



The Cactus Wren · dition



VOLUME LXIX NO. 2

FALL - 2023



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PRESIDENT'S MESSAGE



Emily Thomas

I want to welcome everyone back to our monthly meetings and fall field trips. Soon we'll have cooler temps, autumn leaves, and visiting migrants making their way south for the winter.

The summer heat may have slowed outdoor activities here but MAS continued its vital conservation and education work. For the second summer in a row, Education Chair Jason Struthers gave a series of birding presentations for the Maricopa County Reads program at various library branches.

Jelena Grbic, Tim Flood, Bob McCormick and I surveyed endangered western Yellow-billed Cuckoo (YBCU) throughout their central Arizona breeding range. Funding from Sonoran Audubon Society and Audubon Southwest enabled us to train five interns, including MAS Program Chair Loren Hupe. Ninety percent of Arizona's riparian habitat where cuckoos

nested historically have been lost to dams, diversion, overgrazing, etc. What remains is also at risk. The lower Salt River is being decimated by hundreds of feral horses that trample the banks and denude the uplands, drastically reducing essential forage and shelter for native species including the endangered YBCU, southwestern Willow Flycatcher, and Ridgeway's Rail. In April 2023 MAS, along with the Center for Biological Diversity, Arizona Sportsmans for Conservation, Arizona Deer Association, Arizona Wildlife Federation, and Arizona Bighorn Sheep Society sued the US Forest Service to comply with the National Environmental Policy Act to prevent further damage to the habitat and begin restoration.

MAS has worked tirelessly to protect the San Pedro Riparian National Conservation Area from overgrazing. Although the BLM has rounded up trespass cattle several times, they are responsible for over 170 complaints of habitat damage since then. To add insult to injury, four adjacent grazing leases which should have been retired decades ago were renewed last April. MAS appealed that decision and asked for a stay, which was denied last June 14. We continue to push for protection of this important wildlife area.

I would like to recognize our Treasurer, **Vicki Hire**. Vicki joined the Board as Publicity Chair in 2014, and became Treasurer in 2016. For over nine years Vicki has dedicated countless volunteer hours fulfilling the duties of Treasurer as well as mentoring new board members, keeping meticulous records, managing MAS assets, creating The Green Scene and numerous other articles illustrated with her fine photographs for this publication, as well as assisting the editors. She worked tirelessly behind the scenes, and continually contributed insightful and valuable perspectives to MAS over the years and kept us on task. Vicki often represented MAS at events, and was integral in planning our annual banquets. Last July, Vicki resigned from the board. Thank you, Vicki for your inimitable, tremendous, and selfless commitment to MAS. Your presence on the Board will be missed.

Happy Birding!

On the Cover

Marc Petrovic Bluebirds and Cowbirds, 2019, Glass, 26.5" x 9.5" x 9.5"

ANNOUNCEMENTS



The McDowell Sonoran Conservancy Parsons Field Institute is looking for expert birders to help with bird surveys of the McDowell Sonoran

Preserve in Scottsdale. They also would like back-up surveyors if a regular surveyor has to cancel. The goal is to inventory birds by habitat, document breeding bird status, and detect changes in abundance or composition at a particular site within a similar habitat. Nine sites are surveyed three times per year (Feb/Mar, April/May, Aug/Sept) to capture seasonal fluctuation. Most of the sites are off trail and vary in degree of difficulty. IBA protocols are followed. Training is provided. Please contact Jessie Dwyer, 480-998-7971 x 104. jessie@mcdowellsonoran.org

Give Dead Birds a Purpose

Longtime MAS member, past Treasurer and contributor to this newsletter, Matt van Wallene, is collecting bird specimens for a feather study. If you've read any of Matt's articles, you know his intense curiosity about all things birds. Matt has a state-issued Scientific Activity License to transport and possess dead birds. If you come across a dead bird in your yard or place of business (window strikes) or are a hunter, please contact Matt at 480-204-1104, zoutedrop@gmail.com.

Reminder

All annual MAS Friends memberships now begin or renew on April 1 of each year, and will be prorated.



Corrections to the Summer 2023 issue:

The article about MAS's 70th Anniversary is in the July Arizona Highways magazine, not the June issue. Thank you Richard Kaiser for the correction.

The Lesser Nighthawk photo on p. 8 is by Pierre Deviche.

COMMITTEES/SUPPORT

Bookstore Associate Editor
Poet Laureate

Sochetra Ly
Mark Larson
David Chorlton

www.maricopaaudubon.org

Our Greatest Opportunity — To Teach The Love Of Nature

-Slogan from The Roadrunner

An Investment in the Future

Bequests are an important source of support for the Maricopa Audubon Society. Your chapter has dedicated itself to the protection of the natural world through public education and advocacy for the wiser use and preservation of our land, water, air and other irreplaceable natural resources.

You can invest in the future of our natural world by making a bequest in your will to the Maricopa Audubon Society. Talk to your attorney for more information on how this can be accomplished.



Support Maricopa Audubon as part of **Fry's Community Rewards Program**. Register your Fry's VIP card and select Maricopa Audubon #WW583 as your non-profit organization at no cost to you. Please visit Fry's Community Rewards online or visit your local Fry's to register.

Sign up for the e-newsletter!

To subscribe, email: Maricopaaudubonsociety@gmail.com

Note: We do not use the email list for anything other than the described purpose.





Solitary Flight

By David Chorlton

There is an owl who nests in dreams and chases lost ambitions down the wash. She's awake when the ground beneath her sleeps and in all-night convenience stores the air conditioners are singing a low and simple melody, a cool breath when even the stars are burning. Who would not love now to be a spirit taking wing by moonlight to outpace daytime worries. And in the cold part of a year the owl is fortune's shadow where the night has left a place for it. First she is a silence, long believed to bring a message from departed souls. Outside, in the early hours of darkness, the chill begins to thaw as she flies between the conscious world and the one in minds at rest. There she goes, half hunter and half prophet. She is the great horned moment with a dark heart beating and dawnlight flowing from her open wings.

MEETINGS...

We are conducting hybrid meetings, both in-person and via zoom. Links are posted on our website and Facebook page a few days before the meeting.

MAS holds meetings (membership is not required) on the first Tuesday of the month, September through April at Papago Buttes Church of the Brethren, 2450 N. 64th Street, Scottsdale. Meetings start at 7:30 PM. Come at 7:00 PM to socialize. Pre-meeting dinners (September through April) are held at 6:00 PM at Saigon Bowl Restaurant, 8213 E. Roosevelt St., Scottsdale, AZ 85257. The May meeting is our annual banquet.

October 3, 2023

Liberty Wildlife

November 7, 2023

David and Diane Reesor

Ethiopia and Yellowstone in Winter

Winter in Yellowstone means fewer crowds, frigid temperatures and steaming geysers. Skis, snowshoes and snowmobiles are the primary modes of transportation as roads close, rivers freeze, and snowstorms transform the park into a winter wonderland.

Historically throughout Africa, wildlife populations have been rapidly declining. In Ethiopia, a 17-year-old civil war along with severe drought degraded the country's habitat even further. We were fortunate to see the endangered. Elusive Ethiopian Wolf and Mountain Nyala.

David and Diane Reesor are long-time MAS members and world travelers.

December 5, 2023

Jim Burns

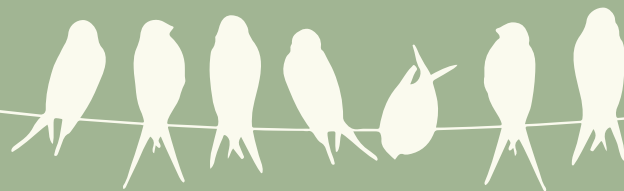
Behind the Scenes

Behind the Scenes will raise the curtain on some interesting and seldom observed behaviors of a few of our common and not so common Arizona birds as seen through the photographer's lens.

Jim Burns, a long time contributor to the Cactus Wren-dition, is a nature writer/photographer based in Scottsdale. His birding column, Bird is a Verb, originally carried by the Arizona Republic, continues on his website, jimburnsphotos.com, where you can see more of his work.



Gilded Flicker and Star(ling) Wars



CONSERVATION UPDATE

by Charles Babbitt

CLEAN WATER ACT DECISION

The U.S. Supreme Court has dealt a blow to one of our country's most important environmental laws, the Clean Water Act (CWA) of 1972. The decision in **Sackett v. EPA** will severely restrict the Environmental Protection Agency's (EPA) authority to protect our nation's wetlands.

Since its inception, the CWA has been a target of polluters, big agriculture and developers. For decades they have argued-- mostly without success--that EPA has no jurisdiction and that disputed wetlands are not waters of the United States.

The EPA previously used a test to determine if a wetland is adjacent to waters of the U.S. and thus subject to EPA regulation. This long-standing legal test was whether there was a nexus (biological, hydrological, etc.) between the wetland in question and a navigable water (stream, lake, river, ocean, etc.) However, in Sackett, the Court rejected this test and substituted a new test which states that the CWA extends to only those adjacent wetlands with a "continuous surface connection" to bodies of water.

Think of a wetland hydrologically or biologically connected to a nearby river but separated by a levee, beach or roadway. Under the new test, the wetland would no longer be subject to EPA regulation because there is no continuous surface water connection. The ruling will have a particularly severe impact in the drought-stricken Southwest where many permanent waters and associated wetlands are fed by small streams and ephemeral washes and arroyos

The nation's environmental laws are under attack by an ultra-conservative majority of the Supreme Court. The Sackett decision will no doubt make it easier for polluters, developers and others to

foul and destroy our country's vital wetland habitats. It comes just 10 months after *West Virginia v. EPA*, a case which makes it much more difficult for the EPA to regulate CO₂ emissions from fossil fuel burning plants, a major source of CO₂. The obvious question is: Will the Endangered Species Act be next?

SAN PEDRO RIVER

Groundwater pumping at Fort Huachuca threatens to dry up the San Pedro River and jeopardize a number of species protected under the Endangered Species Act including the southwestern Willow Flycatcher, western Yellow-billed Cuckoo, Huachuca water umbel,



San Pedro River. Photo by Robin Silver

Arizona eryngo, and the northern Mexican garter snake. However, a 2014 Fish and Wildlife Service Biological Opinion concluded that there was no jeopardy to the listed species because Fort Huachuca's groundwater pumping deficit was offset by a conservation easement on a parcel of land which created a groundwater surplus. This massive water credit (2,588 acre feet per year) was a result of the claimed retirement of irrigation water.

The Center for Biological Diversity, Sierra Club and MAS sued in Federal Court arguing that this water credit was illusory; that it was a phantom credit because it was highly unlikely the land would be used for irrigation anyway. The groundwater pumping there had been terminated nearly a decade earlier. A Federal District Court in Tucson ruled against the Plaintiffs in April 2022, concluding that it was reasonably likely the land would be used for agricultural irrigation in the future. On appeal the Plaintiffs argued the court had used the wrong test and that to claim the credit, it must be shown that it was reasonably certain the land would be used for irrigation. Oral arguments in this case -- vital to the survival of the river -- were heard by the Ninth Circuit Court of Appeals last May.



Photo by Tom Cheknis

FIELD TRIPS

by Mark Horlings

- Participation in field trips risks exposure to infectious diseases. If you have any symptoms of illness or have been exposed to COVID-19, stay home.
- For Tonto National Forest Day Use Passes, visit [USDA Tonto Pass](#).
- MAS encourages carpooling. Please cover your driver's gas at the recommended rate of 10¢ per mile per rider.
- The ABA has adopted principles of birding ethics. Check them online or ask your field trip leader.
- Wear neutral colors and sturdy walking shoes.
- Bring binoculars, sunscreen, sunglasses, hat, and water.

Registration on Ticketleap required unless otherwise noted. Search Ticketleap online under Maricopa Audubon; or find links to the field trip you wish to attend on the MAS website. If you're concerned about online privacy or your computer skills, you may also register by contacting Mark Horlings. If you cannot attend, please cancel your reservation so someone else can join. To cancel a reservation, contact the leader or Field Trip Chair Mark Horlings (602) 505-3455, markhorlings@yahoo.com.

Glendale Recharge Ponds (or Tres Rios)

THURSDAY, SEPTEMBER 21

We'll visit one of these sites, not both, depending on what's reported on eBird a few days before the trip. Expect to be hot! We'll look for shorebirds, plus other waterbirds, raptors, common desert species, and possible migrants and vagrants. We will arrive in Glendale before sunrise and wander the site for 2+ hours, then perhaps visit a nearby coffee shop to cool off and wrap up. Recommended gas money donation to your driver: \$7. Donations for the leader's car will go to CEDO*. Carpools and logistics decided a few days before the trip.

Restrictions: Must be fully vaccinated.

Time: 5 am to 9:30 am

Limit: 7

Difficulty: 1-2

LEADER: KATHE ANDERSON

Scottsdale: Northsight Park

SATURDAY, OCTOBER 7

Northsight Park offers lush desert habitat. Desert residents, wintering sparrows and a few migrants can be expected. Previous sightings at Northsight Park include Green-tailed Towhee, Lark and Brewer's Sparrows, Western Tanager, Wilson's Warbler, and Harris's Hawk. We will spend two to three hours on the walk. Meet 6:30 am at the

Park's south lot off Thunderbird.

Time: 6:30 am. to 9:30 am

Limit: 10

Difficulty: 2 (one mile walk on unpaved, level path)

LEADER: BRIAN ISON

Desert Tortoise Quest

SUNDAY, OCTOBER 15

Hardy souls willing to trek in the heat for a chance of finding a desert tortoise can join leader Laurie Nessel as we traverse steep, rocky hillsides searching for these iconic reptiles. We will cover the behavior, life history, and status of this keystone species. Bring snacks, sun protection, hat, sturdy hiking shoes and stick, gators if you have them, a flashlight or mirror and plenty of water. Details will be emailed shortly before the trip.

Time: 6 am to 11 am

Limit: 8

Difficulty: 4 (steep, rocky terrain)

LEADER: LAURIE NESSEL

Hassayampa River Preserve and Bradshaw Mountains

SUNDAY, OCTOBER 22 - MONDAY, OCTOBER 23

October 22: We leave Phoenix about 6:30 am for the Hassayampa River Preserve to bird about 2 hours. Then head to Prescott on Highway 89, with several birding stops, then to White Spar

Campground and Goldwater Lake for a picnic and more birding. After leaving the Lake, plan on more birding and dinner at a restaurant.

October 23: Go straight to Walker, a tiny settlement at 6,200' and work our way down the north side of the Bradshaw Mountains back to Prescott, hitting hotspots such as the Highlands Center and Watson Woods Preserve. Leave Prescott about noon, lunch at Café Perez near Prescott Valley and return to Phoenix about 3-4 pm.

Expenses: one night in a moderate hotel in Prescott, three meals out, about \$10 entrance fees, and \$15-20 gas donation to your driver.

Donations for the leader's car will go to CEDO*. Please register by Sept 1 to keep hotel options open. Carpools and logistics decided a few days before the trip. For questions, contact leader kathe.coot@cox.net.

Restrictions: Must be fully vaccinated.

Time: 6:30 am October 22 to 4:00 pm October 23

Limit: 7

Difficulty: 2-3 (most birding will be at 5000' and above)

LEADER: KATHE ANDERSON

Needle Rock Recreation Area

SATURDAY, NOVEMBER 4

Cottonwood/willow riparian habitat along this stretch of the Verde river attracts many different species easily seen from trails. In November we

should see late fall migrants and wintering warblers, vireos, waterfowl, and sparrows. Needle Rock lies just north of the town of Rio Verde, a few miles north of Box Bar Recreation Area.

We will bird along the trails just above the river. Depending on forest closures, we may also explore the main parking area and campground on the north end “beach” area. Cars must display a Tonto National Forest pass. Final details, meeting place, and car pooling will be arranged by email shortly before the trip.

Time: 7 am to 11 am.

Limit: 10

Difficulty: 3 (2-3 mile hike on level trails)

LEADER: BRIAN ISON

ASU Research Park

TUESDAY, NOVEMBER 7

This quiet neighborhood complex has three ponds that have yielded 182 species, including overwintering rafts of Lesser Scaup and Ring-necked Ducks. More than 15 species of ducks have been sighted here, with egrets, herons, and cormorants to study too. There is a slight chance to see some of the small resident population of Nanday Parakeets that fly from the neighborhood to the east. We will listen for other

species as we bird-by-ear some, seeking to associate the calls of common neighborhood birds that you hear in other Phoenix areas.

Meet at 8075 S. Research Dr., parking along the street at the south end of the north pond.

(ValleyMetro busses can deliver you to this location-Bus stop 5255!). If you can carry a scope, bring it for close looks at ducks across the ponds, though binoculars will work too.

Time: 7:00 am. to 9:30 am.

Limit: 10

Difficulty: 1 (Walk about a mile, mostly on sidewalks with benches to rest on!)

LEADER: LARRY LANGSTAFF

Tempe Town Lake and Scottsdale Ponds

TUESDAY, NOVEMBER 14

Let's do a marathon morning birding local ponds! By mid-November, wintering waterfowl should have arrived and settled in, giving us a variety of ducks, grebes and more, plus whatever shorebirds, songbirds and raptors visit the ponds. Start at Tempe Town Lake and work our way north through a variety of ponds along Scottsdale's Greenbelt, including Eldorado and Chaparral Parks and McCormick Ranch. Recommended gas money donation to your driver: \$5. Donations for

the leader's car will go to CEDO*. Carpools and logistics decided a few days before the trip.

Restrictions: Must be fully vaccinated.

Time: 7:30 am to noon

Limit: 7

Difficulty: 1-2 (Level but lots of walking)

LEADER: KATHE ANDERSON

Lake Pleasant

THURSDAY, DECEMBER 7

We will spend most of the morning scanning the lake from various locations looking for water birds (ducks, grebes, loons, and gulls). Bring a scope if you have one.

There is an entrance fee of \$7 per car. We will meet at the entrance to the regional park (41835 N. Castle Hot Springs Rd.) at 8 am. Bring snack or early lunch.

Time: 8 am to noon

Limit: 10

Difficulty: 1

LEADER: CHARLES BABBITT

* CEDO - a binational conservation/education/research institution in Rocky Point (Puerto Peñasco, Mexico).



MARICOPA AUDUBON SOCIETY'S
27TH ANNUAL
Herb Fibel Big Sit! Fundraiser

We'll collect cash or checks onsite (\$10-15 suggested donation). Please make checks payable to “Maricopa Audubon Society” with “Big Sit” on the memo line. Registration is required. Contact Kathe.coot@cox.net.

You can donate by cash, check or credit card at member meetings, online (MAS.org/About Us/Donate) or mail checks payable to Maricopa Audubon Society, P.O. Box 65401, Phoenix, AZ 85082-5401. Write “Big Sit!” In the memo line. Donate a set amount, or per bird species seen (54 is average).

Bonus!!!

Donate \$25 or more to the Big Sit! and receive a one-year membership to Maricopa Audubon Society.

To get your one-year membership when donating by check, please write “Auto Join – Big Sit!” in the memo line and mail to the above address. Please include your mailing address to receive the quarterly Cactus Wren-dition newsletter.

Granite Reef, Tonto National Forest

SUNDAY, OCTOBER 8, 2023

7-9 am

MAS friends will gather to count bird species seen from a 17' diameter circle at Granite Reef Recreation Area.. Funds raised this year will go to Maricopa Audubon Society Youth Scholarship Fund. The main object of this event is, and always will be, sitting out in nature with friends, and enjoying not only the wildlife, but the camaraderie.

The Big Sit! is officially scheduled from 7-9am, but folks can arrive earlier and stay later.

At 9am, we will have snacks, compare notes and make a list. Bring your coffee, breakfast and a snack to share.



Portrait of Alexander Wilson, oil on wood, c.1809-1813, attributed to Thomas Sully, American Philosophical Society. Gift of Dr. Nathaniel Chapman, 1822.

The Person Behind the Bird Name: Part III Alexander Wilson, the Scot who Founded American Ornithology (1766-1813) By Tom Gatz

Alexander Wilson dropped out of school at age 13 and went to jail for attempting to blackmail his boss. Wilson's dad was a smuggler so perhaps Alex did not have the best role model growing up. He fled Scotland and

away from poetry and into sketching, for which he had a true talent. In 1806 he left teaching to work for a prominent publishing company that agreed to publish his yet-to-be written and illustrated series American Ornithology on the condition that he find 200 subscribers. Alison Haigh at Cornell Lab described how Wilson set off on foot in search of birds and subscribers on an expedition that reads like an ornithological Indiana Jones adventure, traveling over 12,000 miles in seven years from New England to Florida to western

arrived penniless in America where he bounced from job to job. Does this sound like someone who should be regarded as the father of American Ornithology? Who has five species of birds named after him?*

Let's dig a little deeper. Born in Scotland in 1766, Wilson's working-class background forced him to leave school to work as an apprentice weaver. He wanted to be a poet. His poems, often satirical, got him into trouble. In his mid-twenties he wrote some of the Industrial Revolution's first protest literature about the decrepit mill where he worked and how the mill owner cheated his workers. Instead of publishing the poem, he sent it to the owner anonymously, offering to suppress it for a price. The local government forced him to burn his writings in the town square, slapped him with court fees, and put him in jail. After he got out of jail he decided it was time to leave town.

Wilson landed in Philadelphia in 1794 where he borrowed money, worked odd jobs and finally became a schoolteacher. However, nature and poetry were his true passions. He was especially fascinated by the birds of America. Just after becoming an American citizen, Wilson wrote a poem about eagles above Niagara Falls:

*Now 'midst the pillared spray sublimely lost,
And now, emerging down the rapids tost,
Swept the gray eagles; gazing calm and slow,
On all the horrors of the gulf below.*

He got to know William Bartram, a famous botanist, who guided him



Carolina Parrot, Canada Flycatcher, Hooded Flycatcher, and Green Black-capped Flycatcher as named and painted by Alexander Wilson. Currently known as Carolina Parakeet (extinct), Canada, Hooded and Wilson's warblers.

Tennessee. Wilson illustrated more than 230 birds (48 of which were new to science) and lined up 250 subscribers. He delivered his first copy to his most famous customer, President Thomas Jefferson. Wilson tried to get a shopkeeper and amateur bird painter by the name of John James Audubon to subscribe but Audubon declined, and wrote snide comments about him. Interestingly, it was seeing Wilson's first two completed volumes that lit a fire under Audubon to kick-start a publication of his own *Birds of America*.

Wilson's goal was to classify, describe and illustrate all bird species in the United States. Unfortunately, his work ethic and his years in the field took a toll. Wilson died of dysentery and exhaustion at the age of 47, leaving his almost finished 9-volume series to be completed by his friend George Ord who named the Wilson's Plover after him. Wilson originally called the Wilson's Warbler named in his honor the "Green Black-capped Flycatcher".

To learn more about this poet, artist and ornithologist who got somewhat lost to birding history in the shadow of Audubon, check out some of the references listed below.

*Wilson's Warbler, Wilson's Snipe, Wilson's Storm-Petrel, Wilson's Phalarope and Wilson's Plover.

References:

<https://www.allaboutbirds.org/news/the-people-behind-the-birds-named-for-people-alexander-wilson/#>

<https://ebird.org/pa/news/exhibit-celebrates-alexander-wilsons-american-birds/>

<https://blog.biodiversitylibrary.org/2014/11/of-birds-and-poetry-alexander-wilson-and-the-foresters.html>

<https://www.audubon.org/news/even-john-james-audubon-couldnt-tell-difference-between-scaup-ducks>

<https://www.uh.edu/engines/epi1935.htm>

<https://lexleader.net/wilson-beat-audubon-to-the-birds/>

Retired biologist Tom Gatz has been a member of MAS since 1981. He is a regular contributor to the Cactus Wren Edition.



A Tale of Two Squirrels

Text by Gail Cochrane. Photographs by Bruce D. Taubert.

Sky Islands

The sky islands of Arizona's Madrean archipelago act as oases, verdant mountaneous regions sustaining abundant wildlife. These mountainous regions are scattered across southeast Arizona and Sonora, Mexico, dotting arid desert basins with biodiverse habitats that support resident and migratory species. Ecosystems merge between desert and grassland, chaparral, oak woodlands, and boreal forests. Sky islands positively flourish with biodiversity.

Parched stretches of desert separate cool and moist mountain communities, isolating some populations, creating endemic species. Scientists come from across the country to study the natural history of sky island endemics at the Southwestern Research Station in the Chiricahua Mountains (see callout box). Independent research and educational conferences promote knowledge of this unique flora and fauna. Endemic species are often at higher risk for population collapse than more adaptable and widespread species.

Chiricahua Fox Squirrel

The Chiricahua Fox Squirrel, a subspecies of the Mexican Fox Squirrel, is found only in the Chiricahua Mountains. This animal meets the definition of a vulnerable population - restricted range, low population density, specialized habitat requirements, and a low rate of population increase.



Chiricahua Fox Squirrel photo by Bruce D. Taubert

This handsome squirrel is almost two feet long with plush fur and a bushy tail. Dependent on mature forests for their food, the squirrels search out seeds and nuts of trees, mistletoe berries, and fungi growing in moist humus. Fox squirrels scratch out hidey-holes to stash

On Sampling Bias

Everyone has a "secret spot" where they take others to almost guarantee a target species. But returning to the same locations repeatedly leads to bias in species distributions mapping. Collecting or sampling bias occurs when naturalists, either intentionally or not, look for organisms in non-random locations. Birders often flock to eBird hotspots and entomologists will revisit known collecting localities. Part of the draw to these locations is knowing you have a good shot at finding your target organism but other factors include accessibility, permit requirements, and travel distance. But if nobody ever checks the less accessible next mountain range over, we can only hypothesize what occurs there. When these gaps are eventually explored, and expected species are not present, questions are raised about habitat requirements that we might not even be aware of. Surely these creatures do not confine themselves to hotspots, but without sampling underutilized areas, we will be forever biased in our understanding of them.

-Evan Waite,

Graduate Research And Teaching Assistant at Arizona State University

food under leaves and loose soil in the canyon bottoms where they live. Females bear one litter of just one to two young per year. The squirrels build nests among a patchwork of pines, oaks, alligator juniper and Arizona cypress, high in these trees that shade the verdant canyons.

In 2011 the Horseshoe 2 Fire torched 220,000 acres of the Chiricahua Mountains, burning approximately 70% of the mountain range. The loss of trees reduced the fox squirrels' food and shelter, and made them more vulnerable to predation. Scientists from the University of Arizona are currently using remote trail cameras to quantify the existing population. Meanwhile, these squirrels are still legal game.

Mount Graham Red Squirrel

Northwest of the Chiricahuas, the Pinaleno Mountains rise 10,720' to the peak of Mount Graham. Here and only



here lives the Mount Graham Red Squirrel. A petite subspecies, they are just 8 inches long and weigh eight ounces. The red squirrels eat primarily conifer seeds, but also fungi and other plants. They nest in cavities and crotches of spruce, fir and other conifers. The females raise one to two litters of three to four young per year.

Once thought extinct, the Mount Graham Red Squirrel was rediscovered in the 1980s and listed as an endangered species by the U.S. Fish and Wildlife Service in 1987. When the University of Arizona and other interests proposed to build a complex of telescopes on Mount Graham, the San Carlos Apache Indian tribe, conservationists (including MAS led by Conservation Chair Bob Witzeman), and local biologists objected to the construction. The UofA secured two legislative riders to circumvent environmental and cultural laws that would ordinarily stop such a destructive project. Mount Graham - Dzil Nchaa Si'An (Big Seated Mountain) is sacred to the Apache tribe, and everything about the telescope project interferes with their spiritual connection to the mountain. However, courts sided with the University. Although the project was substantially reduced, three massive telescopes were built on the peak. As with the Chiricahua Fox Squirrel, protection of habitat is paramount.

In 2017 the Frye Fire took out much of the squirrel's forest habitat. Three years later, the population rebounded to around 200 individuals. Other land uses on Mount Graham that negatively impact the squirrel population includes unnecessary backburning to protect the telescopes, and two developments that are prioritized

over endangered species in the critical habitat of Ash Creek drainage - Old Columbine Recreational Cabins and the Arizona Church of Christ Bible Camp. MAS, the Center for Biological Diversity, and Mount Graham Coalition, Inc. have sued three federal agencies for allowing these two developments to impede the recovery of the red squirrel in violation of the Endangered Species Act.

These two vulnerable squirrel subspecies represent the exceptional biodiversity of Arizona's sky islands. We must be ever vigilant to offer these specialists a chance at survival as they navigate a changing environment.

Nature enthusiast and writer Gail Cochrane is captivated by Arizona's sky islands. Recently she was thrilled to see a Chiricahua Fox Squirrel while hiking on Mushroom Rock Trail in the Chiricahua National Monument.

Bruce D. Taubert has been photographing wildlife around the world for more than 30 years. He has a PhD in wildlife management and a career in wildlife conservation. His book, Wild in Arizona: Photographing Arizona's Wildlife is uniquely devoted to getting photographers to the best places at the best time to photograph Arizona's wildlife. <https://www.analemmapress.com/order-books/p/wildinaronawildlifebook>



In Memorium

Clemens Titzck III 1928 - 2022

By Michael J. Plagens and Laurie Nessel

Clem Titzck moved to Arizona in 1965 and served as MAS's President from 1966-71. As President, Clem contributed to the conservation report in the Roadrunner, the precursor to this newsletter. In 1970, he formed the Arizona Audubon Council, along with Tucson chapter leaders, and represented MAS in the Arizona Conservation Council. As a member of the Citizens Organization for the Protection of the Lower Gila River, he fought to stop the Army Corps of Engineers from channeling the Gila River below Painted Rock Dam.

Clem cared passionately about conservation and urged members to write Congress, attend hearings, and support wilderness initiatives. In October 1968, Clem wrote, "Commercial interests have lobbyists in Washington to influence law-makers against Conservation. [w]e believe letters written N O W to the Congressman, [will] let them know that the public is watching and that it is our request that conservation be given priority over selfish commercial lobbying. Our letters represent the voice of the people and Congressmen are sensitive to that voice."

Clem fought against the use of compound 1080 to kill coyotes. He was a key player in MAS's efforts to stop falconers from capturing Harris's Hawks. In the spring of 1971, the height of the DDT disaster, Clem reported good news, two Bald Eagle pairs returned to their nest sites in Maricopa County, and one pair in Gila County.

During Clem's tenure, the Roadrunner was a 2-6 page newsletter; Clem favored a tight focus on birds, conservation and other standard Audubon features. In April 1971, Clem wrote: "Inclusion to the Roadrunner should be specifically oriented to NAS/MAS and SHOULD NOT INCLUDE expressions of philosophy, memorabilia, and personal views and opinions and the like."

Clem, like the birds he loved, was able to fly - a plane that is. A fighter pilot during the Korean War, he was shot down and rescued as sharks were honing in. He also flew a small plane over the savannas of East Africa foreshadowing Robert Redford in *Out of Africa*. We can imagine Clem and his wife Jean together straight out of a Hollywood film. Indeed he frequently boasted about his wife's stardom and how that earned them company with Frank Sinatra at a Las Vegas show club.

Clem was an ardent birder. He traveled around the state and beyond, and reported his sightings in the Roadrunner. Because of this, we know that on June 3, 1966 Clem saw his lifer Hooded Oriole at the MAS New River Sanctuary. In June of 1969, Clem and MAS Treasurer Lloyd Shuttleworth scouted a new birding area - Sycamore Creek off AZ 87. They saw Black Hawk and Gray Vireo. His sightings sound quaint - Sparrow Hawk, Marsh Hawk, White-necked Raven. The movement to remove eponymous bird names will no doubt make the names we use today sound quaint.

Clem was loved and treasured and will be remembered as the colorful character that he was. Clem was also a successful stock broker and financier, showing how people from all walks of life and professions can appreciate birds and the role the Audubon Society plays in protecting them.

At the age of 83 Clem hiked the full mile from the gate up to the fire tower atop Mt. Ord, a clear demonstration that bird watching can be a rewarding part of a healthy lifestyle! When he no longer hiked, his Audubon friends felt compelled to bust Clem out of the nursing home for a few hours now and then to soak in nature at a picnic table.

MAS extends our sympathy to the Titzck family.

Wash, Wander, Watch

By Kathe Anderson



Common Raven
Photo by Tom Cheknis

My patch, a local wash running about a half mile through several subdivisions, is a bird-magnet lined much of the way with mesquite and palo verde trees. This was the fourth year I've conducted an unscientific survey of bird species during spring migration. I added three new species to my list and enjoyed the usual - and unusual - sightings it offered almost daily.

This year's survey began March 6, and ended May 22, with 41 strolls through the wash. Mostly I walk in the early morning, but sometimes late afternoon. My list of suburban and desert species was predictable: Anna's Hummingbird, Verdin, House Finch, Curve-billed Thrasher, Great-tailed Grackle, European Starling, Abert's Towhee, Gila Woodpecker, Mourning Dove and Gambel's Quail.

On March 19th, two Common Ravens croaked and called in a manner that indicated they were clearly agitated about something. They plunged and pirouetted at the edge of the wash until an adult bobcat appeared from the dense vegetation, looking both intimidated and annoyed at the attention. All three disappeared almost as suddenly as they appeared. I saw ravens in the wash a handful of other times this spring, although never so upset. In late May, I saw a young bobcat, which lay down



Bobcat photo by Pierre Deviche

under a shrub and watched me stroll by. Typical of the urban explosion of American Robins and Cedar Waxwings in the 2022-23 winter, my wash list included both species. While the waxwings only

showed up twice, the robins visited regularly, usually five or six singletons. About two days before they left, they appeared in a flock of about 25 - and then they were gone by April 4.



Red Crossbill Photo by Pierre Deviche

There are two Aleppo pines near the turn-around point in my wash. For sure, they'll hold an owl one day? On April 8, I heard soft cracking noises high above me in the pines. Papery bits of pinecone fluttered down in the sunlight like moths. Five Red Crossbills were eating breakfast.

In a yard adjacent to the wash, a huge dead pine always contains a large flock of - pinecones! But, usually a bird or two or more perch there as well. One morning, there was a contrasting pair of White-winged Doves: one sleek and dapper, ready for a posh dinner party; the other having a complete bad-feather day, looking like it had had a rough night in a local bar. On the same day,

both Bronzed and Brown-headed Cowbirds perched in that tree for a nice comparison of size and shape. A silent Northern Mockingbird and a vocal Brown-crested Flycatcher completed the tree's morning population.

Some species routinely make a game or contest of chasing one another. Verdins, White-winged Doves and Gila Woodpeckers follow one another regularly. Whether it's love or war is often unclear. It's unusual to see different species in an antagonistic feud. So seeing a Northern Mockingbird and an Ash-throated Flycatcher on the ground in a dust-raising, feather-flying fight was an eye-opener. It lasted perhaps 30 seconds before one flew off, followed closely by the other, landing in a shrub and continuing the attack out of sight. Who was the aggressor - and why? Did either or both survive? I've seen both



Brown-crested Flycatcher Photo by Tom Cheknis

Continued on page 18

THERE ARE NINE TYPES OF FEATHERS

Text and photographs by Matt van Wallene

The top four google hits for “how many types of feathers do birds have” indicate a general lack of agreement, with Cornell Bird Academy citing 7, Bird Watching Daily and Study both having 6, and Bird Watching Academy 5. These numbers vary because they are overly simplistic, subjective groupings. In this article we ask: *Does a feather look or have characteristics that differentiate it from others, and is it found in a significant population?* Not all bird species have bristle feathers and some don't have flight feathers.

Evolutionary adaptations within tail feathers like Twelve-wired Bird-of-Paradise vs. the stiff rectrix of a woodpecker or the serrated leading edge of an owl primary vs. an undifferentiated feather on a penguin's wing are not separately categorized. Cornell lists seven basic feather types: this article identifies nine (Table 1):

Table 1 Feather list comparison

Flight feathers (remiges) are asymmetrical, with the leading edge being stiffer and narrower to prevent twisting as air flows over it. There are three

Cornell	Author
Flight	Flight
Tail	Tail
Contour	Contour
Semiplume	Semiplume
Down	Down
	Natal Down
Bristle	Bristle
Filoplume	Filoplume
	Sonus

groups - primaries, secondaries and tertiaries. Most birds have ten primaries counting from the inside to the end of the wing. The primaries provide thrust. There are 9-25 inner flight feathers or secondaries and are counted from the outside in. The secondaries provide lift. The innermost flight feathers are tertiaries and do not perform an essential part in flight. The wing feathers do not have an aftershaft or downy barbs that would hinder flight. Melanin is the pigment that makes feathers black (see p.19, CW Winter 2022). Black feathers are more resistant to wear and tear, thus many birds have black outer primaries.

Primary feathers are attached directly to the bird's small, fused “hand” bones called the manus. All the rest of the feathers are attached only to the skin.

There are many flight feather modifications such as the owl's (Figure 1) serrated leading edge that dampens sound to maximize stealth. At the other extreme, penguins have no flight feathers at all.

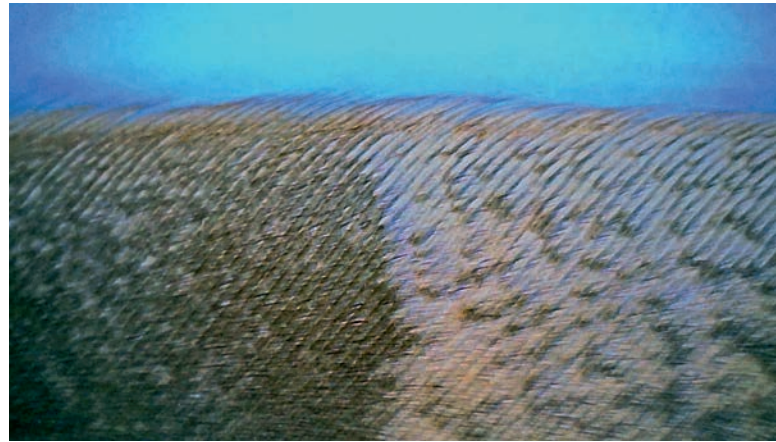


Figure 1. Barn Owl serrated front edge on flight feather

Tail feathers (rectrices) are variable, with most birds having 12. Hummingbirds have 10 and other species range from 6 to 32 (Figure 2). The feathers are arranged in a fan like structure and counted from inside out. The outer feathers are more asymmetrical than the inner ones. They have the same microstructure as the flight feathers and are used for steering.



Figure 2. (left) Immature Cooper's Hawks (the smaller male is left of the female on the right). (right) Rufous Hummingbird

There are many exceptions to the standard tail, the starkest of which is the Twelve-wired Bird-of-Paradise. While processing feathers from a Gila Woodpecker, I noticed some interesting morphology. The barbs at about a third of the distal end of the tail were very stiff and lacked barbules, much like a plastic toothpick (Figure 3).

The barbs gradually had more and more barbules until about halfway towards the proximal end, the barbs displayed normal pennaceous structures. The stiffness of the barbs supplants the need for hooklets to keep them in place. The barbs can move independently, much like a 3D contour gauge (a row of pins that conform to the shape of an object). This feature assists a woodpecker with locomotion, hanging from a vertical or angled branch, and stabilizes the woodpecker when hammering.

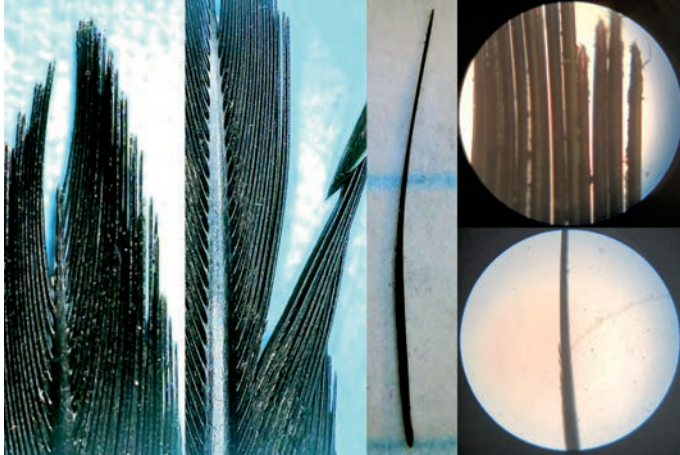


Figure 3. Gila Woodpecker rectrix detail.

Contour feathers (Figure 4) cover the entire body and are typically symmetrical. The aftershaft length is variable, with the shortest being on the wing to minimize airflow disruption. The downy barbs are close to the body. The feathers are overlaid like shingles which waterproofs the bird. Contour feathers that cover the base of flight feathers and above and below the base of the tail are called coverts.

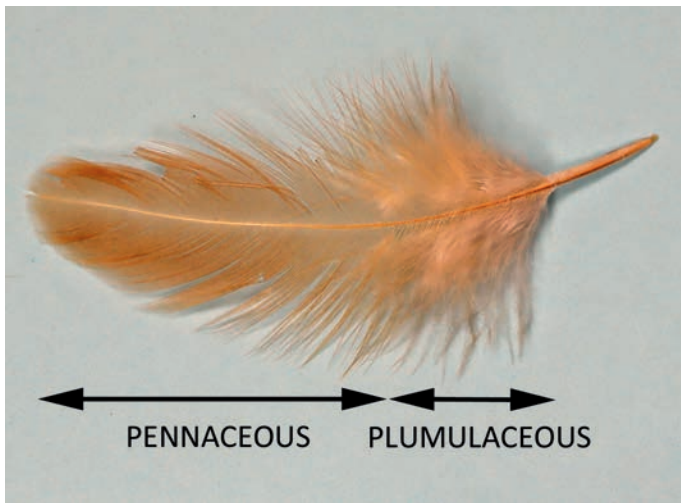


Figure 4. Chicken contour feather

Semiplume feathers (figure 6) are a cross between downy and contour feathers. Unlike downy feathers, they have a long rachis with a long aftershaft section containing barbs with underdeveloped hooklets. These feathers are disbursed under the contour feathers for insulation.



Figure 5. Various names for contour feathers, depending on their location. (clockwise from top left) Red Junglefowl hackle feathers are on their necks, tail coverts on a Yellow-rumped Warbler, Turkey Vulture axillaries in the axilla (“armpit”), and lores in front of the eyes on a White-eyed Vireo are just a few of the many contour feathers.



Figure 6. Semiplume feather

Down feathers (plumule) are the closest feathers to the body and not exposed to the elements. The barbs are without hooks, allowing for a chaotic distribution and insulation (Figure 7). Down feathers have little to no rachis, are relatively short, and have spaced, flexible barbs without hooklets. Feathers found in amber indicate that some dinosaurs were covered by them. The body down feather has been used by humans for insulation in clothing and bedding as far back as 200,000 years. Many birds use their body down feathers and those of others to line their nests.



Figure 7. Down feather

Some species' down feathers produce powder (figure 8 right). Powder down feathers (pulviplumes) are found on herons, pigeons, tinamous, bustards, and parrots. The tips of the barbules disintegrate creating a talcum like keratinous powder. These feathers never molt. A second kind of powder down creates the powder from cells that surround the barbules of growing feathers. The powder is used for preening and waterproofing.

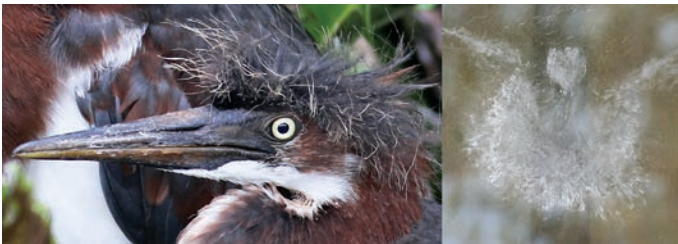


Figure 8. Natal down on Tri-colored Heron (left) and powder down dust from a dove window strike (right)

Young birds are covered in **natal down feathers** (Figure 8 left). Precocial nestlings from ducks and quail are born with them, altricial chicks develop natal down feathers within 6 days of hatching.

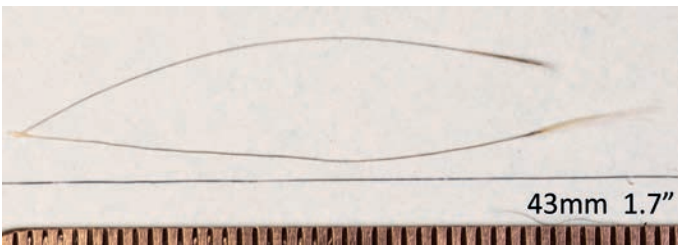


Figure 9. Ring-necked Pheasant (top) chicken (center) filoplumes, human hair (bottom)

Filoplume feathers, the third feather structure, have a short calamus and a long, bare rachis that ends with a small tuft of barbs. Figure 9 compares filoplumes to a human hair. Filoplumes come in varying lengths depending on their location. They are found under contour feathers, with a heavy concentration around flight feathers (Figure 10). They are attached to sensory receptors in the skin that detect air pressure, wind and feather movement. Every bird has at least one filoplume per wing, tail or body feather.

Flight feathers have up to 12 filoplumes each.²

While handling a chicken flight feather, I noticed a filoplume. On closer inspection, there were five.

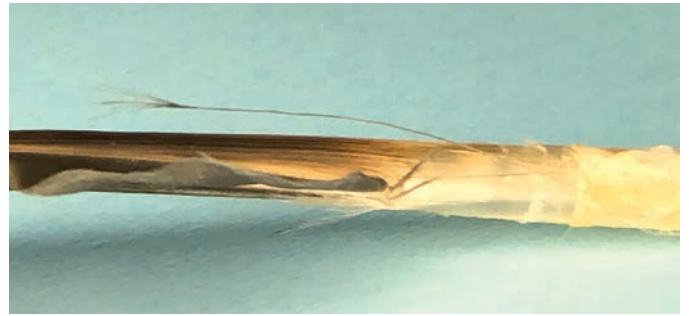


Figure 10. Filoplume on flight feather

There are no barbules or hooklets on this small tuft of barbs (Figure 11). Some internet illustrations of filoplumes show barbules. Plucked chickens' residual filoplumes are so numerous it is recommended to singe them off.

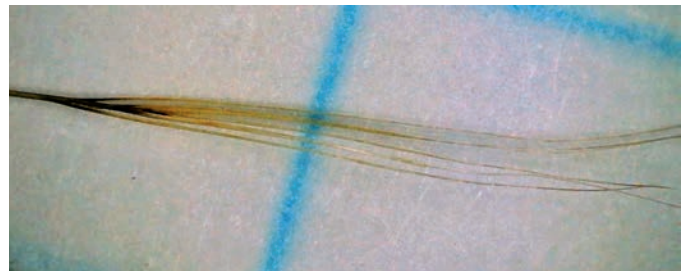


Figure 11. Filoplume tuft



Figure 12. Species with bristle feathers (clockwise from top left) Say's Phoebe, Greater Roadrunner, Emu, Great Horned Owl, Plain Chachalaca, and Pyrrhuloxia.

Bristle feathers are found on many species. Bristles are whisker-like feathers typically found around the mouth, eyelids and nares. Bristle feathers maybe unbranched or branched. The branched bristles can have minimum barbs at the base to more elaborate structures as found on nightjars. Some birds have both types of structures as shown in figure 13. Bristles are sensitive to touch and vibrations. They assist in foraging and obstacle

avoidance, protect from airborne particles, and sense airflow. Some sites state that bristles are used to funnel food. That was dispelled in an article about Willow Flycatcher bristles.³

Auriculars are ear coverts, feathers that cover the ear opening called the meatus. Auriculars are not on any feather type list but are grouped with



Figure 13. Harris's Hawk bristle feathers

contour feathers. Not all birds have auriculars such as the Turkey Vulture and Wood Stork.

Auriculars come in two types, bristle feathers as found on ostriches and sonus feathers (author's term) found on the vast majority of bird species. Some birds, like the American Kestrel, have a combination of the two types as shown in figure 14.

Sonus feathers have a long stiff rachis with well-spaced barbs. The barbs have stiff rami with few if any barbules that are void of hooklets. The vane is airy, allowing for sound to pass. The Ring-necked Pheasant sonus on the left



Figure 14. American Kestrel auriculars, sonus (left) bristle (right)

in Figure 15 is one inch long. Unlike down feather barbs, sonus barbs hold their shape.



Figure 15 Ringed-neck Pheasant (left) and chicken (right) soni

Table 2 shows attributes of various feather types. The sonus feather does not fit any of the standard feather structures.

Feather	Calumus	Aftershaft	Rachis	Downy Barbs	hooklets
Contour	standard	1/2 of rachis	1/2 stiff	1/2 of feather	yes
Semiplume	standard	2/3 of rachis	1/3 stiff	2/3 of feather	yes
Tail	standard	short	very stiff	<10%	yes
Primary	standard	little if any	very stiff	little if any	yes
Down	standard	none	none	all	no
Natal Down	very short	none	none	all	no
Bristle	very short	none	very stiff	none	no
Filoplume	very short	none	flexible	none	no
Sonus	standard	none	stiff	none	no

Table 2 Summary of feather attributes

The two examples in Figure 15 show a fanned out pattern which is due to static electricity. Figure 16, shows sonus feathers covering the meatus. Note the barbs are naturally compressed, helping to repel dirt and water.



Figure 16 Chukar (left), Harris's Hawk (center), and Gambel's Quail (right) auriculars

Figure 17 shows a Ring-necked Pheasant sonus magnified 50, 150 & 300x. Note the absence of barbules and associated hooklets. This design minimizes sound interference.

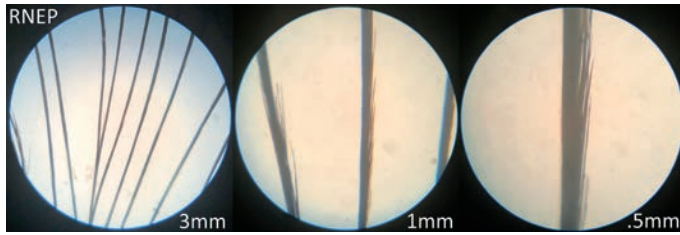


Figure 17. Ring-necked Pheasant sonus

Other than a Barn Owl auricular study, there is little to no information on this feather type. Seeing these feathers in my photography I decided to do an in-depth study of them. Preliminary results are very exciting and will be the basis for coming articles.

¹Phillipsen, Ivan. (2020) The Parts of a Feather and How Feathers Work. “<https://www.scienceofbirds.com/blog/the-parts-of-a-feather-and-how-feathers-work>”

²Devokaitis, Marc (2020) The Most Mysterious Feather: Filoplumes. Cornell “<https://www.allaboutbirds.org/news/the-most-mysterious-feather-filoplumes/#>”

³Conover, Michael R. and Miller, Don E. (1980) Rictal Bristle Function in Willow Flycatcher. *The Condor*, Vol. 82, No. 4, pp. 469-471

Matt van Wallene is a regular contributor to the Cactus Wren-dition. His website “hollandwest.com” delves into the fascinating and quirky world of birds through his research and captivating photography.

YOU CAN HELP!

The author continues to collect bird specimens for his feather studies. If you come across a dead bird, please contact Matt: 480-204-1104, zoutedrop@gmail.com.

Continued from page 13

in the wash since then, in the same area, so I hope it was a truce.

On one of the last walks in the wash as it started to get warm, migration was winding down, but still surprised me. Overnight, we had had storms and rain, and perhaps the wind blew some birds in. What other explanation could account for an Ovenbird? It flew past me and landed about 15' ahead of me on the ground. Its toffee-colored crown stripe caught my eye first, then its bright eye-ring, then the black spots on its white chest. Then it bobbed its way into the undergrowth and disappeared.

As some recompense for all the wash gives me each spring, occasionally I pick up trash there. Shreds of something fluffy were the impetus for a recent clean-up campaign. While the white tufts of stuffing looked like possible nesting material, it seemed synthetic and a poor choice. So I grabbed a used plastic grocery bag and picked my way down the wash, collecting packaging, glass shards, plastic golf balls, stuffed toys, bits of twine and Styrofoam, and construction debris. It's a rather remarkable haul in an area where I almost

never see another human being. At the end of the wash, my bag was full, but I saw one more aluminum can - if I wanted to climb out of the wash and snag it. I didn't want to, but I did anyway. Right next to the can was a \$20 bill, a bit worn and faded for its exposure, but not a bad rate for an hour's work.

It's warm now and it's unlikely that I'll walk the wash for months. I suspect I'm missing all sorts of nature's unexpected moments of wonder and beauty - and humankind's trash. Perhaps it's time to try a summer survey of this hidden suburban treasure.

Kathe Anderson is a full-time bird enthusiast. She teaches classes and workshops, surveys as a community scientist, raises funds, writes articles about birds and birding and leads over 60 field trips a year.

In honor of Clem Titzck, we are reprinting excerpts from
The Roadrunner (MAS' first newsletter) during his tenure as
MAS President 1966-71

To see more archives, visit the Maricopa Audubon
Society website - About Us - Chapter History

A pair of Killdeer nested on the roof of the Superlite Building at 5201 N. 7th St. The roof is about thirty-five or forty feet from the ground and covered with a rough gravel roofing. The babies hatched on May 23. They were chased off the roof the next day by the parents. The three young came tumbling down past the windows of Dave Demaree's office and were observed that day running all around the parking lot.

On Saturday, June 18, Mr. and Mrs. Dave Demaree had the interesting experience of observing a pair of Red-tailed Hawks feeding two young at Sahuaro Lake. The young were large enough to fly and the parent would fly over and drop food to them which the young tried to catch on the wing but more often they missed and had to go down on the ground to retrieve it.

A PHENOMENON!...

Our CONSERVATION CHAIRMAN - Peggy Spaw, has a Phoenix friend who told her of a rare episode in her yard. A spraying water fountain was being enjoyed by THREE Mockingbirds, when suddenly TWO of them attacked the third and KILLED IT on the spot. The two flew away but returned, and to the amazement of the observers proceeded to take hold of the dead bird and FLY AWAY WITH IT to the rear of a neighbor's yard. They gave certain calls or notes and soon there was a considerable GATHERING of other Mockingbirds - talking and fluttering and nervously moving about on telephone wires where they had assembled. WHAT COULD BE THE explanation of all this? It has long been known by scientific observers that certain birds, such as crows, appear to hold a court, and when the infraction, or what we might call 'law-breaking' is of a major nature - certain birds are delegated as executioners and kill the offender. We also know that certain notes or 'calls' will bring in many other birds of the same species. While the execution cited above had already been accomplished - and the dead bird carried to another back yard, it was THEN that the call went out and the other MOCKERS assembled.

Birds have their social laws and status as we indicated in the September Roadrunner, but this outright execution, and then FLYING AWAY with the dead bird is a new phenomenon to us.

TOPOCK GORGE: Thanks to the interest and diligence of you all, the Secretary of the Interior, last month, suspended the dredging on the lower (and larger) section. Ecological studies on a large scale are scheduled for the area. Thanks again...a feather in our hats.

EARTH DAY AT ASU...

The stationing of Audubon members in a booth at ASU on Earth Day was indeed a way for the Society to participate in this occasion of bringing an awareness of the problems of Ecology to the people of the U.S. It was most encouraging to find our college students greatly concerned with the maintenance of a clean environment for future generations. They showed a great interest in wildlife preservation and were particularly attracted to our Audubon Magazine and from this went on to ask questions about membership. We sold two Golden Press bird guides and one wildflower guide (and felt we could have sold more if we had had them), and even a student membership. With so much interest on campus we should plan field trips for these college students and possibly arrange for convenient meeting places on campus. Audubon has a fine opportunity to help the youth of this country nurture their need and desire for the outdoors. ...Bonnie Burch and Marcia Schaffer

1970 - First Earth Day! -Ed.

COOT SHOOT....

This is a new one on us...: But over in the Salton Sea area of Southern California 139 hunters turned out to shoot Coots and bagged 894 of these interesting water birds in the Wister area near the Salton Sea, while on another 'SHOOT' there, 85 hunters killed 651 of these birds.

It is said that the Coots destroy much grain in the fields...BUT WE WONDER if it really was the loss of farmers' crops that caused so many to join this KILL...Or is their some tendency in MAN, THE GREAT PREDATOR, that takes pleasure in destroying life for sport?

WATER....

A necessity of life is water....The Southwest is THIRSTY....There has been formed a North American Water and Power ALLIANCE which is considering bringing water all the way from Alaska to Northern MEXICO. In the meantime, DESALTING OCEAN WATER with the use of atomic energy, is being advanced, while the local 'ARIZONA PROJECT' may go it alone - with Arizonans footing the bill of bringing Colorado River water through tunnels, water-ways and canals to great expanses of Arizona's parched land.

Continued on page 21

Celebrating 70 years of Maricopa Audubon Society

Harris's Hawks - Wolves of the Sky

Text and Photographs by Tom Mangelsdorf



Nuptial gift from male.

Harris's Hawks can be seen riding thermals in the skies above southern Arizona and Texas, southeastern New Mexico, much of Mexico and into Central and South America. Dubbed "Wolves of the Sky" their hunting behavior involves several hawks forming a "pack" to search for, flush out, and nab their prey.

Harris's Hawks do not migrate. In the Sonoran desert they nest in the arms of saguaros using branches, twigs and bits of scrap. The female lays one to five eggs which hatch in four to five weeks and fledge in another six to seven weeks. The hawks will double, even triple clutch if conditions are favorable. Harris's Hawks can exhibit cooperative nesting, with one or more individuals, related or not, sharing the duties of a mated pair. Fledglings hang around with their parents for a few months before becoming fully independent. They may stay up to three years, and help raise future broods.



Nestlings squabbling.

Harris's Hawks sometimes "backstand" where two to five birds perch on one another's backs. Although it's a mystery why they do this, it may increase their range of view, or provide a perch where there are few.



Wingcising - essential pre-flight training.



Waiting for delivery.



Immature Harris's Hawk shows mottling below.



Juveniles jockeying for a perch.



Adult Harris's Hawk

Due to their social nature, Harris's Hawks are amenable to falconry. (Since the 1960's MAS has advocated against falconry, preferring to see these amazing creatures live wild and free.)

Tom Mangelsdorf is a 30-year resident of Scottsdale who enjoys photographing all aspects of the Sonoran Desert. Since 2012, he has concentrated on the beauty of the area's bird life.

Continued from page 19

Black Legged KITTIE-WAKE in Arizona...

Floyd Thompson has had confirmed by the Federal Government - the finding of a Black-legged Kittie-Wake, by him...(shot by a hunter) on Roosevelt Lake in December of 1965. This is the only record of such a bird in Arizona...

ARIZONA downs DDT AGAIN...

On January 9th the Arizona Pesticide Control Board extended FOR ANOTHER YEAR the 12-month moratorium it imposed last year on the use of DDT in commercial agriculture. Wisconsin scientists have declared large regional populations of birds, including hawks, eagles, gulls and falcons are being wiped out by the chemical DDT... The Wisconsin study shows that peregrine falcons have been wiped out in the eastern half of the United States, and have declined drastically in the western part of the country as well as in Finland, Sweden, Germany, Britain, France and Switzerland. Major declines are also noted in bald eagle, osprey, and sparrow hawk populations. DDT is reported to stimulate the liver to produce enzymes that break down sex hormones in the blood, so that lowered levels of the hormones keep birds from mobilizing calcium needed to develop normal egg shells, and reproduction FAILS.

ABOUT DDT...

The U.S. Court of Appeals HAS ORDERED reconsideration of the Dept. of Agriculture's DECISION NOT TO BAN DDT, and this is a victory for the Nat'l Audubon Society and other environmental defense groups, who sought THIS COURT ORDER.

Nature Through the Artists' Eyes: Marc Petrovic

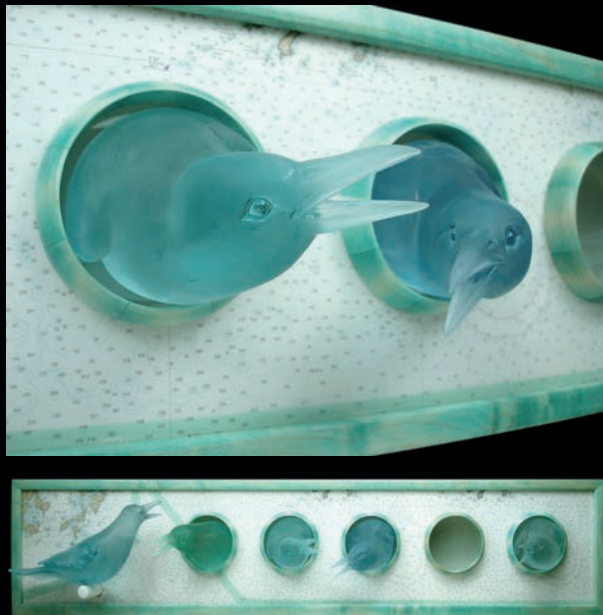


Left To Their Own Devices, 2004
glass, mixed media, 20" x 16" x 4"



Measure, 2001, glass, mixed media
10" x 16" x 4"

Marc Petrovic has incorporated birds in his glass sculptures for over three decades. He uses birds as a metaphor for his "ruminations on relationships, parenting, home, shelter, and geographical identification" and how these influences affect each other. The bottles in the diStilled Life series encapsulate beings inextricably linked to their environment - at times protecting and secure, at other times confining and isolating. Petrovic views them as conceptual touchstones, part nostalgia, part exploration. These pieces are as much question as statement.



Insular Series, 2007, glass, mixed media,
11" x 36" x 10" (detail above)



Predator and Prey, 2013,
glass, 20.5" x 20" x 5"



Plans
2023
Glass
16" x 6.25"



Winter Berries (right), 2023, glass, 16" x 6.5"
Great Expectations (center), 2023, glass, 14" x 7"
Golden Child (left), 2023, glass, 14" x 6"



Great Expectations
Glass, wire, wood
14" x 7"

(Below) Predator/Prey (Amber)
2014
(Left) Detail
Glass
20" x 25" x 4"



Marc Petrovic is a full-time artist who shares a studio in Cleveland, OH, with his wife and fellow glass artist, Kari Russell-Pool.
www.marcpetrovic.com



Maricopa Audubon Society

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MONTHLY MEETING

Monthly meetings resume in September. For questions or speaker suggestions, contact a Board member.

TWO WAYS TO JOIN AND RECEIVE THE CACTUS WREN•DITION

1. National Audubon Society - For dual membership in NAS and MAS call (844) 428-3826 and ask to be assigned to MAS chapter B00. You will get The Cactus Wren•dition as a courtesy. To be guaranteed a subscription, please consider joining MAS as a Friend.

2. Maricopa Audubon Society Friend dues go directly to MAS and support our mission. Friends are guaranteed a print subscription to The Cactus Wren•dition, and discounts on books and merchandise. Dues are \$10/year student/youth, \$20/ year individual. MAS is a non-profit 501(c)(3). All dues above \$20 are tax deductible.

You can join at a monthly meeting; online at maricopaaudubon.org/join; or send your name, address, phone or email, and a check payable to Maricopa Audubon Society to the MAS President (right). Effective April 1, 2023, all Friends memberships will renew annually each year on April 1st. Subscriptions are pro-rated.

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Copy for The Cactus Wren•dition must be received by January 15, April 1, July 1, and October 1. Articles not received by the deadlines may not appear in the upcoming issue. Some issues feature a theme. Feel free to inquire and take the theme into account. Editor: Laurie Nessel laurienessel@gmail.com

OPINIONS

The opinions expressed by authors in this newsletter do not necessarily reflect the policy of NAS or MAS.

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