), and up to 100 were reported at Big Island WA in *Marion* on 28 Apr (Andy Jones) in the presence of a Ruff. Reported in normal numbers in other shorebird spots around the state.

**Upland Sandpiper**

Reported only in four counties. Three birds were heard at Big Island WA on 24 Apr in *Marion* (Jay Lehman), one flew over the Conneaut Hawk Watch on 30

Apr in *Cuyahoga* (Gabe Leidy), up to four were seen at Krause/Stange Road in *Ottawa* 14 to 16 May, one was reported at Magee on 14 May (Heather Slayton), and one was in *Richland* on 16 May (Gary Cowell).

**Whimbrel**

According to surveys in Ontario, peak numbers average on 24 May. Many reports came from inland Ohio, which is not typical for the species. Fifty to sixty were reported from Hoover Reservoir in *Delaware* on 23 May (Bob Baran). Six flew over an urban interserction in *Franklin* on 25 May (John Kuenzli), 30 to 40 flew by the lakefront in *Lake* on 25 May (John Pogacnik), and one was at Indian Lake in *Logan* on 25 May (Troy Shively).

**Marbled Godwit**

Single reports came from Magee on 14 May (Heater Slayton and Aaron Bartley), Krause/Stange Road in *Ottawa* on 13 to 15 May and Pickerel Creek WA on 23 May (Ken Ostermiller).

**Ruddy Turnstone**

Reports occurred 5 to 28 May, with up to 15 at Metzger on 22 May (Ken Ostermiller). Other counties were *Ashtabula, Erie,*

*Ottawa, and Sandusky.*

**Sanderling**

Reports came 4 to 27 May. *Ashtabula, Erie, Hancock, Lucas, Ottawa* and *Warren* reported singles or small groups.

**Semipalmated Sandpiper**

Few reports came in around the state, but they were often in good numbers. Conneaut Harbor held 31 on 29 May (Mark Vaas), 50 were in *Hamilton* on 14 May (Jay and Jack Stenger), and 55 were reported at ONWR on 10 May (Larry Therrien).

**Least Sandpiper**

More common than the Semipalmated Sandpiper, this species was widely reported. Two birds, which had overwintered in *Butler*, were reported on 6 Mar. Migrants didn't arrive in numbers until the second week of May, when over 20 were reported in *Hamilton, Holmes, Lucas, Mahoning, and Ottawa.*

**White-rumped Sandpiper**

The first report was on 21 Apr of six birds in *Scioto* (Renee and Bill McGill). One to two were reported at Lost Bridge in *Hamilton* 3 to 18 May, up to three were reported at ONWR



A small water retention basin at Fernald NP in **Hamilton** was the focus of much birding excitement on 03 and 04 May, as about a dozen yellowlegs and Least Sandpipers rubbed shoulders with more unusual visitors, including Stilt Sandpiper and Wilson's Phalarope as captured by Bruce Leonhardt.

9 to 12 May, and seven were at Magee, **Ottawa**, on 10 May. Other counties reporting were **Franklin**, **Hancock**, and **Wyandot**.

### **Pectoral Sandpiper**

As is typical of this species, some large flocks were recorded. On 2 Apr, 107 were feeding at Delaware WA (Sean Williams), and 480 were in **Hardin** on the same date (Richard Counts). Four hundred were at Big Island WA on 10 Apr (Tom Bain), and 200 at ONWR on 18 Apr (Charles Crawford).

### **Dunlin**

Much like Pectorals, this species may flock in hundreds of birds. Reports of flocks numbering

more than 100 birds came from Metzger, ONWR, and Pickerel Creek WA in **Sandusky**. The majority of sightings occurred in the last week of April to third week in May.

### **Stilt Sandpiper**

One was seen at Fernald NP in **Hamilton** 3 to 4 May, and two were at Pickerington Ponds in **Franklin** on 19 May (Brad Sparks).

### **Ruff**

Perhaps the star of the show this spring: an adult male with black breeding plumage was discovered by Dan Sanders and Doreen Linzell at Big Island WA in **Marion** on 25 Apr. It stayed until 2 May, so it was viewed by dozens of birders from around the state.

### **Short-billed Dowitcher**

Several reported, with most occurring 1 to 22 May. Reporting counties include **Ashtabula**, **Darke**, **Franklin**, **Hamilton**, **Holmes**, **Lorain**, **Lucas**, **Ottawa**, and **Sandusky**.

### **Long-billed Dowitcher**

Only one group of four birds reported at Magee on 14 Apr (Chris Decker).

### **Wilson's Snipe**

Reported in numbers in many muddy areas throughout the state. Mass congregations occurred at Snipe Marsh in **Delaware** of 40 birds on 8 Apr (Sean Williams), and 52 were reported at Mill Creek WS in **Mahoning**.

### **American Woodcock**

Peenting in many grassy fields throughout the state in modest numbers.

### **Wilson's Phalarope**

A total of seven were reported in 27 Apr to 16 May. Singles were reported in **Darke**, **Hamilton**, **Lorain**, **Marion**, and **Ottawa**. Two birds were reported at Battelle Darby Wetlands in **Franklin** and another two at Pickerington Ponds in **Franklin**.

### **Red-necked Phalarope**

Two were seen at Pickerington Ponds in **Franklin** on 17 to 22 May, and another pair was at St. Mary's Fish Hatchery in **Auglaize** on 30 May (Russell Owl and Craig Moore).

### **Bonaparte's Gulls**

Reported in over 20 counties around the state, with 50 or more individuals reported in most counties. Although the first birds were reported in early March, the bulk of migration occurred between 20 Mar and 15 Apr. Up to 300 were reported at Hoover Nature Preserve in **Delaware** on 23 Mar (Ben Warner).

### **Laughing Gull**

One was reported 2 to 8 May at Caesar Creek SP in **Warren**, one at Magee on 11 May (Hwi Suh), and another at Mentor Lagoons in **Lake** on 29 May (Page Linden).

### **Franklin's Gull**

Only two reported: one in **Hamilton** on 2 May (Jay Stenger) and another at Pickerel Creek WA in **Sandusky** on 8 May (Steve Landes).

### **Ring-billed Gull**

Approximately 1,700 were estimated with care at Dillon

SP beach in *Muskingum* on 5 Mar (Dave Slager), with many other reports of several hundred around the state.

### Herring Gull

Reported throughout the state, but more concentrated on the lakefront. Up to 240 were seen at once at a landfill in *Ottawa* on 20 Apr (Kenn Kaufman).

### Lesser Black-backed Gull

Almost all reported in March and on the lakefront. An impressive inland count of five was reported at Delaware Reservoir in *Delaware* on 24 Mar (Sean Williams), and six in fields in *Stark* on 28 Mar (Bob and Denise Lane). Other inland reports came from *Columbiana*, *Hancock*, and *Richland*.

### Glaucous Gull

Two reported on 7 Mar—one in *Cuyahoga* and another at Avon Lake Power Plant in *Lorain* (Irene Krise).

### Great Black-backed Gull

Most reports came from the lakefront, but inland reports included one in *Richland* on 7 Mar (Ken Ostermiller) and a juvenile at Delaware Reservoir in *Delaware* 24 Mar (Sean

Williams).

### Caspian Tern

The first reports came in the last few days of March, and mostly small numbers were reported around the state at large lakes and on the lakefront. Up to 73 were noted at Conneaut Harbor in *Ashtabula* on 28 Apr (Hans Clebsch).

### Black Tern

Reports began in the first week of May. Birds at Metzger in *Lucas* and ONWR numbered up to 10 individuals, and inland reports were from *Franklin*, *Hancock*, *Muskingum*, *Ottawa*, and *Wayne*.

### Common Tern

First reported in mid-April, with reports of large numbers of two to three dozen birds coming from the lakefront.

### Forster's Tern

Most reports came from the lakefront starting in mid-April, with smaller numbers inland. Up to 100 were reported at Pickerel Creek in *Sandusky* on 9 May (Andy Jones).

### Rock Pigeon

Widely reported in generous



In one of those good news/bad news scenarios, Bill Whan, Brad Sparks, and Troy Shively documented this nesting of Eurasian Collared-Dove, 22 May, at Indian Lake High School in *Logan*.

numbers, especially in urban centers and silos.

### Eurasian Collared-Dove

An exciting first-nesting documentation occurred in *Logan* on 23 May. Troy Shively, Brad Sparks, and Bill Whan were able to get photos. Other birds included one in *Hardin* on 18 May (Bob Royse) one in *Lake* on 29 May at the residence of John Pogacnik, and one individual from *Wood* (Tom Kemp) on 29 March.

### Mourning Dove

Normal numbers reported around the state.

### Yellow-billed Cuckoo

An early report came on 17 Apr at Bender Mountain in *Hamilton* (Paul Krusling), with the bulk of first reports not coming until the first week of May. Moderate single-digit counts were obtained around the state.

### Black-billed Cuckoo

First reports came on the last day of April. Reported less frequently than the Yellow-billed Cuckoo, and almost always only one at a time.

### Eastern Screech-Owl

Many single birds reported around the state, including one at Magee Marsh WA 12 to 16

May that entertained warbler-philies in the daytime by roosting in the open.

### Great Horned Owl

Many pairs reported around the state, with a nest of four reported in *Delaware* on 24 Mar (Charles Bombaci).

### Barred Owl

Reported in many counties around the state, often calling.

### Long-eared Owl

The Bobolink RBA reported one until 4 Mar in *Holmes*. Two remained at Killdeer in *Wyandot* to 7 Mar (Bruce Miller), and another two were reported at ONWR on 12 Mar.

### Short-eared Owl

Two were at Big Island WA in *Marion* on 10 Mar (Chris Decker), and a late migrant was in *Hardin* on 4 Apr (Richard Counts).

### Northern Saw-whet Owl

One heard at Carlisle Reservation in *Lorain* on 12 Apr (Black River Audubon) and another in *Lake* on 16 Mar (John Pogacnik) were the only reports.

### Common Nighthawk

The first reports came in the first week of May and the birds were widely reported through the end of May.

### Chuck-will's-widow

Reported in singles or pairs 30 Apr to 29 May in *Adams*, *Clermont*, *Franklin*, and *Scioto*.

### Eastern Whip-poor-will

First reported in the last week of April. Up to six were at Magee, *Lucas/Ottawa*, on 30 Apr (David Cooper). Other counties included *Adams*, *Hocking*, *Montgomery*, *Scioto* and *Vinton*.

### Chimney Swift

The first report came on 6 Apr from *Franklin* (Dave Slager) and numbers were up to 125 on 23 Apr in *Cuyahoga* (Hans Clebsch).

### Ruby-throated Hummingbird

According to the maps of Hummingbird.net, the first was reported on 3 Apr, with other reports not coming until the last week of April.

### Belted Kingfisher

Widely reported in low numbers around the state throughout the season.

### Red-headed Woodpecker

Most first reports arrived on the last week of March, with up to 12 seen in *Belmont* on 9 May (Sierra Nowak). Reported in over 40 counties.

### Red-bellied Woodpecker

Widely reported in most counties.

### Yellow-bellied Sapsucker

Most migrated out by the end of April, with a late bird in *Cuyahoga* on 23 May (Curt Hurler) and another on 23 May in *Lake* (multiple observers). Up to 12 were counted in Elmwood Park in *Cuyahoga* on 11 Apr (Irene Krise).

### Downy Woodpecker

Widely reported in normal numbers around the state.

### Hairy Woodpecker

Reported in normal distribution in many counties.

### Northern Flicker

Reported in normal numbers around the state.

### Pileated Woodpecker

Reported in its strongholds of mature forests around the state.

### Olive-sided Flycatcher

First reported at Magee on 7 May (Tom Slemmer), followed by reports the following week in *Butler*, *Clermont*, *Delaware*, *Franklin*, *Hamilton*, *Lorain* and *Lucas*.

### Eastern Wood-Pewee

First reported on 25 Apr at Cuyahoga Valley NP in *Summit* (Chris Pierce), with most reported arriving in the first week of May.

### Yellow-bellied Flycatcher

All reports occurred during 12 to 29 May, with up to three individuals at Magee on 15 May. Other reported counties were *Clermont*, *Delaware*, *Franklin*, *Guernsey*, *Hamilton*, and *Licking*.

### Acadian Flycatcher

This species was reported 11 to 27 May in low numbers. Up to three were seen at Shawnee in *Scioto* on 23 May (Mark Martucci and Paul Cordero).

### Willow Flycatcher

The first birds arrived on 5 May, and afterward they were widely reported in normal numbers. As many as 12 birds were seen at once in *Hamilton* and *Seneca*.

**Least Flycatcher**

The first arrived on 25 Apr to Shawnee in *Scioto* (Tom Bain). Numbers peaked at Magee on 14 May, when 35 were reported (Kenn Kaufman).

**Eastern Phoebe**

Widely reported in normal numbers beginning in early March. Sixteen was a high count from Blackhand Gorge on 29 May (Charlie Bombaci).

**Great Crested Flycatcher**

An early report came on 16 Apr from Shawnee in *Scioto* (Joe Kappa and Paul Krusling), and the bulk of first reports came in the first week of May. Twelve were a high count in *Delaware* on 14 May (Charlie Bombaci).

**Eastern Kingbird**

Widely reported starting in late April and early May. An early report came on 11 Apr at Holden Arboretum in *Lake* (Rebecca Thompson). An astonishing 400 were estimated by Kenn Kaufman on 14 May at Magee.

**Scissor-tailed Flycatcher**

One was reported on 18 May at Kilby Road Gravel Pits in *Hamilton*. This bird stayed until 20 May; it is uncharacteristic for

this species to stay for more than one day in one spot. Therefore, many birders were able to successfully chase this bird.

**Northern Shrike**

One remained at the Bath Nature Preserve, *Summit*, until 24 Mar (Irene Krise).

**White-eyed Vireo**

The first report came on 11 Apr from Dillon SP in *Muskingum* (John Velasquez), with many reports following in subsequent weeks. Up to 17 were detected at Blackhand Gorge in *Licking* on 29 May (Charlie Bombaci).

**Bell's Vireo**

Up to two were reported at Kilby Road Gravel Pits in *Hamilton* from 30 Apr to 24 May. Another in *Hamilton* was reported on 7 May at Fernald NP (Paul Krusling), one in *Clark* on 10 May (Doug Overacker), one in *Paulding* on 14 May (Doug and Micki Dunakin), and a pair was reported at Hilliard, *Franklin*, starting on 18 May (Rob Lowry).

**Yellow-throated Vireo**

An early individual was reported on 14 Apr in *Pike* (William Hull), and many reports came by the end of April and first week of

May.

**Blue-headed Vireo**

The first report came on 4 Apr in *Franklin* (Matt Shumar), and at least 10 were concentrated in *Delaware* on 4 May (Sean Williams).

**Warbling Vireo**

Widely reported in moderate numbers. An early report came on 14 Apr in *Clinton* Paul Dubuc, with up to 46 reported at Magee on 10 May (Robert Sams).

**Philadelphia Vireo**

The first few reports came in early May, with most birds appearing along the lakefront. Up to four were reported at Magee on 21 May (Rob Ripma).

**Red-eyed Vireo**

Widely reported. The first reports came on 16 Apr at Magee (Kathy Mock and Heather Nagy), and up to 50 were estimated at Clear Creek MP in *Hocking* on 24 May (Brian O'Shea).

**Blue Jay**

Large migratory flocks were reported by the end of April and in the first half of May. A huge movement of 3,500 flew over Edgewater SP on 30 Apr

(Dan Gesualdo), with 1,000 estimated on 14 May at Magee (Kenn Kaufman). Other reports of several hundred birds came from other lakefront counties.

**American Crow**

Normal numbers reported around the state. Up to 200 were reported at Dillon SP beach, *Muskingum*, in an open patch of water among ice on 5 Mar (Dave Slager). On 1 Mar, 110 were counted going into a roost in *Delaware* (Sean Williams).

**Horned Lark**

Moderate numbers in many counties. Up to 109 were seen at Killdeer in *Wyandot* (Charlie Bombaci) and 95 at ONWR on 7 Mar during their monthly census.

**Purple Martin**

The first reports came on 24 Mar, one from *Richland* (Gary Cowell), and another from *Medina* (Ken Ostermiller). Magee had 205 on 12 May (Kevin Graff).

**Tree Swallow**

The first reports came at the beginning of March. Six hundred were seen at Magee on 14 May (Cameron Cox), 500 in *Defiance* on 12 May (Megan Shoemaker), and 398 on the ONWR monthly

census on 2 May.

### **Northern Rough-winged Swallow**

The first report came on 24 Mar at Armleder Park in *Hamilton* (Kirk Westendorf), with breeding colonies becoming populated by mid-April.

### **Bank Swallow**

Reported widespread in low numbers. The first reported was on 10 Apr in *Franklin* (Lawrence DeAtley). Up to 200 were at Pickerel Creek WA in *Sandusky* on 9 May (Andy Jones), and 160 were reported at Magee on 12 May (Michael McCloy).

### **Cliff Swallow**

An early bird appeared on 7 Apr in *Portage* (Aaron Bartley), and an impressive 400 were counted by Charlie Bombaci on 23 May in *Delaware* at a breeding colony.

### **Barn Swallow**

The first reported was a bird at Mill Creek WS in *Mahoning* on 28 Mar (William Jones). Four hundred were estimated at Magee on 14 May and 250 at Metzger on 12 May (Michael McCloy).

### **Carolina Chickadee**

Reported in average numbers in

counties south of *Marion*.

### **Black-capped Chickadee**

Widely report in northern counties.

### **Tufted Titmouse**

Widely reported in average numbers.

### **Red-breasted Nuthatch**

Low numbers reported, mostly in northern counties. More than 25 counties reported, with the latest reports coming from *Geauga* on 30 May (Inga Schmidt), 26 May at Oak Openings in *Lucas* (Madeline Miles), and 29 May in *Richland* (Gary Cowell).

### **White-breasted Nuthatch**

Reported in numbers consistent with other years.

### **Brown Creeper**

Modest numbers reported around the state, diminishing by the first week of May. Late-staying birds included one at the residence of Leslie Warren in *Mahoning* on 26 May and another in *Delaware* on 19 May (Charlie Bombaci).

### **Carolina Wren**

Many reported statewide.

### **House Wren**

The first arrived on 30 Mar at Mill Creek WS in *Mahoning*, with others following in the first week of April. Reported widespread.

### **Winter Wren**

Reported statewide in low numbers. A report of eight came from Magee on 4 Apr (Joachime Bellomo and Chris Goulart), with one of the last birds reported on 22 May at Magee (Wendy Becker). One was observed nest building at Clear Creek MP in *Hocking* on 11 Apr (Dave Slager).

### **Sedge Wren**

Two were reported at Magee on 1 May, and another pair was found at Metzger on 13 to 15 May (Andy Jones and Laura Gooch). Three were at ONWR on 15 May (Amy and Noah Kearns) and one in *Williams* on 31 May (Robert Fox). One appeared in a downtown square in Cleveland on 14 May (Tim Colborn).

### **Marsh Wren**

Few reported, with strongholds of 20 at Metzger on 22 May (Philip Wixom) and at least 10 at ONWR on 15 May (Craig Caldwell). Other counties

reporting included *Columbiana*, *Cuyahoga*, *Erie*, *Greene*, *Hamilton*, *Lorain*, *Mahoning*, *Marion*, *Sandusky*, *Trumbull*, *Warren*, and *Wayne*.

### **Blue-gray Gnatcatcher**

Widely and commonly reported, with the first report coming on 2 Apr at Metzger (Ken Ostermiller). A concentration of 55 was reported from ONWR on 17 Apr (Aaron Bartley).

### **Golden-crowned Kinglet**

Widely reported, with a high count of 35 in *Seneca* on 3 Apr (Robert Sams). The last bird at Magee was reported on 23 May (Mark Gilsdorf).

### **Ruby-crowned Kinglet**

Widely reported in strong numbers. First reported on 23 Mar at French Park in *Hamilton* (Mark Gilsdorf), and last reported on 22 May at Magee (Bruce Miller). A high count of 150 came from ONWR on 17 Apr (Aaron Bartley).

### **Eastern Bluebird**

Reported widespread in the normal modest numbers.

### **Veery**

First report came on 24 Apr

from Oakwoods Nature Preserve in **Hancock** (Robert Sams), with numbers strengthening by the first week of May. A very high count of 30 came on 10 May at Magee, **Lucas/Ottawa** (Ben Warner).

### Gray-cheeked Thrush

First report arrived on 24 Apr, which is quite early, from Magee (Renee and Bill McGill). Peak numbers arrived at Magee on 9 to 10 May, when six were reported (David Cooper and Ben Warner). Most reports came from the lakefront.

### Swainson's Thrush

An early bird was reported on 12 Apr in **Cuyahoga** (George Coleman) and another early report on 13 Apr in **Hancock** (Robert Sams). Most numbers did not arrive until the last week of April. A high concentration of 50 birds was found at Blacklick Woods MP in **Fairfield** on 12 May (Ben Warner).

### Hermit Thrush

Many reported around the state throughout spring. They peaked in numbers at Magee on 15 Apr, when 24 were counted (Kenn Kaufman).

### Wood Thrush

An early report came on 4 Apr at East Fork SP in **Clermont** (Bill Stanley), with other reports not arriving until 19 Apr. Forty-five was a high count at Walborn Reservoir in **Stark** on 2 May (Chuck McClagherty).

### American Robin

Reported widespread and common.

### Gray Catbird

A bird on the 16 Mar in **Butler** may have overwintered (Joe Kappa); the first certain migrants arrived during the first week of April. Widespread and commonly reported.

### Northern Mockingbird

Reported widespread and common.

### Brown Thrasher

First reported on 21 Mar in Rowe Arboretum in **Hamilton** (Kirk Westendorf), and then becoming increasingly common and widespread.

### European Starling

This species continues to prosper. Three thousand were estimated on 17 Mar in **Franklin** by Dave Slager and Ben Warner.



It is tough enough trying to get a mate with a simple song of *bee—buzz*, but try doing it while bald! It is not unusual to see bald Northern Cardinals or Blue Jays, but this bald male Blue-winged Warbler, photographed by Judy Semroc 30 May in **Lorain**, was certainly out of the ordinary.

### American Pipit

The first report from **Hamilton** came on 7 Mar (Kirk Westendorf), with the last bird reported on 16 May at Krause/Stange Road in **Ottawa** (Craig Moore). A group of 100 birds was reported at Armleder Park in **Hamilton** on 20 Mar (Mark Gilsdorf).

### Cedar Waxwing

Reported widespread. On 22 May, 360 was a high count at Magee as several flocks flew over (Ken Ostermiller).

### Lapland Longspur

Up to 56 were reported on the ONWR monthly census on 7

Mar, with another 40 seen at Killdeer on 19 Mar (Charlie Bombaci). Two remained at Maumee on 25 Apr (Renee and Bill McGill).

### Smith's Longspur

A flock of 13 was well reported at Killdeer on 26 Apr (Jen Brumfield and Richard Crossley). The eight males and five females were photographed in a large field of foot-tall corn stubble with foxtail grass and sporadic wet depressions.

### Snow Bunting

Four were reported on 1 Mar in **Ottawa** (Kenn Kaufman), with

another reported at ONWR on the monthly census on 7 Mar.

### **Blue-winged Warbler**

The first reports came on 17 Apr from *Athens* (Brad Sparks) and Salt Fork SP in *Guernsey* (Chuck McClaugherty). Up to 15 were counted at Shawnee in *Scioto* (Brad Sparks).

### **Golden-winged Warbler**

Few reported, but three were reported at Magee on 7 to 15 May. Up to three were also at Mosquito Creek in Trumbull on 7 May (Carole Babyak). Other reported counties were *Cuyahoga*, *Delaware*, *Fairfield*, *Franklin*, *Hancock*, *Licking*, and *Ottawa*. Reports totaled about 20 individuals.

### **[Golden-winged x Blue-winged Warbler]**

Two Brewster's were reported: one at Hogback Ridge Preserve in *Delaware* on 26 Apr (Sean Williams) and another at Magee 14 to 15 May. A female hybrid, which could not be matched with either Brewster's or Lawrence's Warbler, was reported on 12 May at Lake Hope SP in *Vinton* (Bruce Simpson).

### **Tennessee Warbler**

The first birds were reported on 26 Apr at Hogback Ridge in *Delaware* (Sean Williams), with numbers increasing at Magee on 6 May (Scott Whittle).

### **Orange-crowned Warbler**

At least 10 birds reported throughout the state, with the first arriving on 30 Apr at Magee (Kenn Kaufman). Up to two were present at Magee on 15 May (Paul Cordero). *Delaware*, *Hamilton*, *Lucas*, and *Ottawa* were the only reported counties.

### **Nashville Warbler**

The first was reported on 21 Apr at Shawnee in *Scioto* (Renee and Bill McGill). Numbers increased to 16 on 12 May at Magee (Larry Therrien).

### **Northern Parula**

The first individual of the spring came on 8 Apr at Lake Isabella Park in *Hamilton* (Robert Foppe). The highest numbers came on 12 May at Magee, when 12 were reported.

### **Yellow Warbler**

Widely reported with the first invaders on 17 Apr in *Athens* (Brad Sparks) and Spring Valley WA and Caesar Creek SP in

*Warren* (Cincinnati Bird Club). On 10 May, 125 were estimated at Magee (Robert Sams).

### **Chestnut-sided Warbler**

Widely reported, with the first reported on 15 Apr in *Hamilton* (Jessica Mandich). About 30 were reported at Magee on 15 May (Mike Goodman).

### **Magnolia Warbler**

Commonly reported, with peak numbers reaching 40 at Magee on 15 May (Cameron Cox). First reported on 19 May at Shawnee in *Scioto* (Renee and Bill McGill).

### **Cape May Warbler**

Widely reported, albeit in low numbers. One individual, remarkably, overwintered at a feeder in *Hocking*, molted into breeding male plumage, and left sometime after 2 Apr. The first migrants arrived at Magee on 30 Apr, and numbers peaked at 12 at Magee on 6 to 7 May (Bill Stanley).

### **Black-throated Blue Warbler**

An early bird was found on 20 Apr at Shawnee in *Scioto* (Renee and Bill McGill). Numbers peaked at Magee on 14 May (Kevin Graff).

### **Yellow-rumped Warbler**

Reported in abundance throughout the season. A count of 200 was reported on 30 Apr from Magee (Aaron Bartley).

### **Black-throated Green Warbler**

An exciting find of an early individual occurred on 2 Apr at Shawnee in *Scioto* (Brad Sparks), with the rest of the first arrivals on 11 Apr on the lakefront. Twenty-five was the high count at Magee on 14 May (Cameron Cox).

### **Blackburnian Warbler**

The first reports came on 25 Apr at Shawnee in *Scioto* (Tom Bain) and on 26 Apr at Hogback Road in *Delaware* (Sean Williams). Peak numbers of 10 were reported at Magee on 14 May.

### **Yellow-throated Warbler**

First reported in the first week of April in southern and central counties. Sixteen was a nice count at Battelle Darby Creek, *Franklin*, on 10 Apr (Nathaniel Nye). One appeared at Magee on 9 May, and two were reported on 14 May. The last was reported on 22 May. Other lakefront birds totaled 11 from *Cuyahoga*, *Erie*, and *Lorain*.

**Pine Warbler**

Reported in low numbers around the state, with the majority of migrants reported in April. Up to three were reported at Magee on 24 Apr, and seven at Hueston Woods SP in *Preble* on 18 Apr.

**Kirtland's Warbler**

Two were reported in May, both at Magee. The first was on 14 May, found by Kenn Kaufman, and the other was on 21 May (Iain Campbell and Christian Boix).

**Prairie Warbler**

One individual at Magee on 5 Apr was exceptionally early (Irene Krise). The rest of the flock arrived in mid-April, and peak numbers of 15 arrived on 30 Apr to *Vinton* (David Gagne) and to Shawnee in *Scioto* on 1 May (Andy Sewell).

**Palm Warbler**

The first observed migrants arrived on 2 Apr to Oak Openings in *Lucas* (Mark Rozmarynowycz and Clair Cogar). Numbers peaked at Magee on 30 Apr, when 100 were reported (Aaron Bartley).

**Bay-breasted Warbler**

The first bird was reported on 22 Apr at Shawnee in *Scioto*

(Renee and Bill McGill). Up to nine was a high count at Spring Grove Cemetery in *Hamilton* on 14 May (Jay Stenger), and seven was the high count at Magee on 16 May (Kenn Kaufman).

**Blackpoll Warbler**

This species returned on the first day of May to Shawnee in *Scioto* (Brad Sparks and Andy Sewell), and to Magee (Dan Gesualdo). Peak numbers reached 20 on 14 May (Cameron Cox).

**Cerulean Warbler**

The species arrived at Miami Whitewater Forest on 14 Apr (Mark Gilsdorf). They returned in force on 30 Apr to Shawnee in *Scioto* (Brad Sparks). Singles were reported at Magee on 12 and 21 May, and two were seen on 1 May (multiple observers).

**Black-and-white Warbler**

Widely reported by mid-April, with the first observed bird arriving on 2 Apr to Shawnee in *Scioto* (Brad Sparks). Numbers peaked at Shawnee on 30 Apr, when 20 were reported (Brad Sparks).

**American Redstart**

One bird on 3 Apr at Headlands Beach SP in *Lake* beat other

reports by a few weeks (Hans Clebsch). A major movement occurred at Magee on 14 May, when 180 were reported (Kenn Kaufman).

**Prothonotary Warbler**

The first bird was observed at Magee on 11 Apr (Laura Gooch), and they were at their peak abundance of 42 males on territory in *Delaware*, thanks to nest boxes (Charles Bombaci). Up to five were at Magee on 14 May (Cameron Cox).

**Worm-eating Warbler**

Reported in low numbers patchily around the state. The first birds were reported on 20 Apr in *Vinton* (David Gagne) and in Shawnee in *Scioto* (Renee and Bill McGill). A peak number of 10 arrived at Shawnee by 24 Apr (Tom Bain). One shot up to Magee on 2 May (multiple observers).

**Ovenbird**

Reported widespread. The first arrived on 17 Apr to *Athens* (Brad Sparks), and numbers reached to 40 on 5 May in *Vinton* (David Gagne).

**Northern Waterthrush**

Six were observed at Shawnee in

*Scioto* on 24 Apr, and up to 14 were reported at Springville Marsh State NP in *Seneca* on 16 May (Robert Sams). Peak numbers at Magee occurred 8 to 15 May.

**Louisiana Waterthrush**

The first birds observed arrived at Magee on 1 Apr, and the next day, 25 were reported at Shawnee in *Scioto* (Brad Sparks). It soon became reported statewide at many fast-running streams.

**Kentucky Warbler**

First noted on 20 Apr at Shawnee in *Scioto* (Renee and Bill McGill), and numbers rose to 14 at Salt Fork SP in *Guernsey* on 29 May (Kathy Mock and Heather Nagy). Two birds were found at Magee on 6 May (Bill Stanley).

**Connecticut Warbler**

At least 13 birds reported. The first was on 12 May in *Franklin* (Mike Flynn), followed by others in *Butler*, *Delaware* (2), *Franklin* (2), *Lake* (2), *Lucas* (2), *Ottawa*, *Paulding* and *Seneca*.

**Mourning Warbler**

Reported throughout the state in mostly singles. The first report at Magee was on 30 Apr, soon followed by others. A group of six birds was reported in the yard

of John Pogacnik on 21 May. Other reports persisted through the end of May.

### **Common Yellowthroat**

First reported on 13 Apr at Spring Valley WA in **Warren** (Laura Keene), and 62 had colonized **Trumbull** by 12 May (Carole Babyak).

### **Hooded Warbler**

On 21 Apr, Vinton Forest in **Vinton** recorded its first of the season (David Gagne). Only nine days later, 20 inhabited Shawnee in **Scioto** (Brad Sparks). Several were reported at Magee 1 to 23 May, and up to five were seen at Metzger on 9 May (Dan Gesualdo).

### **Wilson's Warbler**

The first reports came from Magee on 1 May, with up to eight reported on 15 May (Craig Moore). Reported widespread in low numbers.

### **Canada Warbler**

Widespread in low numbers. The first was reported on 3 May at Blendon Woods MP in **Franklin** (Gene Stauffer). Nine were reported at Magee, **Lucas/Ottawa**, on 14 May (Mike McCloy and David Cooper).

### **Yellow-breasted Chat**

This species arrived at many locations in the last few days of April. Birds at Shawnee in **Scioto** peaked at eight on 1 May (Brad Sparks), and singles were reported at Magee on 4, 14, and 21 May.

### **Spotted Towhee**

A female that was discovered on 26 Mar at a feeder in **Holmes** was reported through 8 Mar and seen by at least 346 birders.

### **Eastern Towhee**

Widely reported throughout the state, with numbers peaking the last week of April.

### **American Tree Sparrow**

Reported in abundance throughout the state until the end of March. The last report of the spring came of a bird lingering at Magee on 15 May (Craig Moore).

### **Chipping Sparrow**

Strong migration of this species into Ohio commenced in the first week of April. Thereafter it was reported widely.

### **Clay-colored Sparrow**

One appeared at the feeders of Terry and Barb Sponseller on 29 Apr in **Stark** and was reported

until 7 May. Another was in the yard of John Pogacnik in **Lake** on 30 Apr. One was reported at Cedar Point NWR on 14 May (Joycelyn Stevens) and another was reported at Sager and Wilkins Road, just north of Oak Openings Preserve Metropark (Matt Anderson).

### **Field Sparrow**

Widely reported beginning in the last week of March, with low numbers reported during the first weeks of March that were probably overwintering individuals.

### **Vesper Sparrow**

The first report came on 19 Mar from **Hardin** wetlands (Rick Counts), and the bulk of migrants came in mid-April. Widely reported in the state, but in low numbers. The highest count reported was six at The Wilds in **Muskingam** (Chuck McClaugherty).

### **Lark Sparrow**

The first observed pair returned to Oak Openings Preserve in **Lucas** on 19 Apr (Mark Rozmarynowcz). The Oak Openings count peaked at nine individuals on 27 May (Dan Gesualdo). Another bird was

near Ohio Wesleyan University in **Delaware** on 23 Apr, and the population increased to three pairs of confirmed breeders on 24 May. Other counties that reported this species were **Greene, Hamilton, and Ottawa**.

### **Savannah Sparrow**

This species was widely reported in moderate numbers, with as many as 17 at **Hardin** wetlands on 2 Apr (Rick Counts).

### **Grasshopper Sparrow**

A pair was first noted at Sharon Woods MP in **Franklin** on 12 Apr (Charlie Bombaci). Reported widely in low numbers, but 12 was a high count at Fernald NP in **Hamilton** on 16 May (Kirk Westendorf).

### **Henslow's Sparrow**

The first report was a pair on 21 Apr in **Hardin** (Carl Hoagstrom). Few reported around the state; eight were at Tri Valley WA in **Muskingum** on 21 May (Paul Cordero and Mark Martucci). Other reporting counties were **Adams, Butler, Franklin, Hamilton, Highland, Hocking, Lucas, Richland, Scioto, Summit, and Williams**.

**Fox Sparrow**

Widely reported in moderate numbers around the state, with numbers peaking in late March and early April. Up to 12 were reported at Spring Valley State Nature Preserve on 27 Mar (Robert Sams).

**Song Sparrow**

Widely reported in abundance. A total of 55 individuals was a high count at Headlands Beach SP in *Lake* on 3 Apr (Hans Clebsch).

**Lincoln's Sparrow**

The first was reported was on 27 Apr at Malabar Farm SP (Gary Cowell). Up to four were present at Magee on 14 May (David Cooper).

**Swamp Sparrow**

Widely reported in moderate numbers, with 18 being a high count on the ONWR monthly census on 2 May.

**White-throated Sparrow**

Reported in abundance throughout the state until May. Several remained on the lakefront through the end of May (multiple observers).

**White-crowned Sparrow**

Reported in low numbers

in March and April, and in increased numbers in May. The last report of the spring was in *Mahoning* on 27 May (Jim Roediger).

**Golden-crowned Sparrow**

One was present in *Hancock* in March, and stayed through at least 18 Apr (multiple observers).

**Dark-eyed Junco**

Widely reported in abundance, with numbers dwindling in May; the lakefront retained some through the end of May.

**Summer Tanager**

The first reported was on 20 Apr at Fernald NP in *Hamilton* (Linda Houser), with another reaching Magee on 24 Apr (Jessica Mandich). Up to five were reported from the Miami Whitewater Forest in *Hamilton* on 8 May.

**Scarlet Tanager**

On 5 Apr, the Bobolink RBA reported one. Otherwise, the first reports came on 23 Apr, with two from Lake Vesuvius in *Lawrence* (John Moore), and two from Vinton Experimental Forest in *Vinton* (Mark Rozmarynowycz). Up to 15 were present at Shawnee, *Scioto*, by 30

Apr (David Gagne).

**Northern Cardinal**

Widely reported in abundance.

**Rose-breasted Grosbeak**

First reported on 20 Apr in *Clermont* (William Hull), with numbers topping at 15 at Magee on 14 May (Cameron Cox). Otherwise, widely reported.

**Blue Grosbeak**

The first arrived 26 Apr to Armleder Park in *Hamilton* (William Hull), and the first "overshoot" to the lakefront was on 30 Apr at Magee. Other counties that reported this species were *Adams*, *Butler*, *Delaware*, *Greene*, *Logan*, *Scioto*, and *Warren*.

**Indigo Bunting**

The first individual was detected at Caley Reservation in *Lorain* on 19 Apr. A very high count of 300 was reported migrating at Magee on 14 May (Cameron Cox). The species was well reported throughout the state.

**Dickcissel**

At least two were singing near Ohio Wesleyan University in *Delaware* on 30 Apr, with several more reported in the following

week at Fernald NP and Armleder Park in *Hamilton*. Up to 20 were reported from *Greene* on 11 May. Other counties to report this species were *Hardin*, *Miami*, and *Montgomery*.

**Bobolink**

Three were reported on 17 Apr in *Marion* (Megan Shoemaker), with the majority of migrants arriving in the first week of May. A meticulous count at *Hardin* wetland turned up 43 individuals on 22 May (Charlie Bombaci).

**Red-winged Blackbird**

Reported statewide in abundance. An estimated 10,000 were reported from Big Island WA in *Marion* on 27 Mar (Ken Ostermiller), with another report of 6,000 at Campbell Memorial Park in *Franklin* on 17 Mar (Ben Warner and Dave Slager).

**Eastern Meadowlark**

Reported statewide in moderate numbers. A concentration of 38 was recorded at Bedford Reservation in *Cuyahoga* on 25 Apr.

**Western Meadowlark**

One was reported on 15 Apr at Cygnet and Range Line Road in *Wood* and was reported at least

through 26 Apr (Laura Keene).

### **Yellow-headed Blackbird**

One was reported on 14 Apr in *Columbiana* (Bob and Denise Lane). The Krause/Stange Road birds near ONWR were first reported on 9 May, and up to six were present on 13 May (Chuck McClagherty). Two were also reported at Metzger on 15 May (Kenn Kaufman).

### **Rusty Blackbird**

Reported widespread, but in generally low numbers. An impressive count of 400 was recorded on 5 Apr at Magee (Kenn Kaufman). The latest birds were reported on 14 May at Magee and on 16 May at Carlisle Reservation in *Lorain*.

### **Brewer's Blackbird**

The only report was single male in a yard in Madison, *Lake*, on 9 May (John Pogacnik).

### **Common Grackle**

Reported in abundance. An enormous flock of 10,500 was reported at Campbell Memorial Park in *Franklin* on 17 Mar (Ben Warner and Dave Slager). Another large flock of 2,090 was reported on 10 Mar in *Summit* (Greg Bennett).

### **Brown-headed Cowbird**

Well reported throughout the state. An estimated 10,500 was the high count on 17 Mar at Campbell Memorial Park on 17 Mar (Ben Warner and Dave Slager). Their analysis of the large redwing, grackle, and cowbird flock was based on a total estimation of the size of the flock, then taking sample percentages to calculate species composition.

### **Orchard Oriole**

The first report came on 20 Apr from Shawnee in *Scioto*, and the lakefront reported their first on 30 Apr at Magee (David Cooper). Up to eight were detected at the Kilby Road Gravel Pits on 19 May (Robert Foppe).

### **Baltimore Oriole**

An early report came on 18 Apr from *Richland* (Ed Wigton). The next report was on 24 Apr in *Hamilton* (Kirk Westendorf), which was soon followed by many more migrants. Reported statewide.

### **Purple Finch**

Reported in low numbers throughout the state Mar through May. Individuals remained through the second

half of May in the following counties: *Carroll, Cuyahoga, Delaware, Franklin, Geauga, Lorain, Lucas, and Ottawa*.

### **House Finch**

Reported in abundance statewide.

### **Pine Siskin**

Low numbers reported in few locations. Ones and twos were reported in *Athens, Franklin, Geauga, Medina, Morgan, Ottawa, and Washington*. The latest report was in Oak Harbor in *Ottawa* on 23 May (Kenn Kaufman).

### **American Goldfinch**

Commonly reported throughout the state.

### **House Sparrow**

There were few reports that did not include this species.

# SEXING CAROLINA CHICKADEES BY MORPHOMETRIC MEASUREMENT ANALYSIS

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The purpose of this study was to determine whether a sexually monochromatic species, the Carolina Chickadee, could be accurately sexed using morphometrics. Standard measurements including culmen length, tarsus length, wing chord, and tail length were collected from 52 known male and female Carolina Chickadees mist-netted and banded in southwestern Ohio. Stepwise discriminant analysis of these measurements resulted in the correct classification of sex 72% of the time. These data suggest that this model will aid in sexing Carolina Chickadees in the field, but factors such as inter-bander measurement variability, sample size, and sexing by breeding morphology need to be controlled and further studied.

## Introduction

Carolina Chickadees (*Poecile carolinensis*) are members of the family Paridae and year-round residents of central and southern Ohio (Figure 1). The general habitat of the Carolina Chickadee (hereafter, CACH) is wooded areas such as temperate forests near or bordering bodies of water (Mostrom, et al. 2002). Specific habitat requirements include multiple layered forests that provide dead snags or living trees with cavities for nesting (Hamel 1992). Bird populations

are often used as environmental indicators because they are more easily surveyed than most other organisms, and changes in their populations may reflect broader environmental changes. A decline in CACH numbers may indicate a decrease in available food, shelter, or breeding habitat. For example, CACH populations were used to look at the effects of deforestation on avian hormone levels, body mass, and caching rates (Lucas et al. 2006). Not only are the numbers of CACH important when looking at



Figure 1: Carolina Chickadee

environmental changes such as climate change and deforestation, but the distribution of male and female birds also provides additional information about the dynamics of the population. For instance if the population is skewed (more males than females or vice versa) it implies differential survivorship of sexes, which would impact breeding and population numbers. Therefore, it is also important to quantify the number of male and female birds when monitoring populations. (DeSante 2010)

Generally, sexing birds does not pose a problem, because males and females of many species have different plumages. However, many species have been categorized as monochromatic to human perception, only to be reclassified as dichromatic as our understanding of differences between bird and human visual

acuity have been evaluated—monochromatic to humans is not the same as monochromatic to birds. A study by Eaton (2007) of 166 North American passerine species categorized as sexually monochromatic to human perception showed only 14 of these species to be monochromatic to their avian counterparts. Interestingly,

CACH was one of the species confirmed as monochromatic to birds (as well as humans) through their color discrimination model analysis (Eaton 2007). CACH are apparently monochromatic, with plumages of males and females being indistinguishable to the human eye, which makes it difficult to determine the sex of individuals in the field (Pyle 2007). Sex can be determined noninvasively during breeding season by observing the presence or absence of a cloacal protuberance in males or brood patch in females (Twedt 2004), but, during the rest of the year, the sex differences cannot be observed. In other apparently monochromatic species such as Common Terns (*Sterna hirundo*) and Arctic Terns (*Sterna paradisaea*) discriminant function analysis of the bill (culmen, length,

breadth, and depth) has been used to determine sex (Coulter 1986; Fletcher and Hammer 2003). Fletcher and Hammer (2003) also showed that sexing terns using biometrics resulted in the highest accuracy, correctly sexing 84% of Arctic Terns and 86% of Common Terns. This study analyzed various body measurements in an attempt to sex CACH when not breeding.

**Methods**

We examined data collected from 52 known male and female CACH mist-netted and banded in southwestern Ohio between April of 2004 and February of 2009. Sex was determined by the presence of either a brood patch or cloacal protuberance (Pyle 1997). Some individuals originally designated as Unknown Sex at the time of their capture were later recaptured during the breeding season and included in the analysis. Standard body measurements collected from these CACH included: culmen length (CulL), tarsus length (TarL), wing chord (WC), and tail length (TL) (Pyle 1997). Each measurement was made to the nearest 0.1 mm using techniques per Pyle (1997). Culmen was measured



Figure 2: Culmen Measurement

from the anterior edge of the nostril to the bill tip (Figure 2). Tarsus was measured between the intertarsal joint and the distal end of the third leg scale just before the toes (Figure 3). Wing chord was a measurement of the unflattened wing from the carpal joint, or “wrist,” to the tip of the longest primary, and tail length is defined as the distance between the tip of the longest rectrix (tail feather) and the point of insertion of the two central rectrices (Pyle 1997). The latter two measurements were made using standard wing rules with



Figure 3: Tarsus Measurement

**Table 1: Students t-test**

Sex	Calculation	WC	TL	TarL	CulL
F	Mean	59	51.45	16.05	6.89
M		61	54.55	16.66	6.81
F	Standard Deviation	2.25	3.16	0.71	0.36
M		1.18	5.44	1.25	0.55
F	Range	56-63	45-56	14.6-17.7	6.27-7.5
M		60-64	48-73	15 -20.7	6-8.3
	<i>p</i> value	0.003*	0.055†	0.095†	0.189

N= 52. Mean, standard deviation, and range of four body measurements of 19 male (M) and 33 female (F) Carolina Chickadees. \* WC significantly different between males and females, *p* < 0.05. † TL and TarL significantly different between males and females, *p* < 0.10.

accuracy to the nearest 1.0 mm. The goal of our statistical analysis was to derive the best gender prediction strategy based on the four morphometric measurements WC, TL, TarL, and CulL. For each measurement, the standard deviation, mean, range, and a Student’s t-test were calculated. The four Students t-tests were performed to answer the question: “Is there enough evidence from the data to conclude that there is a difference between the mean measure for females and the mean measure for males?” If the *p*-value is small, then we say there is evidence of a difference. Usually, if the *p*-value is < .05, we call the result significant. We used logistic regression

(SPSS 16.0) to model the classification of the gender of the birds. The model predicts *p* the probability that a bird is female given the morphometric measurements of: CulL, TarL, WC, and TL. The statistical model for the analysis is that the logarithm of the odds of being female is linear:  $\log(p/[1-p]) = \beta_0 + \beta_1 WC + \beta_2 TarL + \beta_3 CulL + \beta_4 TL$ , where  $(p/[1-p])$  are the odds that a bird is female given the 4 morphometric measurements. Logistic regression calculates the  $\beta$ 's that best predict gender as female if *p* is greater than 0.5 and as male if *p* is less than 0.5 using a Maximum Likelihood method. This equation is our discriminant equation D. When *p*>0.5, the discriminant

**Table 2: Logistic Regression Using the 3 Significant Measurements**

Sex	Estimate ( $\beta$ )	Significance
WC	-.594	.007
TarL	-.728	.115
CulL	1.892	.044
Intercept	35.713	.013

Removing TL from the model, the remaining three measurements are significant and these numbers were used in the ultimate model equation:  $D = 35.713 - 0.594WC - 0.728TarL + 1.892CulL$ .

equation  $D > 0$ . So,  $D = \beta_0 + \beta_1WC + \beta_2TarL + \beta_3CulL + \beta_4TL$ . Therefore, for a given bird, if  $D$  is greater than 0, then the predictive probability that the bird is female is over 1/2, and we predict that the bird is female; otherwise, we predict that the bird is male.

**Results**

The average female WC was significantly shorter than average male WC at the 5% significance level, and the average TL and average TarL were both significantly shorter than the average male TL and average TarL at the 10% significance level. The average CulL was not significantly different among the genders (Table 1). In a stepwise discriminant analysis, WC, CulL, and TarL contributed most to the discrimination by sex, and TL

did not improve discrimination significantly. Therefore, TL was removed from the model, resulting in the ultimate model of  $D = 35.713 - 0.594WC - 0.728TarL + 1.892CulL$  (Table 2). The discriminant equation was applied to 52 birds with known sex and correctly predicted gender 72% of the time (Table 3).

Principal Component Analysis was also applied to the data. The first component was not significant and ultimately the discriminate equation was very similar to the component analysis model. This model added complexity but did not significantly improve the success of predicting gender.

**Discussion**

There are no known morphological characteristics

**Table 3: Discriminant Function Results**

Observed Sex	Predicted Sex		
	Female	Male	Percentage Correct
Female	26	7	79
Male	8	11	60
Overall Percentage			72

Prediction of sexes using the ultimate model  $D = 35.713 - 0.594WC - 0.728TarL + 1.892CulL$ . The model correctly predicted gender in females 79% of the time and in males 60% of the time. (N= 52: 19 male and 33 female).

that separate male and female Carolina Chickadees. Early research on related taxa, such as Black-capped Chickadees (hereafter, BCCH), used breeding behavior to determine sex (Odum 1941). However, these behavioral determinants are useless when observing large populations of non-breeders and individuals outside breeding season, or when handling birds at banding stations. Discriminant analysis using three body measures can dramatically improve the accuracy of year-round determination of BCCH sex over univariate or behavior methods (Desrochers 1990). Furthermore, once developed, the discriminant function and score can be a useful sexing tool for field research and banding stations. If we could develop a model/equation that field

biologists could use, then they would be able to sex CACH in the field using morphometrics and not have to take tissue samples and examine DNA. Our data suggest that a number of factors make the development of a significant discriminant function for CACH in southwestern Ohio particularly challenging. For example, BCCH are present in the northernmost counties of Ohio (Peterjohn 2001), yet, annually, some BCCH individuals move southward, and, periodically, large southward irruptions occur during winters of high food stress (Peterjohn 2001). Between the northern tier and central counties of Ohio is an intergrade zone between BCCH and CACH. Evidence from our bird-banding stations in southwestern Ohio suggests that as much as 15% of the

chickadee population matches BCCH wing and tail length criteria (Russell in review).

Additionally, CACH show weak geographic variation among four subspecies; *P.c. extima*, *carolinensis*, *atricapilloides*, and *agilis*. *P.c. extima* (formerly *extimus*) occurs north of a rough line drawn from central North Carolina to western Tennessee, and *P.c. carolinensis* populations are south of that line (Pyle 1997). *P.c. extima* is listed as the representative subspecies in southwestern Ohio, although little information is available and no published account exists of the actual subspecies in this area. *P.c. extima* and *P.c. carolinensis* might intergrade in southwestern Ohio. Nine individuals (18%) in the current study have tail lengths characteristic of *P.c. carolinensis*. Another factor contributing to the difficulty of using a discriminant function analysis of morphometric measurements to sex CACH in the current study is inter-bander variability. It was impossible to determine which bander collected each individual measurement used in this study. Tarsus length in particular is quite variable among bird banders (Descrochers 1990), and future morphometric data

should either be collected by only one bander or adjusted for interbander variability among mean tarsal lengths. This form of morphometric evaluation of sex produced a higher resolution (72%) than earlier studies in which discriminant analysis determined sex in only 12 to 70% of individuals (Cooper 1996). Yet, the correct assignment of sex in 72% of the individuals in this study is not a high enough percentage to provide confidence to the field biologist. Although this form of analysis provides additional information for evaluating CACH, correctly determining sex must be improved to be useful to the field researcher. Therefore, another study of morphometrics taken by a single bird bander would provide better resolution of the analysis. In the meantime, incorporating the use of DNA to sex non-breeding individuals will greatly improve the evaluation of discriminant function analysis.

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