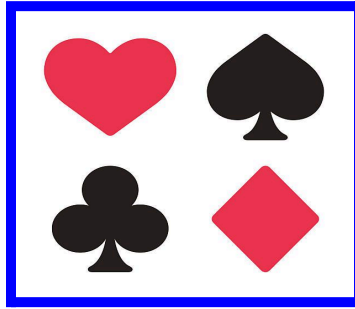


ALERT! June 2025

A Publication of ACBL Unit 206



Editor: Mary Robertson Features Editor: Cheryl Whitfield

A Message From Richard Splanger, Our President...

The Longest Day events are just around the corner! Several events are scheduled Monday, July 16, thru that Friday. This is by far our biggest fundraiser for the Club and for ACBL to support finding a cure for Alzheimer's disease. Every year, your support for this effort has been outstanding. We typically finish as one of the top contributors for the state and for the country!! Way to go for your generous contributions over the years! Our goal for 2025 is \$16,000! We can all relate and understand the importance of supporting this research. We look forward to your continued support.

Richard Spangler - President

MYRA'S BOX-A MESSAGE FROM OUR CLUB MANAGER

"Drury Much?"

I am always trying to improve my director skills. One thing I've noticed coming up lately is people marking that they play Drury but yet they seem to forget it. This is happening quite often, and the partners are working out that they have forgotten the bid and

acting on the knowledge that partner forgot. This is not legal to guess what your partner is doing when it's not your agreement. I recently spoke to Joel Haywood about what needs to happen. He said that if a partnership with any regularity forgets Drury, they need to remove it from their card.

And if they are playing Drury, you need to have an agreement about what Pass, Pass, 1S, Pass, 3S means, because if you play Drury, this bid would show something different, NOT a limit raise.

Drury is a great bid, so please take a moment and decide if you really want to play it. If yes, take time to learn the convention and become able to recognize it and alert it. Thank you so much.

Myra



HATS OFF TO Marian Creighton

Hats off to Marian Creighton for her support of the club!! She wears MANY hats with respect to helping the club. She has been a key lead on the landscaping efforts for the club. Marian is the one who reviews our voicemail messages and passes them along accordingly. Just in the past few weeks, Marian has agreed to take on coordinating our snack needs during the Friday games. Marian has been a great person to jump in as needed to help the club. KUDOS to her and her support of the game and club!!

ALL HANDS ON DECK SATURDAY, JUNE 7TH

Yard detail for the Bridge Center.
Please show up no later than 9:00 am. Any amount of time you can contribute will be greatly appreciated by all. The more of us that

show up, the quicker we'll be done and the easier the job will be.

Our shrubs need pruning, weeds need pulling, and the parking lot will need cleaning to get rid of all the debris.

The Bridge Center has no tools, so please bring whatever you have to help make this project as efficient as possible.

Needed items:

pruners

clippers

blowers

trowels

gloves

rakes

shovels

anything else you think might be helpful

BRIDGE CLASS UPDATES

Come Chat with Joe Viola every second Tuesday of the month at 10:30 AM at the CBC. Do you have a question about a particular hand? Are you wondering which defense over a no trump opening he thinks works the best? Does he recommend upside down carding or standard? All you need to do is bring yourself and your questions, and Joe will do his best to answer them. If you are concerned about something particularly complex, you can always clue him in beforehand so he can come prepared.

The Club's online evening games have been suspended for the moment. We ARE looking at other options. How does Sunday early evening sound? Let Myra Reneau know.

For the most current events calendar, follow this link to our club's website calendar for more information: [CBC Calendar](#)

A LITTLE DAB'LL DO YA!

Let's face it, we are a closely knit group while playing bridge. Four of us to a table and then we move to other tables and players. We brush up against one another in passing, in the kitchen area, while in line to register and while socializing. Since some of us are sensitive to strong colognes or perfumes, this is a great opportunity for each of us to hold off on that spritz or dab of cologne or perfume. Men and women alike, a little dab of after shave lotion or cologne may be part of our daily routine before we leave the house. Please rethink this, and when getting ready to come to the Bridge Center, dial it back a bit. Your cooperation will be truly appreciated by those who suffer from these types of allergies and/or asthma.

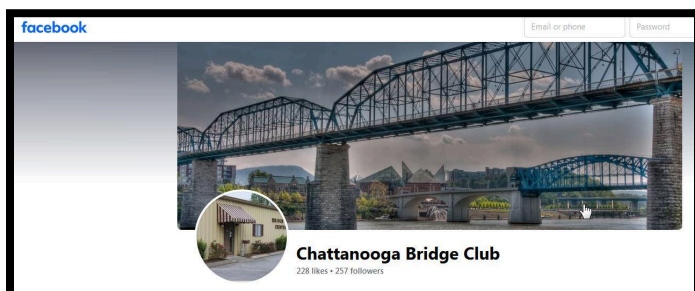
Our Club Facebook Page Is Being Seen By Many

Our Club Facebook Page Is Being Seen By Many

Interest in the club page is up because people are seeing fresh information about our members playing bridge, with pictures of them. Have you looked at the many postings on our club Facebook page? Then you know it emphasizes our club members and what they are doing in pursuit of their bridge passion.

To do a really good job of catching all the fun and good things our club members do that ought to be on our Facebook Page, we need four club member Facebook users to be the team that creates these posts. Already Susie Crouch for the Fairyland Club and Sharon Lewis for the Nooga East Club said they would post for these clubs. Now we just need two from our Chattanooga Club to join the team and assist John Hubbard. John will work with you to learn how easy and quick it is to make nice posts. Are you interested? If so, contact Richard Spangler or John Hubbard to volunteer.

If you haven't looked at our Club Facebook Page, it is easy to find on your phone, tablet, or computer. At Facebook.com, login or start your account. Then use the search function to go to 'Chattanooga Bridge Club.' This is the picture on our page.



Nooga East Bridge Club

Every Monday at 12:30 p.m. there's a bridge game at Christ United Methodist Church located at 8645 East Brainerd Road across from Hurricane Creek Shopping Center. Players are asked to arrive no later than 12:15 p.m. so the game can begin promptly. For those of you in Cleveland or North Georgia, this is just a hop, skip and a jump away. We are a very welcoming, fun group and are always looking for new players of all levels. Are you interested? Just email noogabridgeeast@gmail.com to make a reservation. Need help finding a partner or have a question? You can text or call Sue Riddle at 423.509.3583 or Sharon Lewis at 423.240.5360.

The Fairyland Duplicate Bridge Club

The Fairyland Bridge group plays every Thursday at our Club. This group often combines celebrating special occasions along with a delicious lunch and great cards. Stay tuned to upcoming game announcements to make sure you don't miss the fun. Players should be registered before 10:15 to allow play to begin at 10:30. Lunch is provided between 12-12:30, afterward the game resumes. Reservations are appreciated, please reach out to Susie Crouch at 423.443.6889.

In June, to honor Father's Day will be celebrated with a free day on June 19th for all dads. Don't miss this great opportunity.

Friday Face-to-Face Mentor/Mentee

Our popular Friday Face-to-Face Mentor/Mentee Game occurs on the fourth Friday of the month. Bruce Antman coordinates this game and will have sign-up sheets at the CBC for both Mentors and Mentees. If you can't sign up in person, you can text or call Bruce at 423.290.8207. The Mentee group is growing, and we always need Mentors to help our newer players with valuable on-the-spot advice. Don't be bashful. Sign up early and make Bruce's life easier.

Partnership Committee

If you need a partner, our Partnership Committee can help. All you need to do is text the new Committee Chair, Anne Donnovin at 423.605.2996 and let her know that you're interested in playing more often. Anne will do her best to match players with similar experience and skill levels.

Memorial Donations

Are you considering making a memorial gift to the Chattanooga Bridge Center? Please note that though your contribution is truly needed and

appreciated, it is not tax deductible. Our club is registered as a social club, 501(c)7 not a 501(c)3. Don't let that stop anyone from making a meaningful donation to the club in memory of a special bridge player or the family member of a special member of our club.

GETTING TO KNOW OUR VOLUNTEERS

This is a fairly new article highlighting some of the CBC's dedicated volunteers who turn their energy into solid results. Learn more about **Sharon Lewis:**

NoogaEast was born in the summer of 2016 and created with a director, Sue Riddle and myself. Little did we imagine that we would become directors after a while and do everything associated with the game - set up the game on the computer and set up a lot of tables, direct it, provide snacks, make deposits, find special games, take reservations, order supplies, make boards and remind players sitting north how to score a game. Sue and I complement each other with our skills. She seems to like the computer stuff - I do not. She seems to spend a lot of time in Florida and I do not, so there is always someone here to run the game.

My advice to newer players is: Do not start a new club. It's a lot of work But do go to tournaments as often as you can where you can get all the point colors, have fun, eat different food and meet some very interesting people such as James Holzhauer, Jeopardy Champion, who attended the Hilton Head tournament. NoogaEast has been pretty successful and we appreciate the attendance and are glad to take more reservations.

Sharon Lewis

OUR 2025 THE LONGEST DAY GOAL: \$16,000

WE WILL CELEBRATING TLD IN JUNE



The Chattanooga Bridge Center's The Longest Day website page is active! Unit 206 is making preparations for our very special annual fundraiser - The Longest Day. We have a lot of activities planned - bridge at each of our locations, a TLD party with BBQ, raffle opportunities, snacks and lots more. Plan on playing in TLD games beginning the week of June 16th through Friday, June 20th.

Please remember when we participate in The Longest Day, we are not just raising crucial funds, but we are also championing bridge and brain health in our community. It's a win-win.

Facts:

- More than 1 in 3 seniors dies with Alzheimer's or another dementia.
- More than 6 million Americans are living with Alzheimer's.
- Over 11 million people are serving as unpaid caregivers.
- More than 10 million American women are living with Alzheimer's disease or caring for someone who has it.
- More than 55 million people worldwide are living with Alzheimer's or another dementia.
- The Alzheimer's Association is the largest nonprofit funder of Alzheimer's research.

What are some of the benefits of playing bridge? Bridge is not just any game; it helps us maintain cognitive health. As we like to say, "Love the game, love your brain."

This year's goal is **\$16,000**. Last year we raised a whopping total of \$14,429. Thanks to each of you who have been so generous in the past-I look forward to working with our club members as we honor those who have been deeply affected by Alzheimer's disease or another dementia-let's keep the momentum going! Together we can create a world without

Alzheimer's. In 2024, the Alzheimer's Association raised \$1,214,306 and bridge players across the globe helped make this possible.

Checks should be made payable to Alzheimer's Association and mailed to Jan Alexander, 1459 Sedgefield Drive, Ooltewah, TN 37363.

Mary Robertson

[THE LONGEST DAY ONLINE DONATIONS](#)

Alzheimer's Disease: The Latest Developments

Thank you, Arnie Meagher, for compiling this update on Alzheimer's disease.

Today, Alzheimer's disease impacts more than 6 million Americans and is expected to affect double that by 2050, which is more than breast cancer and prostate cancer combined. However, there is some good news. The US Food and Drug Administration (FDA) on May 16, 2025 approved the first blood test to detect Alzheimer's disease in what federal officials called an important step toward diagnosing and treating the disease at an earlier stage. The test, developed by *Fujirebio Diagnostics*, analyzes the ratio of two proteins in a patient's blood, a measurement that correlates with the presence of amyloid plaques in the brain. The test detects amyloid plaques, a hallmark of Alzheimer's disease, through a blood draw, making it less invasive than other more commonly used diagnostic tools. The amyloid plaques previously required either costly PET (positron emission tomography) scans, or invasive spinal fluid analysis for confirmation. The newly approved test can be used in clinics for patients showing signs of cognitive decline. The results are intended to be interpreted alongside other clinical assessments. The blood test is now authorized for use in clinical practice, but adoption will depend on further integration into care pathways, insurance coverage decisions, and physician familiarity. The test is the culmination of more than 30 years of commitment by *Fujirebio* in the fight against Alzheimer's.

The FDA approval will accelerate the diagnosis process as early diagnosis is crucial for Alzheimer patients to begin treatment with existing therapies that, while not curative, have been shown to slow cognitive decline. The approval comes as two Alzheimer's drugs—*lecanemab* and *donanemab*—are already authorized by the FDA. Both are antibody therapies that target amyloid plaques and are believed to be more effective when administered earlier in the disease's progression. *Fujirebio* said it is working to create packaging and inserts to send out the first shipments. The Pennsylvania-headquartered company is finding partners to make sure the clinical data drawn from the tests can be published and discussed within the clinical community. "We are also engaged with various

patient advocacy groups and medical specialties to ensure that the public is aware of the test, how it should and should not be used and how results are best interpreted," Fujirebio said.

The Alzheimer's community has seen remarkable progress in the past year, with the first disease-modifying therapy, *lecanemab*, receiving traditional approval from the U.S. Food and Drug Administration (FDA) for the treatment of early Alzheimer's in July 2023, followed by *donanemab* receiving traditional approval in July 2024. While NIH did not fund the pivotal phase 3 clinical trials that led to the FDA approvals, NIH funding did enable the essential foundational work for these trials, including research that helped scientists understand the role of amyloid, the protein targeted by these drugs; and develop amyloid PET imaging, a technology central to these trials.

Although the approval of the blood test and the two drugs represents a significant scientific milestone, additional research is needed to understand the impact of these drugs, including addressing amyloid-related imaging abnormalities and other potentially serious concerns observed in some treated individuals. The two drugs were approved to treat early Alzheimer's. There remains a need to test these and other drugs at different disease stages and in more diverse populations. NIH is funding additional trials to evaluate *lecanemab* in treating different stages of Alzheimer's. Some of these trials are using an amyloid blood biomarker test. Recent research indicates that the use of blood tests can reduce costs and time needed to enroll individuals in trials. In addition, the use of this simple blood test may help lower barriers to trial participation and has the potential to expand recruitment to broader, more diverse communities. These drugs also may be combined with other therapeutic approaches to treat Alzheimer's. NIH is funding a clinical trial of *lecanemab* in combination with a second drug candidate to remove tau protein from the brain.

Given the complexity of Alzheimer's, it is unlikely that any one drug or test or other intervention will successfully treat it in all people living with the disease. While recent progress is encouraging, there remains a need for new drugs, alone and in combination with other drugs and/or non-pharmacologic interventions, to treat and prevent Alzheimer's and related dementias. To that end, in fall 2023, NIH began funding the Alzheimer's Disease Tau Platform Clinical Trial, which will test the ability of two tau-targeting therapies to reduce brain tau levels, either alone or in combination with a drug that reduces amyloid protein, in patients with early Alzheimer's. NIH is funding over 230 active clinical trials testing new drug candidates and lifestyle interventions to prevent or treat Alzheimer's and related dementias, and of these trials there are 70 of promising drug candidates that target multiple disease processes. And NIH-funded researchers continue to explore the potential of repurposing existing drugs that are already FDA-approved to treat other diseases and conditions to treat Alzheimer's and related dementias.

Behavioral and lifestyle interventions: While NIH-funded researchers

continue to pursue new drugs to prevent and treat dementia, many behavioral and lifestyle interventions also offer promise in reducing dementia risk and improving cognition and memory. 160 NIH clinical trials are testing a wide range of behavioral and lifestyle interventions, including dietary supplements, cognitive training, and others. Examples of progress include:

Hearing aids: An NIH-funded clinical trial found that hearing aids helped to reduce cognitive decline in a group of older adults with specific risk factors for cognitive decline.

Multivitamins: An NIH-funded clinical trial found that a daily, broad-spectrum multivitamins modestly improved memory in older adults when compared to placebo.

Personalized health coaching: A recent NIH-funded trial found that personalized health coaching improved cognition and reduced dementia risk in older adults with at least two modifiable risk factors for dementia (e.g., low physical activity, hypertension, diabetes, and smoking).

Tailored music listening and sleep: In a small pilot trial in a racially diverse sample of older adults, researchers found that tailored music listening slightly increased total sleep duration. 1,000 people living with dementia residing in nursing homes found that individuals who listened to their preferred music had less frequent incidents of verbally agitated behaviors than those in a control group. Music also appeared to increase observed pleasure in trial participants.

Remote computerized training: With NIH small business grant support, the company *i-Function* developed remote computerized listening that helps those with mild cognitive impairment, learn relevant technology skills, e.g., managing medication, navigating telephone menus for ordering prescription refills, and banking via ATMs and the internet. Further, improvement in these skills lasted beyond the end of training, with greater gains in older adults with mild cognitive impairment.

SPECIAL REMINDER REGARDING NOISE LEVELS AND SCORING

The noise level during play at the Bridge Center has become a problem. The Directors ask for quiet, yet the noise level sometimes remains pretty loud. Players trying to concentrate are disturbed when several tables have finished and people are telling stories, jokes or talking about hands just played. We all like this part of the camaraderie, however, we need to respect the players who are still engaged in making their contract without this disturbance.

Another issue that involves our Directors also needs to be addressed. We are each responsible for making sure we are sitting at the correct table in the correct position every single time. North is responsible for verifying with the

Bridge Mate the above is correct and the correct boards are in the correct order to begin play.

North is responsible for entering in the Bridge Mate all the information related to the contract. Before West confirms the final score, West is also responsible for making sure the contract, the direction of declarer and the results were entered correctly by North. It only takes a matter of seconds to verify this information, but it's an important job. If we all do this job diligently, there will never be a need for a Director to have to return to the Club after hours to correct a score entered incorrectly.

There's nothing that causes more trouble for a Director than players either playing the wrong boards or discovering at the end of play they have too many or too few cards. Occasionally cards get mixed up and put in the wrong slot. So, counting your cards BEFORE you look at them, EVERY HAND is vitally important to avoid this kind of trouble. If there's been a misplaced card, the Director can re-deal the hand before play and there's no penalty. If you are the player with too few or too many cards at the end of play, you will be responsible for penalizing everyone at the table. No one wants to be that person. Just count before you look at the cards please.

This message is being sent to you from the Chattanooga Bridge Center Board of Directors.

BRIDGE WISDOM & HUMOR



Life is like a game of cards. The hand you are dealt is determination; the way you play it is free will. Jawaharial Nehru

Cards are one means of bridging differences in age and habit, drawing children and parents, old and new friends together in fair and friendly competition. Dai Vernon

Love is like a card trick. After you know how it works, it is no fun to play anymore. Fanny Brice

The real test of a bridge player isn't in keeping out of trouble, but in escaping once he's in it. Alfred Sheinwold

If you have the slightest touch of masochism, you'll love this game. Eddie Kantar

Bridge is a great comfort in old age. It also helps you get there faster. One gets used to

abuse. It's the waiting that is so trying. Eddie Kantar

One Last Thing

Speaking of one last thing, John Friedl is retiring as our regular contributor of this educational portion of the newsletter. A long time contributor, John devoted many hours of time and effort in coming up with lesson ideas, their content and writing them out in such a succinct format. John expressed that he enjoys writing; it certainly is obvious that he has a gift for writing, and that he is an advanced player. Please take time to say thank you to John for his dozens of articles on how we can improve our bridge game. If you would like a review of his articles, please let Mary Robertson know and she will share them with you. We also wish John well as he recovers from a serious illness. John, our thoughts and prayers are with you!

By John Friedl

One Last Thing

By John Friedl

A Common 2/1 Mistake

This month's column is for the more advanced players who are using the increasingly popular Two Over One Game Force convention in bridge bidding. In this convention, after the opening bidder bids One Diamond, One Heart or One Spade and Opener's left hand opponent passes, if Responder's (the partner of the opening bidder) first bid is a lower-ranking suit at the two-level the partnership is forced to continue the auction until a game level contract is reached.

There are six Two Over One Game Forcing bid sequences: 1S-2H; 1S-2D; 1S-2C; 1H-2D; 1H-2C; and 1D-2C. Responder will make a game forcing 2/1 bid with a hand with at least opening strength, on the assumption that when each partner holds an opening hand the

combined values are sufficient to make a game. The purpose of using these six sequences to force to game is to allow the partnership to identify when each hand has the values for an opening bid so that they can find their best fit and explore the possibility of a slam without using up a lot of valuable bidding space. So, instead of using jump bids to show a strong hand, which renders an entire level of bidding unavailable, a 2/1 bid uses a minimum amount of space. Knowing that they are forced to game, the players can then bid slowly to find their best fit and to show extra values.

In theory this is a pretty good improvement on the Standard American approach to bidding. In practice, it is only useful if it is applied correctly as part of a larger system of bid sequences that enable the players to describe their hands accurately without manufacturing bids that are likely to create confusion. Let me illustrate this potential problem with the following hand.

Partner opens the bidding with 1 Heart and you hold this hand:

♠ KQ1065 ♥ 74 ♦ KQ10 ♣ AJ5

What is your first bid? You have a good hand with better than minimum opening values, but without good support for partner's heart suit. But if you said anything other than 1 Spade, I urge you to go straight to our club library and take out a book on 2/1 bidding (I recommend either "2 Over 1 Game Force" by Audrey Grant and Eric Rodwell, or "Two Over One" by Mike Lawrence), and read it carefully from cover to cover.

If you are tempted to bid 2 Clubs to show partner that you have game forcing values, how will you ever convince partner that you have five spades and that your club suit is only three cards in length? Let's say you bid 2 Clubs and Partner bids 3 Clubs, showing some support for your "suit." Now you bid 3 Spades, showing your real suit for the first time at the 3-level. Partner doesn't have a diamond stop and so she bypasses 3NT and rebids 4 Clubs. Partner's distribution could be something like 2-5-2-4 or maybe 3-5-1-4. What is your next bid when you hear (or see) partner's 4 Club bid? If you rebid your spade suit by bidding 4 Spades, a reasonable conclusion (certainly the one I would make) would be to assume that because you bid clubs first and then bid spades twice, you have six clubs and five spades, and with a presumed 10-card fit in clubs you might find yourself playing 6 Clubs on an actual 4-3 fit, when you have an 8-card spade fit and a lay-down spade slam. Alternatively, if partner has a minimum opener with only 2-card spade support, you probably missed the best contract of 3 No Trump.

There is no need to manufacture a 2 Over 1 bid to show a good hand if your bidding tools are complete and you have other conventional bids as part of your overall 2 Over 1

system. A bid of 1 Spade on this hand may not be immediately game forcing, but any new suit bid by Responder who has not previously passed is forcing for one round, and Opener cannot pass 1 Spade. What are the possibilities as this auction progresses?

If Opener's rebid is 1NT, Responder can use New Minor Forcing to find out if Opener has 3-card support for spades. Depending on the answer, Responder can bid game in No Trump, bid game in spades, or bid an unbid suit (diamonds in this case) to force the auction for one more round.

If Opener's rebid is 2 Clubs or 2 Diamonds, Responder can bid the fourth suit, which is typically forcing either for one round or to game, depending on partnership agreement.

If Opener's rebid is 2 Hearts (promising at least a six-card suit), Responder can raise to 4 Hearts, or bid an unbid minor suit (forcing one round) before returning to hearts on the next bid. This would show minimal heart support but a very good hand with extra values.

If Opener's rebid is 3 Hearts (showing a solid six-card suit with extra values), Responder can bid 4NT asking for key cards in hearts, on the way to a possible slam in hearts or, depending on Opener's response to 4NT, in No Trump.

I have noticed that as more players have adopted the 2 Over 1 Game Force convention, it is increasingly common to see the manufactured two-level bid by Responder to "show points," but at the same time misdescribing the shape of Responder's hand. I believe this is a symptom of having learned 2 Over 1 as a convention rather than as a system of bidding that incorporates many of the common usages of forcing bids other than the six 2 Over 1 sequences.

Bidding conventions are designed to help us find the best contract, locating a fit in a suit to play as trump or the absence of a fit to let us choose a contract in no trump, and also to help us determine the appropriate level at which to play – part score, game or slam. However, it is important to recognize that conventions used in isolation are not nearly as valuable as when they are used as part of a broad **system** of conventions that enable you to choose the best bid for the cards you hold, depending on whatever sequence comes up in your auction.

Arnie's Angle - For Those Who Wish To Learn More About The World In General By Arnie Meagher



The Hummingbird: My Story

Greetings! My name is Glitter and the evolutionary history of my family is long and fascinating. Shortly after the dinosaurs went extinct 65 million years ago, my family along with other birds descended from a common ancestor. In the long span of life since then, we have gone through countless adaptations and changes in color, aerial prowess and ability to hover, beak formation, and switching from a mostly insect diet to a mostly flower nectar diet in a transformation that took place in close association with flowering plants. Hummingbirds and flowers stimulated the diversification of each other in a dynamic process that biologists call co-evolution or co-adaptation, which is a process by which two species interact and evolve together in response to each other. Hummingbirds have evolved long bills to help them reach nectar deep inside the tube-shaped flowers they feed on, while flowers evolved shorter tubes to facilitate being pollinated and making their nectar more accessible to hummingbirds. Fast forward to 2025, and we find that there are more than 340 species in our hummingbird family. Only one other family of birds on the planet can claim more species, the tyrant flycatcher, with 447 species.

Today, we are found only in the Americas. But that was not always the case. We now know that our family of humming birds originated in the Eastern Hemisphere, in Europe and Asia. Our tiny hollow bones have rarely been preserved in fossils. Nevertheless, hummingbird fossils have been found in the Caucasus and in Western Europe. Fossils discovered in Germany have shown that our hummingbird family lived there 47 million years ago. Why are no hummingbirds found in the Eastern hemisphere today? That is a mystery that biologists are grappling with, but have no clear answers as yet. All of the hummingbird species in the Eastern Hemisphere went extinct some time in the last 30 million years. At some point before our demise in the Eastern hemisphere, millions of years ago, we migrated to the Western Hemisphere. The most likely route of our migration was from Asia across the Bering Sea to North America and southward to Central and South America, from Alaska down to Tierra del Fuego. When we reached the Andes mountains in South America that is where our diversification really went crazy. We had a veritable explosion in the Andes with over 150 new species. Although high elevation habitats are harsh, numerous species of our hummingbird family occupy them, including the Giant Hummingbird. The Andes present a wealth of different habitats across all elevations: streams, canyons, cloud forests, high elevation grasslands, etc.—the greater number of environments provided more niches for both my family of hummingbirds and the plants we depend on to thrive.

Many native American peoples tell stories of this relationship with us, and how we were revered as special creatures of God's creation. The Maya Indians of Central America and Mexico believed that my family of hummingbirds was made from leftover pieces of other birds when the Great God was designing the earth. They thought that the Creator did not waste anything and used all remaining parts of his creations. Because he made us so tiny, he gave us the gift of extraordinary flight with the ability to fly forward, backwards, hover, and even upside-down. When the wedding took place, our feathers were dull and unattractive, so as a way to honor us on our special day, other birds gave us colorful feathers. This is also when spiders offered their silk to the female hummingbird to use for her future nest. The Sun then married the two of us and said when we looked to him he would always make our feathers enchantingly shine. The Aztecs of Mexico used parts of real hummers in the clothing they wore in battle and they thought fallen soldiers would return as hummingbirds. The Aztec God of Sun and War is called Hitzilopochtli or the Hummingbird Wizard. The Inca civilization of Peru viewed us as a sacred animal. They used our feathers in their rituals and believed that we acted as messengers from the spirit world, bringing important news and messages to humans. Only Aztec royalty and religious leaders were allowed to wear hummingbird feathers and they decorated their kings with cloaks made entirely of hummingbird skins. They also believed that if they did not pay homage and show respect to us, it could bring punishment in the form of drought and famine, endangering their crops.

The Navajo Tribe believed that our mating dive was a way for us to see what existed above the sky. The Taino Tribe thought that we represented

rebirth, that we were an emblem of harmony and peace, and regarded us as protectors and named us the "Hummingbird Warriors." The Cherokees shared the belief that we had a spiritual nature and that the medicine man would retrieve plants by turning himself into a hummingbird. The Pueblo Nation believed that many years ago, a demon lost a bet to the Sun and was blinded. The demon was so mad that he spewed out hot lava, catching the whole earth on fire. A hummingbird gathered rain clouds from all four directions to put out the fire, saving all life on earth. As the hummingbird flew away, he flew right through a rainbow creating the bright colors on the hummingbird's throat. Since then the Pueblo Nation has done a hummingbird dance with hummingbird feathers to bring rain. The Hopi and Zuni Nations paint hummingbirds on water jars believing that the hummingbirds long ago intervened with the gods to bring rain to human kind. The story is that many years ago there was a huge famine with food and water becoming very scarce. During this time, a young boy and girl were left alone while their parents were searching in vain for the needed food and water. While waiting, the boy made a toy hummingbird. His sister threw it into the air and it came to life. The hummingbird began to bring the boy and girl an ear of corn every day to help them survive. The hummingbird was very worried about the boy and girl so he flew to the center of the earth and pleaded with the God of Fertility to help. The God of Fertility took pity on them and began to provide rain. The parents returned from their search and they all lived happily ever after. The Taino Nation believed that we were once flies that the Sun Father transformed into little birds. These people saw us as being very peaceful, but able to protect the homeland with the heart of an eagle. To them, the hummingbird was a symbol of rebirth. Because of this the Taino Nation called their warriors - Hummingbird Warriors.

When Columbus landed in the New World, he called us hummingbirds, *Joyas Valadores* - Flying Marvels. Pilgrims arriving in the New World met with Native Americans and were given hummingbird earrings. The pilgrims first thought that hummingbirds were a cross between an insect and a bird. They did not understand how there could be so much life in a little fluff of feathers or how such colors could glisten only in the sunlight. They thought that we hummingbirds were magical, and hummed as we went about collecting nectar. We began to appear in artwork in 1829, bringing the beauty of hummingbirds to everyone around the world. In 1940, Arthur Cleveland Bent wrote the first book about hummingbirds, which was published under the auspices of the Smithsonian Institution. Bent was one of America's outstanding ornithologists and his work quickly became a classic source of information on us as well as on all birds of North America.

Back in 1557, Jean de Léry, published a journal of his travels to Brazil. In it was one of the first descriptions of us hummingbirds to reach the Old World. Early European explorers like Léry had never seen anything like the fearless, tiny birds that buzzed around their heads when they reached the Americas. As a result, we hummingbirds quickly joined the birds-of-paradise as must-haves for any historical collection and Victorian drawing room. In 1851, the Crystal Palace in London exhibited more than

300 hummingbird specimens, dazzling crowds, along with Queen Victoria herself. Sadly, in the nineteenth century, Europe developed a fascination for us little hummers and hundreds of thousands of us were hunted and killed for our skin and feathers. Our feathers were used to make artificial flowers, jewelry and other adornments.

During this time, you could also find us being depicted in art. Poets started to write about us, and John James Audubon gave the first documentation of people feeding us with artificial flowers in his work, *The Birds of America*, 1840-1844. In 1897, Charles A. Stroud of Shelbyville, Illinois, patented a hummingbird feeder in 1897. His patent application called the device a "Humming Bird Waterer". The feeder had a reservoir with liquid flow grooves emptying into artificial flower heads. Unique features included a glass chimney around the reservoir and the ability to rotate the flower heads. John H. Gross of Washington, D.C. received a 1898 patent for his "Artificial Hummingbird Flower". His feeder used metal petals and tubes to draw liquid up from a reservoir. Moving or rotating the petals controlled flow to the tubes. An integrated ant guard prevented crawling insects from reaching the nectar. The early patented hummingbird feeders from Stroud, Gross, and others were creative, but they were often complex and could be challenging to manufacture. By the early 1900s, a simpler and more familiar style of hummingbird feeder emerged – the glass tube feeder. The defining feature of the glass tube hummingbird feeder is their use of elongated glass tubes that serve as reservoirs for the nectar. Multiple tubes are arranged in a circle or other pattern and held vertically. The tubes have openings at the bottom to allow the liquid to drip out at a slow, steady rate. These streamlined feeders eliminated the need for separate reservoirs and complex tubes or grooves. Although the exposed glass made them a bit more fragile, the transparent construction did allow people to easily monitor the nectar levels. The fact that they provided multiple feeding ports made them highly convenient and effective for attracting numerous members of our family.

By the 1950s, feeder manufacturers realized that molded plastic could provide an affordable alternative to hand-blown glass. Plastics allowed transparency, mimicking the glass tube design. One of the first examples of an all-plastic hummingbird feeder was the Featherweight Feeder introduced in 1954. Produced by the Hartz Mountain Corporation, this affordable feeder featured four yellow acrylic feeding tubes sprouting from a round plastic base. Hartz heavily marketed it in magazines like *Good Housekeeping*. Within a few years, numerous other companies jumped in with their own plastic hummingbird feeder models. Plastic provided many advantages compared to glass. It was virtually unbreakable and cheaper to mass produce. This allowed for plastic feeders in a greater variety of styles like flying saucer-shaped or feeders modeled to look like flowers. However, glass tube feeders did not disappear. Both materials remain common in feeders today.

Attachment.png ~

Eight fascinating facts about our hummingbird family:

1. **We are incredibly tuned in.** We have outstanding spatial memory and can remember feeder locations years later. We are also able to keep track of bloom peaks and remember which flowers we've visited. This is because a large portion of our brain is occupied by the hippocampus, an area dedicated to learning and spatial memory.

2. **We visit hundreds of flowers each day.** We have very high energy needs. In order to keep up with our metabolism, we feed continuously throughout the day. The Ruby-throated Hummingbird, for example, can visit more than 1,000 flowers in a day, consuming up to half its weight in nectar between sunrise and sunset.

3. **We are among the smallest birds in the world and weigh lighter than a dime.** The aptly named Bee Hummingbird, endemic to Cuba, is only about 2 inches long and weighs approximately .06 ounces. Other tiny hummingbirds include the 2.5-inch-long Esmeraldas Woodstar, found in Ecuador, and the Frilled Coquette, less than three inches long, is the smallest bird in Brazil.

4. **We're still producing new species.** The Blue-Throated Hillstar was discovered as recently as 2017. Researchers estimate that there are fewer than 1,000 individuals in this new family, found only in a small region in southwestern Ecuador.

5. **Our heartbeats are through the roof.** The hearts of some family members beat as fast as 1,260 beats per minute. Compare that to a human's average heart rate of 60 to 100 beats per minute. Even more amazing, some of us hummingbirds can enter a state of torpor, reducing heart rates to as few as 50 beats per minute to conserve energy and survive cold temperatures.

6. **Our wings beat 60 to 80 times per second.** The name hummingbird comes from the humming sound our wings make as we fly. Our flexible shoulder joints allow our wings to rotate 180 degrees, which enables backward flight and stationary hovering.

7. **We cannot walk.** With out tiny feet we can only perch or scoot sideways. Small feet are an asset as they reduce drag in flight, making us more aerodynamic.

8. **We make amazing migration journeys.** The Calliope Hummer is the smallest long-distance migratory bird in the world, traveling more than 5,000 miles each year. The Rufous Hummer is also a long-distance traveler, taking on a 3,900-mile-long journey. The Ruby-throated Hummer makes a nonstop 500-mile journey across the Gulf of Mexico in less than a day.

Thanks for reading my story and be sure to pass it on to other humans.

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