



International Science Group

ISG-KONF.COM

X

**INTERNATIONAL SCIENTIFIC
AND PRACTICAL CONFERENCE**

**"SCIENCE FOUNDATIONS OF MODERN SCIENCE AND
PRACTICE"**

**Athens, Greece
November 23-26, 2021**

ISBN 978-1-68564-519-9

DOI 10.46299/ISG.2021.II.X

SCIENCE FOUNDATIONS OF MODERN SCIENCE AND PRACTICE

Abstracts of X International Scientific and Practical Conference

Athens, Greece
November 23 – 26, 2021

SCIENCE FOUNDATIONS OF MODERN SCIENCE AND PRACTICE

Library of Congress Cataloging-in-Publication Data

UDC 01.1

The X International Science Conference «Science foundations of modern science and practice», November 23 – 26, 2021, Athens, Greece. 674 p.

ISBN - 978-1-68564-519-9

DOI - 10.46299/ISG.2021.II.X

EDITORIAL BOARD

<u>Pluzhnik Elena</u>	Professor of the Department of Criminal Law and Criminology Odessa State University of Internal Affairs Candidate of Law, Associate Professor
<u>Liubchych Anna</u>	Scientific and Research Institute of Providing Legal Framework for the Innovative Development National Academy of Law Sciences of Ukraine, Kharkiv, Ukraine, Scientific secretary of Institute
<u>Liudmyla Polyvana</u>	Department of Accounting and Auditing Kharkiv National Technical University of Agriculture named after Petr Vasilenko, Ukraine
<u>Mushenyk Iryna</u>	Candidate of Economic Sciences, Associate Professor of Mathematical Disciplines, Informatics and Modeling. Podolsk State Agrarian Technical University
<u>Oleksandra Kovalevska</u>	Dnipropetrovsk State University of Internal Affairs Dnipro, Ukraine
<u>Prudka Liudmyla</u>	Odessa State University of Internal Affairs, Associate Professor of Criminology and Psychology Department
<u>Slabkyi Hennadii</u>	Doctor of Medical Sciences, Head of the Department of Health Sciences, Uzhhorod National University.
<u>Marchenko Dmytro</u>	Ph.D. in Machine Friction and Wear (Tribology), Associate Professor of Department of Tractors and Agricultural Machines, Maintenance and Servicing, Lecturer, Deputy dean on academic affairs of Engineering and Energy Faculty of Mykolayiv National Agrarian University (MNAU), Mykolayiv, Ukraine
<u>Harchenko Roman</u>	Candidate of Technical Sciences, specialty 05.22.20 - operation and repair of vehicles.
<u>Belei Svitlana</u>	Ph.D. (Economics), specialty: 08.00.04 "Economics and management of enterprises (by type of economic activity)"
<u>Lidiya Parashchuk</u>	PhD in specialty 05.17.11 "Technology of refractory non-metallic materials"
<u>Kanyovska Lyudmila Volodymyrivna</u>	Associate Professor of the Department of Internal Medicine

TABLE OF CONTENTS

AGRICULTURAL SCIENCES		
1.	Колодій В.А., Городиська О.П., Гойсюк С.О., Федорук І.В. ВМІСТ БІЛКА В РОСЛИНАХ СОЇ В ЗАЛЕЖНОСТІ ВІД СОРТУ	20
2.	Остапчук О.С., Соваков О.В. ВІДНОВЛЕННЯ СВІЖИХ ДІБРОВ ДП «УМАНСЬКЕ ЛІСОВЕ ГОСПОДАРСТВО» ПРИРОДНИМ ШЛЯХОМ	23
ARCHITECTURE, CONSTRUCTION		
3.	Дмитрук О., Березовецька І. ВОДНІ ДЖЕРЕЛА У ЛАНДШАФТНОМУ ПРОЕКТУВАННІ	27
ART HISTORY		
4.	Голіус В.А. ТЕХНОЛОГІЧНІ ВЛАСТИВОСТІ ШРИФТІВ В ПРОЄКТУВАННІ	30
5.	Зінченко А.Г. КОМП'ЮТЕРНІ ТЕХНОЛОГІЇ У ПРОЄКТНІЙ ГРАФІЦІ	34
BIOLOGICAL SCIENCES		
6.	Aliyeva S. STUDY OF THE MECHANISM OF INTERACTION OF NANOPARTICLES WITH THE PLASMA MEMBRANE OF PLANT CELLS	42
7.	Vorobey M., Pet'ko L. THE BROWN THRASHER: OFFICIAL STATE BIRD OF GEORGIA (USA)	44
8.	Ахмадиев П.А., Дубровин С.В., Сперидонова А.Д., Давлетбаева А.Р., Хисматуллина З.Р. ВЛИЯНИЕ ВОДНОГО ЭКСТРАКТА ЯРУТКИ ПОЛЕВОЙ (THLASPI ARVENSE) НА ПОВЕДЕНИЕ КРЫС	59
9.	Каськів М.В. ЛЯМБЛІОЗ ЯК ОДИН З БІОТИЧНИХ ФАКТОРІВ ВПЛИВУ НА ОРГАНІЗМ ЛЮДИНИ	62

THE BROWN THRASHER: OFFICIAL STATE BIRD OF GEORGIA (USA)

Vorobey Mariia

Student of Faculty of Natural and Geographical Education and Ecology
Dragomanov National Pedagogical University

Pet'ko Lyudmila

Candidate of Pedagogic Sciences, Associate Professor
Dragomanov National Pedagogical University

Creatures of the air, gifted in song, winged, loveliest of them all

Carl Linnaeus

The Brown thrasher is the state bird of Georgia (USA). This bird is threatened today so it is important to discover all the features of it and find out more about the bird (Fig. 1, 3).



Fig. 1. The Brown Thrasher.
M Lysenko, and M. Vorobey (right).



Fig. 2. Our Student project group: V. Novokhatska,



Fig. 3. Map of the United States with Georgia highlighted.

The land that is today the state of Georgia has been inhabited by people for thousands of years (Fig. 3). When Europeans first arrived, various tribes of Native Americans lived throughout the state. The two major tribes were the Cherokee and the Creek. The Cherokee lived in the northern part of Georgia and spoke an Iroquoian language. The Creek lived in the southern portion of Georgia and spoke the Muskogean language.

SCIENCE FOUNDATIONS OF MODERN SCIENCE AND PRACTICE

Both the Cherokee and the Creek were considered part of the "Five Civilized Tribes." The Seminole tribe of Florida grew largely out of the Creek peoples of Georgia [46; 38].

*In 1928, the school children of Georgia selected the brown thrasher (*Toxostoma rufum*) as the state bird. According to Nature Magazine (April, 1932),*

"The Campaign was inaugurated by the Fifth District of the State Federation of Women's Clubs and was sponsored by the Atlanta Bird Club and kindred groups."

Proposals were made to the Legislature and bills to adopt the brown thrasher as the state bird were introduced, but no action was taken.

On April 6, 1935, the brown thrasher was declared the state bird of Georgia by proclamation of Governor Eugene Talmadge (Fig. 4, 5), see the videos [9; 18].

Thirty-five years later, at the urging of the Garden Clubs of Georgia, the Georgia General Assembly passed Joint Resolution No. 128, that designated the brown thrasher the official Georgia State Bird and the Bobwhite Quail the official Georgia State Game Bird. The resolution was approved on March 20, 1970 [27].

Thus, The Brown Thrasher, a big, foxy red songbird with a repertoire of more than 1,000 song types, became Georgia's state bird in 1935 by a proclamation of the governor. In 1970, at the request of the Garden Clubs of Georgia, the legislature recognized the thrasher as Georgia's official state bird.



**Fig. 4. Georgia official state bird: the Brown Thrasher.
(*Toxostoma rufum*)**

Also, the Brown Thrashers are one of the best and most spectacular singers of all North American birds (Fig. 6). Avid bird watchers enjoy the chance to see and hear these birds [28]. Brown thrashers sing from a small patch of young oak and bushes in the middle of prairie. Sometimes singing from the very top of the tree, sometimes from within the bushes [7], see the video [11]. **Fig. 6. Singing Brown Thrasher.**



**Fig. 5. Georgia State Bird and Flower
(Cherokee Rose / *Rosa laevigata*)**



The Brown Thrush, or Thrasher, by which names this bird is generally known,

may be said to be a constant resident in the United States, as immense numbers are found all the year round in Louisiana, the Floridas, Georgia, and the Carolinas. Indeed some spend the winter in Virginia and Maryland. During spring and summer they are met with in all our Eastern States. They also enter the British provinces, and are sometimes seen in Nova Scotia. It is the most numerous species found in the Union, excepting the Robin (Fig. 9) or Migratory Thrush. Those which breed in the Middle and Eastern Districts return to the south about the beginning of October, having been absent fully six months from that genial region, where more than half of the whole number remain at all seasons. They migrate by day, and singly, never congregating, notwithstanding their abundance. They fly low (Fig. 7), or skip from one bush to another, their longest flight seldom exceeding the breadth of a field or river. They seem to move rather heavily, on account of the shortness of their wings, the concavity of which usually produces a rustling sound, and they travel very silently [4], see video [16].

The brown thrasher has been noted for having an aggressive behavior, and is a staunch defender of its nest (see the video [8]). However, the name does not come from attacking perceived threats, but is believed to have come from the thrashing sound the bird makes when digging through ground debris [7], see video [21].

Brown thrasher (Fig. 8) is longer-tailed and slightly larger than a robin (Fig. 9). Rich rufous upperparts and heavy dark streaking on whitish underparts. Yellow eyes. Often skulks in thick vegetation in scrubby fields and forest edges. Mimics other species in its song, delivering a complex string of paired phrases (see the video [19]).



Fig. 7. The Brown Thrush flies low.

Photo by Kerri Farley.



Fig. 8. Brown thrasher.



Fig.9 . American robin.

The brown thrasher resides in various habitats. It prefers to live in **woodland edges, thickets and dense brush**, often searching for food in dry leaves on the ground.

It can also inhabit areas that are agricultural and near suburban areas, but is less likely to live near housing than other bird species [7].

Between 1966 and 2015 populations of brown thrasher's have declined by 41% according to the "North American Breeding Bird Survey." Like all birds, they suffer from habitat loss, die from exposure to pesticides as well as natural predators like sharp-shinned hawks. In the United States alone it is estimated that the domestic house cat kills from 1.4 billion to 3.7 billion birds a year. Cell towers and skyscrapers kill millions more as birds that migrate often fly at night and whole flocks are killed when they collide with these structures that are unnaturally tall, and of course, cars kill many millions more. With statistics like these one has to wonder how there are any birds left at all [33].

Ecosystem roles include competition with other birds for nesting sites and resources. Also these birds are prey for many snakes and other birds [28], see the [video \[5; 2; 45\]](#): **birds of prey** (also known as raptors, include species of bird that primarily hunt and feed on vertebrates that are large relative to the hunter (Fig. 10, 15).

Birds of prey, also known as raptors, include species of bird that primarily hunt and feed on vertebrates that are large relative to the hunter. Additionally, they have keen eyesight for detecting food at a distance or during flight, strong feet equipped with talons for grasping or killing prey, and powerful, curved beaks for tearing flesh. The term raptor is derived from the Latin word *rapiō*, meaning to seize or take by force [6].

Brown thrashers are usually territorial and are found in pairs or with offspring during the breeding season. They compete with other birds for habitat and nesting areas. This competition results in hostile encounters with birds like **gray catbirds** (*Dumetella carolinensis*) (Fig. 11). Mostly it is males that are aggressive towards other birds. During winters brown thrashers often make other birds move out of their feeding areas [22]. To respond to predation, brown thrashers have a few natural defenses. Adults are aggressive and often chase predators from the nest. Adults will use their bill to hit predators, these are large birds and they can cause significant damage to small and medium-sized predators. Other defenses include flapping their wings and vocalizations [28], see [video \[8\]](#).

Gray catbirds (*Dumetella carolinensis*) (Fig. 11) have been documented visiting brown thrasher nests to break the eggs. Two hypotheses are proposed to explain this heterospecific egg destruction behavior: resource competition and egg predation. These birds both live in shrubs and have similar timing in breeding. They compete for the resources of this habitat. Once *the catbird* has broken the egg, usually it will



Fig. 10. Peregrine falcons (*Falco peregrinus*).

Fig. 11. Gray catbirds.

consume the contents. This egg consumption is consistent with the proposed egg predation hypothesis. The eggs of brown thrashers are also preyed on by many species of snakes (see the videos [48; 30; 13; 23]). Adults and nestlings are preyed on by falcons [28], Fig. 10.

Known Predators: Peregrine falcons (*Falco peregrinus*) (Fig. 10; 15), **video** [35], Eastern yellowbelly racers (*Coluber constrictor*) (Fig. 12), Common garter snakes (*Thamnophis sirtalis*) (Fig. 14), Great Plains rat snakes (*Pantherophis emoryi*), Common king snakes (*Lampropeltis getula*), Milk snakes (*Lampropeltis triangulum*), Prairie king snakes (*Lampropeltis calligaster*), Black rat snake (*Pantherophis obsoletus*), Bull snakes (*Pituophis*), domestic cats (*Felis silvestris*) (Fig. 16) [28].



Fig. 13. Eastern yellowbelly racers (*Coluber constrictor*).

Fig. 14. Common garter snakes

Fig. 12. Coluber constrictor. One of the two brown thrasher chicks from the nest, which was in a bush just a couple of feet off the ground. The parents tried to run off the snake, but it climbed a tree. (Photo by Linda Largent).



Fig. 15. Peregrine falcons (*Falco peregrinus*)

Fig. 16. Domestic cats (*Felis silvestris*).

The brown thrasher was originally described by Carl Linnaeus (Fig. 17) in his landmark 1758 10th edition of *Systema Naturae* as **Turdus rufus** (see the videos 25; 1), (Fig. 18). The genus name *Toxostoma* comes from the Ancient Greek *toxon*, "bow" or "arch" and *stoma*, "mouth". The specific *rufum* is Latin for "red", but covers

a wider range of hues than the English term. Although not in the thrush family, this bird is sometimes erroneously called the brown thrush [7; 47].

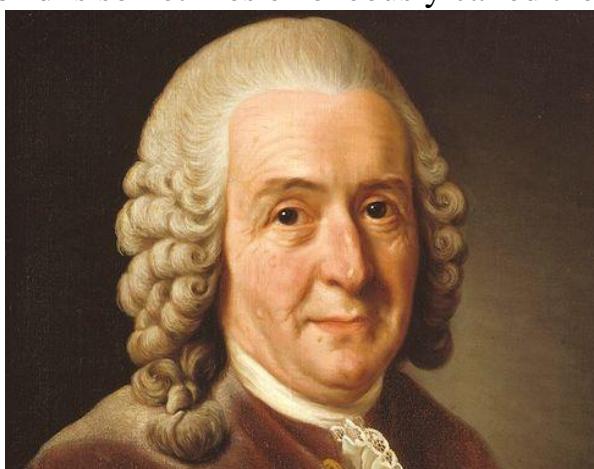


Fig. 17. Carl Linnaeus.

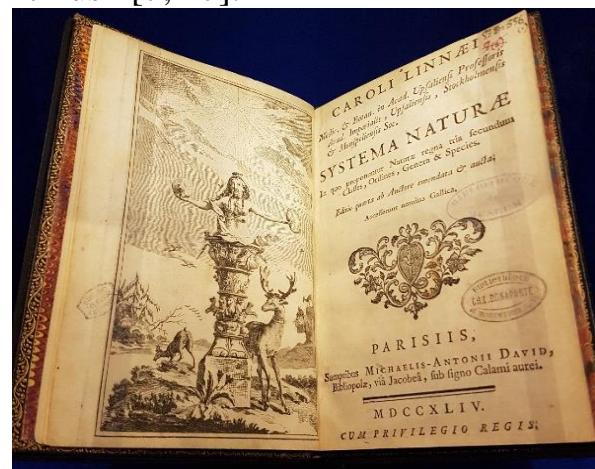


Fig. 18. *Systema Naturae* as *Turdus rufus* by Carl Linnaeus.

The 'brown thrasher' (*T. rufum rufum*) lies in the eastern half of Canada and the United States [32] (Fig. 19, 20).



Fig. 19. The brown thrasher.

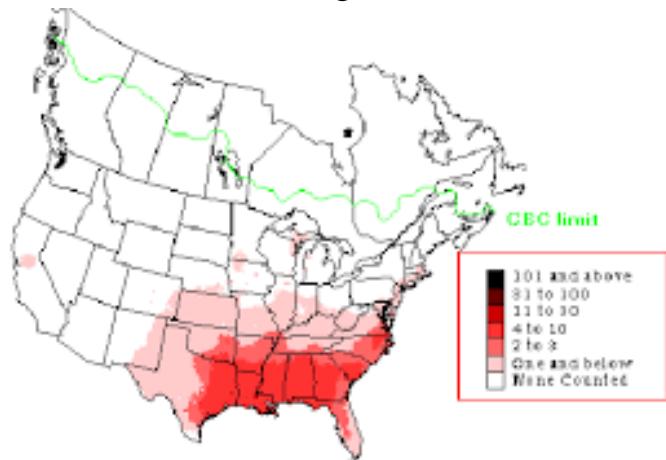


Fig. 20. The map of the USA and Canada.

The brown thrasher is bright reddish-brown above with thin, dark streaks on its buffy underparts. It has a whitish-colored chest with distinguished teardrop-shaped markings on its chest. Its long, rufous tail is rounded with paler corners, and eyes are a brilliant yellow. Its bill is brownish, long, and curves downward. Both male and females are similar in appearance. The juvenile appearance of the brown thrasher from the adult is not remarkably different, except for plumage texture, indiscreet upper part markings, and the irises having an olive color [14], Fig. 21.



Fig. 21. The adult (left) and juvenile brown thrasher.

They feed by sweeping their long bills through leaf litter to uncover insects and other invertebrates ([see video \[24\]](#)). They are slow, short-distance fliers with a distinctive jerky, fluttering flight style. Brown Thrashers are monogamous during a breeding season, but it isn't known whether pairs stay together from year to year. They breed in such dense vegetation that little is known of their courtship; the few observations that exist suggest that a courting pair presents each other with twigs or dead leaves, after which the male may briefly chase the female before mating [17].



Fig. 25. Brown Thrasher, *Toxostoma rufum* (USA), and their song are coherent phrases that are iterated no more than three times. By the fall, the males sing with smoother subsongs and during the winter, they may also sing in short spurts during altercations with neighboring males [3], [video \[20\]](#).



Fig. 26. Singing male.

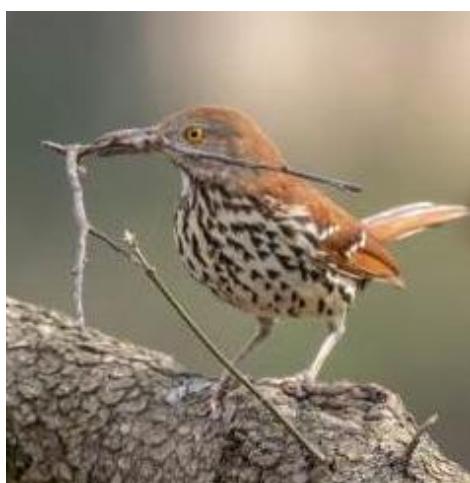
Fig. 27. A present to the male.

typically sing phrases only twice before moving on. It is beautiful really, to know someone is always watching over you [10].

Males will sing gentler as they sight a female, and this enacts the female to grab a twig or leaf and present it to the male, with flapping wings and chirping sounds (Fig. 26, 27, 31). The males might also present a gift in response and approach the female. Once mates find each other both sexes will take part in nest building [3].

Brown Thrasher nests are often concealed in thick bushes, hedgerows or brush piles, they are not easy to find. In both winter and summer, the Brown Thrasher is found in thickets and brushy edges of woodland. Yapon (*Ilex vomitoria*) [32] is a favorite cover plant (Fig. 28). The nest is placed in a bush or small tree, usually 0.9–2.4 m (3–8 ft) above ground, but occasionally on the ground. The nest is a rough, bulky cup of twigs, sticks, strips of bark, grass, weed stalks, rootlets and leaves, all firmly interwoven (Fig. 29). The nest is lined with bark of grapevine and other woody plants, fine roots, grass, weed stalks, leaves, horsehair and a few feathers [52], [video \[32\]](#).

Brown thrashes are elusive birds and usually seen solo or in pairs. They fly low to the ground (Fig. 25) and when they feel bothered, thrashers usually hide into thickets and give cackling calls. These birds spend most of their time on ground level or near it. When seen, it is commonly the males that are singing from unadorned branches. The males' singing voice usually contains a melodic tone



Brown Thrashers

They then swipe the floor in side-to-side motions and investigate the area they recently foraged in. Brown thrashers have an array of sounds they will make in various situations. Both male and females make 'smack' and 'teeooo-like' alarm calls when provoked, and 'hijjj' sounds at dusk and dawn. Other calls may consist of an acute, sudden 'chakk', 'rrrrr', a 'Tcheh' sound in the beginning that ends with an 'eeeur', 'kakaka', and sounds reminiscent of a stick scraping a concrete sidewalk [3].



Fig. 28. Yapon (*Ilex vomitoria*). Fig. 29. Yapon (*Ilex vomitoria*): berries. Fig. 30. Brown Thrasher in hand.

The Brown Thrasher is a symbolic representation of stability, balance, harmony, and inclusivity... Whether the Brown Thrasher Bird appears in dreams, visions,

waking life or synchronicities, it is a sign and message that there are enemies, that are scratching their heads wondering why their attempts to thwart your plans have been unsuccessful. Something or someone from the beyond is protecting you [31].

A bird flew into our house from one door and out the other. Brown birds are linked to healing and good health. The meaning of the bird reassures you that if you leave all the weight of your past behind, you will experience a different kind of lightness and freedom in... Yellow birds mean you should keep your guard up. The male sings a loud, long series of doubled phrases with no definite



Fig. 31. Singing Brown Thrasher Bird. beginning or end, described by some people as "plant a seed, plant a seed, bury it, bury it, cover it up, cover it up, let it grow, let it grow, pull it up, pull it up, eat it, eat it." While mockingbirds tend to repeat phrases three or more times, Brown Thrashers typically sing phrases only twice before moving on. It is beautiful really, to know someone is always watching over you [31].

The Brown Thrasher: Body

Length Range: 29 cm (11.5 in)

Weight: 68 g (2.4 oz)

Size: Medium (9 - 16 in)

Color Primary: Brown, Buff

Underparts: Buff with heavy black streaking.

Upperparts: Red-brown

Back Pattern: Solid

Belly Pattern: Striped or streaked

Breast Pattern: Striped or streaked [57; 22] (Fig. 32).



Fig. 32. The Brown Thrasher: Body

The Brown Thrasher: Head

Bill Shape: Curved (up or down) (Fig. 33)

Eye Color: Orange to orange-yellow.

Head pattern: Plain, Malar or malar stripe

Crown Color: Red-brown

Forehead Color: Red-brown

Nape Color: Rufous or rust

Throat Color: Buff with heavy black streaking.

Cere color: No Data [57; 22].



Fig. 33. The Brown Thrasher: Head.



Fig. 34. The Brown Thrasher takes Fly.
Photo by Alan Murphy.

The Brown thrashers start breeding from February to June, depending on the area where they are found. Brown thrashers lay 3 to 5 eggs each breeding season (Fig. 35, 36, 37). Incubation takes about two weeks, once the eggs have hatched, nestlings take from 9 to 13 days to fledge. Independence is reached 17 to 19 days later. Brown thrashers breed once yearly. Breeding season varies geographically. Brown thrashers lay three to five eggs each breeding season. Incubation takes about two weeks, once the eggs have hatched, nestlings take from 9 to 13 days to fledge. Independence is reached 17 to 19 days later.

Both parents incubate, brood, and feed nestlings.



Fig. 35. The Brown thrasher on nest.

They incubate by sitting tightly on the nest and slip off when disturbed. During the incubation period, the female does the majority of the incubating. Both parents feed the chicks [44], see videos [15; 29], Fig. 37, 38, 39.

Nesting Facts

Clutch Size: 2–6 eggs

Number of Broods: 1-2 broods

Egg Length: 1.0-1.1 in (2.6-2.7 cm)

Egg Width: 0.8-0.8 in (1.9-2 cm)

Incubation Period: 10-14 days

Nestling Period: 9-13 days

Egg Description: Glossy pale blue, pale greenish blue, or white, with many red-brown speckles.

Condition at Hatching: Eyes closed; pink skin with scattered tufts of gray-white down [17; 22].



Fig. 36. The nest and eggs.



Fig. 37. The Brown Thrasher's chick. Fig. 38. Feeding chicks. Fig. 39. Baby Brown Thrasher.

The Brown Thrasher: Scientific classification. *Toxostoma rufum*

(Linnaeus, 1758) Taxonomic Serial No.: 178627

Kingdom: Animalia

Taxonomic Rank: Species

Common Name(s): Brown Thrasher (English)

Subkingdom: Bilateria

Infrakingdom: Deuterostomia

Phylum: Chordata

Subphylum: Vertebrata

Infraphylum: Gnathostomata

Superclass: Tetrapoda

Class: Aves – Birds, oiseaux

Order: Passeriformes

Family: Mimidae Bonaparte, 1853 – Mockingbirds, Thrashers

Genus: Toxostoma Wagler, 1831 – American Thrashers (Fig. 40)

Species: *Toxostoma rufum*. (Linnaeus, 1758)

Cuitlacoche rojizo (S

moqueur roux (French),

Brown Thrasher (English) [51].



Fig. 40. Brown Thrasher Portrait: Adult (below), Juvenile (in the center)

Synonyms: *Orpheus rufus* Swainson, 1831

Harporrynchus rufus Baird, 1858

Range mass: 89 (high) g

Average mass: 68.8 g

Range length: 235 to 305 mm

Range wingspan: 94 to 111 mm

Range lifespan. Status: wild, 12 (high) years

Animal Foods: insects

Plant Foods: seeds, grains, and nuts, fruit.

[44; 14], Fig. 41.



Fig. 41. Brown Thrasher with chick.

To sum up. The Brown Thrasher is also a representation of free will. If things look or appear opposing right now, then you need to be willing to put in the work necessary to allow things and situations to move with ease. Nothing will work unless you're willing to. If you don't like where you are right now, seek



Fig. 42. Song bird: Brown thrasher.

clarity before choosing and make choices that will suit your purpose entirely [31].



Fig. 43. Brown thrasher family.

Bird Flying into Window Spiritual Meaning. What you really have to be careful about is that feathers are sent to you for a reason, always be conscious of your thought or what have you been asking for when you receive a feather from them... If a bird flies into your window it could mean

you are vulnerable to what the

universe has in store for you. Peace and contentment is associated with gray colors. When you receive a green feather it is an indication of healing, nature, plants and everything that has to do with abundance [10].

References

1. A film about Carl Linnaeus | Natural History Museum. URI : https://www.youtube.com/watch?v=Gb_IO-SzLgk
2. ADW: *Toxostoma rufum* Brown thrasher. URI : https://animaldiversity.org/accounts/Toxostoma_rufum/
3. Animalia. Brown Thrasher. URI : <https://animalia.bio/brown-thrasher>

SCIENCE FOUNDATIONS OF MODERN SCIENCE AND PRACTICE

4. Audubon John James. State Bird of Georgia – The Brown Thrasher / Web version of John James Audubon's work. "The Birds of America" Portions copyright © Creative Multimedia Corp., 1992. URI : <https://www.50states.com/bird/georgia.htm>
5. Alwood Jo. Thrasher Attacking Nest Predators; NARRATED
URI : <https://www.youtube.com/watch?v=ZGlDEBeS4H8>
6. Bird of prey. URI : https://en.m.wikipedia.org/wiki/Bird_of_prey
7. Brown thrasher. URL: https://en.m.wikipedia.org/wiki/Brown_thrasher
8. Brown Thrasher Attacking Nest Predators; NARRATED. URI :
<https://www.youtube.com/watch?v=ZGlDEBeS4H8>
9. Brown Thrasher (2020): Film, Directed by Kevin Jerom Everson. URI :
<https://letterboxd.com/film/brown-thrasher/>
10. Brown thrasher biblical meaning. *Welcome to Southwind Orchards*. November 13, 2020. URI : <https://southwindorchards.com/forum/brown-thrasher-biblical-meaning-865519>
11. Brown thrasher bird call / song / sounds. URI :
<https://www.youtube.com/watch?v=kdyJ9qKFbsc>
12. Brown Thrasher Birds. URI :
<https://www.youtube.com/watch?v=aqUDVjnJhU8>
13. Brown Thrasher Bird vs. Black Snake. URI :
<https://www.youtube.com/watch?v=XEDGsTA23-I>
14. Brown thrasher facts for kids. Kids Encyclopedia Facts. URI :
https://kids.kiddle.co/Brown_thrasher
15. Brown Thrasher feeding babies. URI :
<https://www.youtube.com/watch?v=kY8jtDWQ9To>
16. Brown Thrasher, Georgia State Bird. URI :
<https://www.youtube.com/watch?v=Wrb3srjyMw4>
17. Brown Thrasher: Life History. URI :
https://www.allaboutbirds.org/guide/Brown_Thrasher/lifehistory
18. The Brown Thrasher: NARRATED. URI :
<https://www.youtube.com/watch?v=Y51KY-d50QE>
19. Brown Thrasher Singing 1 and Sound | Brown Thrasher Bird Call. URI :
<https://www.youtube.com/watch?v=Cw8NzdCOt4Q>
20. Brown Thrasher's Smack or Smacking Call. URI :
<https://www.youtube.com/watch?v=NP882aYYmGw&t=1s>
21. Brown Thrasher Thrashing! URI : <https://www.youtube.com/watch?v=NrhR6yiFqA>
22. Brown thrasher *Toxostoma rufum*. URL:
http://www.biokids.umich.edu/critters/Toxostoma_rufum/
23. Brown Thrasher trying to swallow Garter Snake. URI :
<https://www.youtube.com/watch?v=Vzpt1sYMu-o>
24. Brown Thrasher Up Close and Natural. URI :
<https://www.youtube.com/watch?v=c5kLeSXw8xQ>
25. Carl Linnaeus: The Father of Taxonomy. URI :

SCIENCE FOUNDATIONS OF MODERN SCIENCE AND PRACTICE

<https://www.youtube.com/watch?v=RcA7wuOkBvc>

26. Domska V., Pet'ko L. Massachusetts State Berry: Cranberry / Actual problems of modern science and practice : the XXXII International Science Conference (Boston, June 29–July 02, 2021). USA. Boston : Bookwire™. 2021. Pp. 25–38.

URI : <http://enpuir.npu.edu.ua/handle/123456789/34668>

27. Georgia. Georgia State Bird. The brown thrasher (*Toxostoma rufum*) URI : https://www.netstate.com/states/symb/birds/ga_brown_thrasher.htm

28. Gray Phillip. *Toxostoma rufum* brown thrasher URL:

https://animaldiversity.org/accounts/Toxostoma_rufum/

29. Hand Feeding Brown Thrashers. URI :

<https://www.youtube.com/watch?v=uloShH5idls>

30. Huge Snake VS. Brown Thrasher. URI :

<https://www.youtube.com/watch?v=39BJPEWWqNo>

31. Quaornesha S.Lemon. Sacred Spirit Animal Symbolism. Brown Thrasher. URI : <https://www.powerfulmystic8.com/sacred-spirit-shaman-blog/2018/9/9/sacred-spirit-shaman-spirit-animal-symbolism-brown-thrasher>

33. Ilex vomitoria (Yapon). *Gardenia*. URI : <https://www.gardenia.net/plant/ilex-vomitoria>

33. LaCombe Robert. Brown Thrashers, Black Snakes and Chickadees. *Grayson Landcare*. June 9, 2018. URI : <https://graysonlandcare.org/2018/06/brown-thrashers-black-snakes-and-chickadees/>

34. Martynova D., Pet'ko L. The Live Oak: The official State Tree of Georgia (USA) // Trends in science and practice of today: abstracts of XXVIII International Scientific and Practical Conference (Ankara, 1–4 June 2021). Turkey, Ankara : Bookwire™. 2021. Pp. 39–48.

URI : <http://enpuir.npu.edu.ua/handle/123456789/34197>

35. Meet a Bird of Prey – Peregrine Falcon. URI : <https://www.youtube.com/watch?v=xWcUEUlz5WM>

36. Nest Watch. URI : <https://nestwatch.org/connect/hth-contest-2016/brown-thrasher-vs-black-snake/>

37. Novak T., Pet'ko L. The beaver as a national symbol of Canada // Актуальні питання науки: матеріали І міжнародної наук.-практ. інтернет-конференції (м. Бердянськ, 30 квітня 2020 р.). Бердянськ : БДПУ, 2020. 202 с. С. 26–35.

38. Pechonchyk O., Pet'ko L. The Cherokee Rose as a Symbol of Native Americans Memory of Pain, Suffering, Sorrow, and Tears along The Trail of Tears. *Innovative technologies in science and practice: Proceedings of the 6th International Scientific and Practical Conference* (Haifa, 26–29 October 2021) Haifa, Israel, 2021, pp. 44–59
URI : <http://enpuir.npu.edu.ua/handle/123456789/35325>

39. Pet'ko L. V. Development of students' cognitive activity in foreign language teaching for professional purposes by using analogy method // Actual problems of globalization: Collection of scientific articles. Midas S.A., Thessaloniki, Greece, 2016. P. 232–237. URI <http://enpuir.npu.edu.ua/handle/123456789/11301>

SCIENCE FOUNDATIONS OF MODERN SCIENCE AND PRACTICE

40. Pet'ko Lyudmila. Developing students' creativity in conditions of university / Lyudmila Pet'ko // Research: tendencies and prospects: Collection of scientific articles. Editorial Arane, S.A. de C.V., Mexico City, Mexico, 2017. P. 272–276.
41. Pet'ko L., Faut M. Rose: America's National Flower // Current Trends in the Development of Science and Practice: papers of the XXIth International scientific and practical conference (15–16 June, 2020). Haifa, Israel. Publisher : International Science Groupe. 2020. Pp. 48–54.
URI : <http://enpuir.npu.edu.ua/handle/123456789/29618>
42. Pet'ko L., Ostapchuk A. Edelweiss – Symbol of the Alps // Science and Society: Collection of scientific articles. – Fadette editions, Namur, Belgium, 2020. 104 p. PP. 86–94. URI: <http://enpuir.npu.edu.ua/handle/123456789/28939>
43. Pet'ko L., Turchynova G., Faut M. The Wild Prairie Rose: official State Flower of North Dakota and Iowa // Theoretical Foundations for the Implementation And Adaptation of Scientific Achievements in Practice : papers of the XXIInd International scientific and practical conference (22–23 June, 2020). Helsinki, Finland. Publisher : International Science Groupe. 2020. Pp. 106–114.
URI : <http://enpuir.npu.edu.ua/handle/123456789/29966>
44. PEREGRINE FALCON – a dive fighter! The FASTEST animal on the planet!
URI : https://www.youtube.com/watch?v=1_8hz4bHfYY
45. Peregrine Falcon Sky Dive – Inside the Perfect Predator – BBC. URI : <https://www.youtube.com/watch?v=legzXQlFNjs>
46. State Georgia History. URL : https://www.ducksters.com/geography/us_states/georgia_history.php
47. Thrasher-identification chart. URI : <https://aziba.org/wp-content/uploads/2016/01/THRASHER-IDENTIFICATION-CHART-2.pdf>
48. Thrasher vs. King Snake | National Geographic. URI : <https://www.youtube.com/watch?v=HEFJBvghpng>
49. Tsygankova E., Pet'ko L. The Akita Inu : Japanese National Heritage // Science, theory and practice : abstracts of the XXIX International Scientific and Practical Conference (Tokio, 08–11 June 2021). Japan. Tokio : Bookwire™. 2021. 620 p. Pp. 57–72. URI : <http://enpuir.npu.edu.ua/handle/123456789/34298>
50. Tsygankova E., Pet'ko L., Turchynova G. The State Dog of Massachusetts: Boston Terrier : abstracts of the Ist International Science Conference on Multidisciplinary Research (Berlin, January 19–21, 2021), Germany, Berlin . Bookwire™. 2021. 1115 p. Pp. 130–139.
URI : <http://enpuir.npu.edu.ua/handle/123456789/33011>
51. *Toxostoma rufum* (Linnaeus, 1758). URI : https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=178627#null
52. Tweit Robert C. (2006). The Texas Breeding Bird Atlas. URI : <https://txtbba.tamu.edu/species-accounts/brown-thrasher/>
53. Varenya N., Pet'ko L. Floral Emblem of Massachusetts: Mayflower (*Epigaea repens*, *Trailing Arbutus*). Problems of modern science and practice: the I International Science Conference (Boston, September 21–24, 2021). USA. Boston : Bookwire™. 2021. Pp. 64–73.

URI : <http://enpuir.npu.edu.ua/handle/123456789/35057>

54. Петъко Л. В. Імператив глобалізаційних перспектив – формування професійно спрямованого іншомовного навчального середовища в умовах університету / Л.В.Петъко // Педагогіка вищої та середньої школи: зб.наук.праць ; за ред. З.П.Бакум. Криворізький педагогічний інститут ДВНЗ «Криворізький національний університет». Вип. 41. Кривий Ріг : Друкарня Романа Козлова, 2014. С. 254–261.
55. Петъко Л. Компетентнісний підхід у професійному становленні студентів-біологів (на прикладі вивчення троянд в іншомовних джерелах). *Українська полоністика*. 2020. Том 18 (20).
56. Петъко Л.В. Професійно орієнтовані технології навчання ІМ як засіб формування професійно орієнтованого іншомовного навчального середовища в умовах університету / Л.В.Петъко // Міжнародний науковий форум: соціологія, психологія, педагогіка, менеджмент: зб. наук. праць ; ред. М.Б.Євтух. Київ : ТОВ «НВП «Інтерсервіс», 2015. – Вип. 18. – С. 179–188.
57. Field Guide to Birds of North America. Brown Thrasher. URI : https://identify.whatbird.com/obj/679/identification/Brown_Thrasher.aspx