



Building Bridges

Connecting Diaspora Armenian Students with Their Environmental Heritage

A newsletter of the Armenia Tree Project Ages 6-10, Issue No. 8

www.armeniatree.org



Spot these threatened animals!

4 Caucasian Leopards

4 Darevsky's Vipers

5 Armenian Mouflons

12 White-Headed Ducks

3 Bezoar Goats

FORESTS ARE LIFE

Forests are one of Earth's greatest treasures.

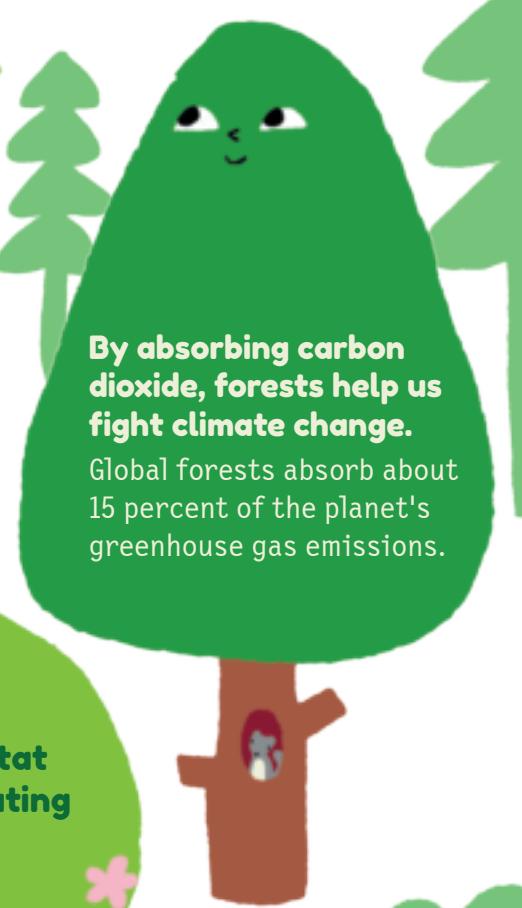
Here are the many reasons why they are essential for life on Earth.



Oxygen is found in the air around us, and a lot of it comes from trees. People and animals breathe in oxygen and exhale carbon dioxide. Plants use carbon dioxide and produce oxygen!



More than 40 percent of the world's oxygen is produced by rainforests.



By absorbing carbon dioxide, forests help us fight climate change.

Global forests absorb about 15 percent of the planet's greenhouse gas emissions.



Forests provide a habitat for wildlife and pollinating insects.

80% of the Earth's land animals live in forests.



Forests are home to around 300 million people.



The Efe, also known as pygmies, have lived in the Ituri Forest in the Democratic Republic of Congo for thousands of years.



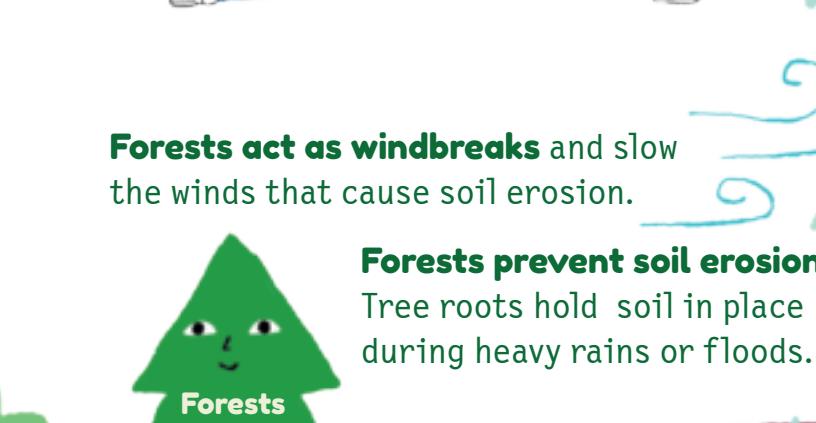
Forests help lower air temperatures by releasing water vapor into the air.



Forests provide shade and protect us from harmful ultraviolet rays.



Forests create rain – most of the rain that falls inland is caused by the water transpired from tree leaves (as opposed to the rainfall along the shore which is caused by the water evaporated from the ocean).



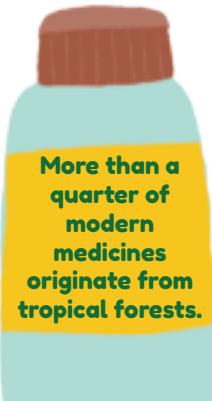
Forests act as windbreaks and slow the winds that cause soil erosion.



Forests prevent soil erosion.
Tree roots hold soil in place during heavy rains or floods.



Forests provide us with useful materials such as wood, paper, rubber, chocolate, coffee, and medicines.



Forests purify water by allowing rain to filter through the soil instead of flowing on the surface.



People visit forests to explore wildlife and enjoy other outdoor activities such as hiking and camping.



Even a dead tree is an important part of forest life. Many animals such as millipedes, beetles, spiders, toads, snakes, and salamanders live under decaying logs.

ENDANGERED FORESTS

The bad news: eight thousand years ago, half of our land was covered by forests. Today forests make up just over 30% of the Earth's land area.

Deforestation is the removal of a forest to clear land for other purposes.

1. Forests are cut down to provide land for planting more crops and raising livestock.

2. As the population grows, forests are cut down to make room for roads and buildings.

3. Many forests are cleared for the production of wood and paper products and for mining.

4. In recent years, wildfires have contributed to record losses in global forests.



Loss of habitat

The main impact of deforestation is the loss of habitat for millions of species. Animals are endangered and become extinct because of habitat loss.

THERE ARE PROBABLY LESS THAN FIVE CAUCASIAN LEOPARDS IN ARMENIA.

4 to 6 thousand rainforest species are going extinct each year!

Loss of biodiversity

When species become extinct, biodiversity decreases. Biodiversity is the variety of living organisms in a given area. It is essential for sustaining life on Earth because all species depend on one another.

Desertification

When forests are cut down, there is no longer a canopy to block the sun and the soil quickly dries out. There is also less rainfall when forests are cleared (see page 3). Therefore many former forest lands can become deserts.

Almost 82% of the territory in Armenia is threatened by desertification!

THE ARARAT VALLEY IS ON THE VERGE OF BECOMING A DESERT.

Global warming

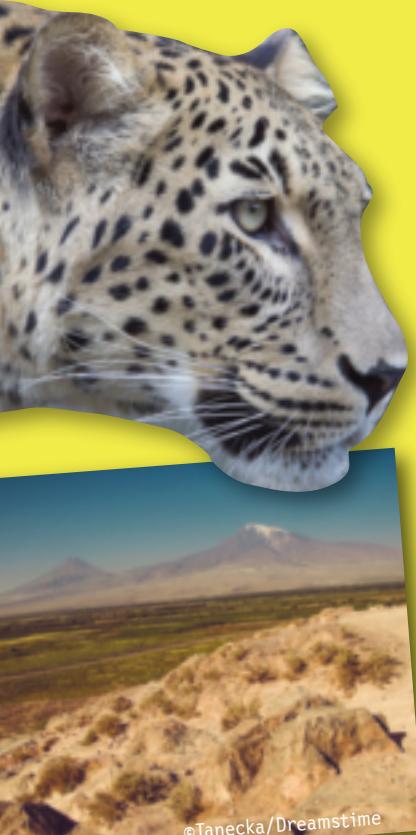
Fewer forests results in more carbon dioxide in the atmosphere. Also, when trees are cut, they release the carbon dioxide they store into the atmosphere. More carbon dioxide in the atmosphere is the main cause of global warming.

IN ARMENIA, LANDSLIDES ARE THE SECOND GREATEST NATURAL DISASTER AFTER EARTHQUAKES.



Soil erosion and natural disasters

Deforestation results in soil erosion, flooding, and landslides because the trees are no longer there to hold the soil together and to slow down water runoff.



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©Evgavorov/Dreamstime

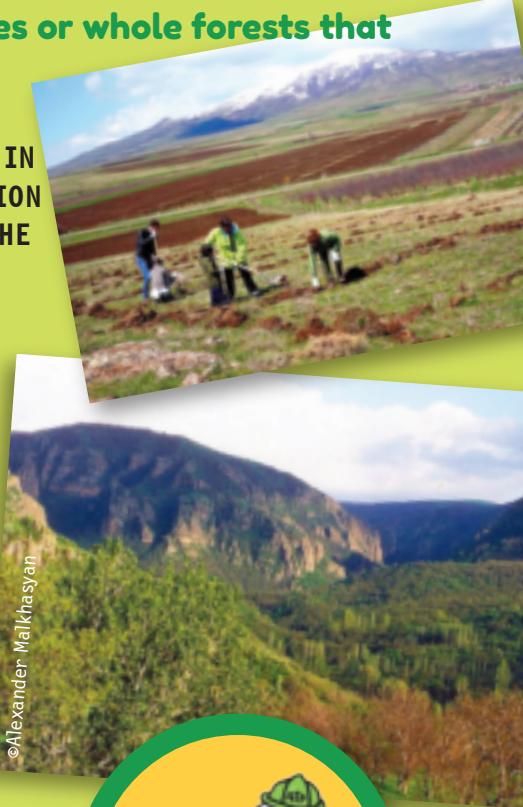
SAVING OUR FORESTS

The good news: the effects of deforestation can be reversed by planting new trees, protecting existing forests, and preventing wildfires.

ATP plants an average of 250,000 trees annually.

Reforestation is the replanting of trees or whole forests that have been cut down.

ARMENIA TREE PROJECT (ATP) FOCUSES ON PRESERVING AND PLANTING TREES AND FORESTS IN ARMENIA. THROUGH ITS ENVIRONMENTAL EDUCATION PROGRAM, ATP ALSO RAISES AWARENESS ABOUT THE IMPORTANCE OF A SUSTAINABLE ENVIRONMENT.



©Alexander Malkhasyan

Forest protection

A protected area is a location where human occupation and use of resources is restricted. The objective of National Parks, Nature Reserves and Wildlife Sanctuaries is to conserve nature and biodiversity.

PROTECTED AREAS OCCUPY AROUND 13% OF THE TERRITORY OF ARMENIA.



Wildfire prevention

90% of wildfires are caused by humans!

Tchalo the gampr is a wildfire prevention officer and he is here to tell you what **YOU** can do to prevent forest fires.



1. Never play with matches and lighters!
2. Do not build a campfire near dry shrubs and trees.
3. Never leave a campfire unattended.
4. Put out a campfire completely when you leave.
5. Ask your parents not to smoke in nature!

WORD SEARCH! Find the following words to reveal the hidden word!

Biodiversity/Deforestation/Desert/Earth/Erosion/Extinct/Forest/Habitat/Life/Plant/Root/Seed/Soil/Trees/Wildlife

R P L A N T E F R E T A W
E F O L R E E O R O O T I
S T I A R T T R E S E D L
N O I T A T S E R O F E D
S E E D E R O S I O N I L
O H A B I T A T E F I L I
T C N I T X E A R T H N F
B I O D I V E R S I T Y E

Can you find 8 differences between the endangered rainforest animals on each side of the tree?



PROTECTED AREAS IN ARMENIA

Darevsky's Viper

is critically endangered. It is protected in Lake Arpi National Park. Only a hundred of them are known to exist in Armenia.



Lake Arpi National Park



The Asia Minor Ground Squirrel

is near threatened. It is protected in Lake Arpi National Park.



Rhododendron Caucasicum

is endangered. It is protected at the Caucasian Rose Bay Sanctuary.



Dilijan National Park

Wild wheat

species and other ancient grains are protected at the Erebuni State Reserve.



Sevan National Park

Gabrielyan's Starflowers

and **The Aragatsian Buttercup** are critically endangered and both are endemic to Armenia, occurring only on Mt. Aragats.



Aragats Alpine Sanctuary



Erebuni State Reserve



Fun Fact!

The Khosrov forest was founded in the 4th century by the Armenian king Khosrov II Kotak.

The Transcaucasian Toad-Headed Agama

is critically endangered. It is protected in Goravan Sands and Vordan Karmir Sanctuaries. It has experienced a loss of over 80 percent of its habitat due to land conversion for agriculture and urbanization in the Araks River valley.



photo: Hanuman



Goravan Sands Sanctuary



Dahl's Jird

is endangered. It is endemic to the Ararat Valley. It is protected in Goravan Sands Sanctuary.

Khosrov Forest State Reserve



Armash Important Bird Area



photo: Aghavni Shukasyan

The White-Headed Duck

is endangered. The only suitable habitats and nesting grounds are the Armash fish ponds. The number of nesting pairs does not exceed 20–30.



The first protected areas in Armenia were established in 1958. Currently, Armenia has 3 State Reserves, 4 National Parks, and 23 Sanctuaries where nature is preserved.

Did You Know?

The threat levels faced by the animals and plants you see on this map are evaluated by the IUCN, short for International Union for Conservation of Nature.

The Egyptian Vulture

is endangered. There are ten pairs in Khosrov Forest Reserve, Shikahogh Reserve, Dilijan National Park, and Sevan National Park.



The Saker Falcon

is endangered. It is protected in Sevan National Park and Khosrov Forest Reserve.



The Armenian Whiskered Bat

is in danger of extinction. It has only ever been located in the Sevan Lake basin in Armenia.



Karl-Henrik's Centaury

is critically endangered. It is protected at Jermuk Forest Sanctuary.



photo: Armine Aghayan

Jermuk Forest Sanctuary

The Manul

is near threatened but is most likely extinct in Armenia. It is protected in Arevik National Park.



Arevik National Park

photo: Armine Aghayan

Zangezur Sanctuary



The Caucasian Black Grouse

is near threatened. The major threat is the destruction of nesting sites caused by agricultural activities. It is protected in Dilijan National Park and Shikahogh State Reserve.



The Caucasian Leopard

is vulnerable. It is protected in Khosrov Forest Reserve, Shikahogh Reserve, Arevik National Park and Zangezur Sanctuary.



The Armenian Mouflon

is vulnerable. It is protected in Zangezur Sanctuary and Arevik National Park.

The Bezoar Goat

is vulnerable. It is protected in Khosrov Forest Reserve, Shikahogh Reserve, Arevik National Park, Zangezur Sanctuary and Sevan National Park.



The Oriental Plane

(Sosi in Armenian) is endangered. Plane Grove Sanctuary is the only natural plane grove in the Caucasus.

Plane Grove Sanctuary

photo: A. Malinasyan

photo: Govorkov

Shikahogh State Reserve

Near Threatened

Likely to qualify for a threatened category in the near future

Vulnerable

Facing a high risk of extinction in the wild

Endangered

Facing a very high risk of extinction in the wild

Critically Endangered

Facing an extremely high risk of extinction in the wild

Extinct in the Wild

Surviving only in captivity or cultivation

Extinct

A species is extinct when the last individual has died

LEO-NEO

the little leopard hero

The Caucasian Leopard is one of the most endangered species living in the Caucasus.

Experts estimate there are only around 800-1000 of them left in the wild.

Until the mid-20th century leopards were relatively common in Armenia's mountains. Today, there are probably less than five leopards in the country.

Alexander Malkhasyan is a wildlife specialist who has been working for the World Wildlife Fund (WWF) program for leopard conservation in the Caucasus since 2002, when there were no leopards in Armenia. One of the first steps of the WWF was the recovery and protection of leopard habitats. A few years later, leopards had returned to Armenia.

Alexander installs cameras hoping to capture photos and videos of them. In order to do his job, he lives in the wild for weeks, or even months at a time. Until recently, he had only seen traces of leopards in the **Khosrov Forest State Reserve**. That changed in April 2018, when one of the cameras he had installed there captured a young Caucasian Leopard. The last leopards in this area were seen about 18 years ago, but they were forced out of the region since then. The return of this young leopard seemed like a miracle! Alexander couldn't believe his eyes when he first saw the photo!

The leopard's name is Leo-Neo. He was most likely born in the Zangezur mountains in July 2015. This means that he travelled at least 155 miles to get to Khosrov Forest State Reserve, all the time avoiding dangers such as soldiers, herding dogs, and poachers. Leo-Neo, what a hero! In order for Leo-Neo to stay in Armenia and hopefully start a family, we need to keep protecting our forests and the animals that live in them.



Did You Know?

Astragalus carolynmugarae is a shrub-like plant first found near Lake Sevan in 1989. It is named after Carolyn Mugar, the founder of ATP, because of her help "in the discovery and investigation of the Flora of Armenia."



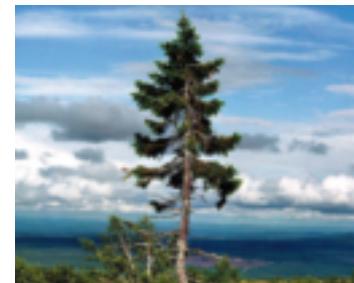
More than 50% of the world's 10 million species live in the tropical rainforests.

Lake Arpi National Park is the only habitat of Darevsky's Viper in the world!



There are more than 3,500 species of plants and 17,500 species of animals in Armenia!

At the current rate of deforestation, the world's rain forests could completely vanish in 100 years!



The oldest tree in the world is in Sweden.

It is 9,560 years old!

331 million people visited national parks in the U.S. in 2017!

Deforestation is responsible for up to 20% of global greenhouse gas emissions, more than all the cars, trucks, planes, trains, and boats in the world.

In Alaska Denali Park visitors explore the park by bus, bicycle, or on foot. Personal vehicles are prohibited in order to reduce traffic and protect the natural resources.



ATP has planted over 5.5 million trees in Armenia!

BUILDING BRIDGES FRIENDS

Thank you to the 75 schools throughout the United States that have participated in Building Bridges! Congratulations to the incredible staff, teachers, PTO members, and parents for working so diligently to engage your students and encourage them to learn and explore the world around them!

Thank you also to the Thomas A. Kooyumjian Family Foundation for supporting the Building Bridges program.

If your school is visiting Armenia and is interested in planting trees at our Youth Forest in Ashtarak Village OR if you would like us visit your school, contact us and we can help facilitate a fun and rewarding experience.
info@armeniatree.org

#GetRooted



A.G.B.U. Manoogian-Demirdjian School, Canoga Park, CA

We're so proud of our youth ambassadors!

Joey Basralian took us up on our "coin bank challenge" and raised funds to sponsor a tree in Armenia using a cardboard coin bank, just like the one enclosed in this newsletter. Here he is with an ATP Building Bridges tree planting certificate, during a hike with his family in a local forest.



Khoren and Shooshanig Avedisian School, Yerevan, Armenia

"I am convinced that this project will become an example for many others and people will change their attitude toward nature and that we will be able to restore the damage that has been caused for many years, since we should nurture the mother land, and not exhaust it." -Nare Baghdasaryan (on right of photo)



"Being able to start a foundation on my homeland means the world to me. I cannot wait to go back and visit ATP and see the growth of my plant." -Tamar Chobanian

"I do things that have a positive impact on the environment. I use a reusable water bottle, recycle, think of ways to help people, and smile. I do this to help the world be free of pollution, cut down on waste, and to create a positive mood in our world." -Sarine Markarian



St. Stephen's Elementary School, Watertown, MA

aram and Maral

AT KHOSROV FOREST STATE RESERVE...

DID YOU KNOW THE KHOSROV FOREST STATE RESERVE DATES BACK TO 1700 YEARS AGO?

REALLY? I THOUGHT IT WAS FOUNDED IN 1958!

YES, BUT AROUND THE YEAR 334 AD KING KHOSROV II ORDERED THE CREATION OF THIS PROTECTED FOREST TO IMPROVE THE CLIMATE AND CONSERVE THE ANIMALS AND PLANTS AROUND THE CAPITAL CITY OF ARTASHAD.

OH, SO THAT'S HOW THE FOREST GOT ITS NAME?

YES! IT COVERS AN AREA OF AROUND 23,000 HECTARES, WHICH THE SAME AS 33,000 SOCCER FIELDS!

WOW! LOOK! I CAN SEE JUNIPER AND OAK TREES.

THESE ARE PROTECTED ANCIENT TREES. LOOK! HAYASTANYAN PEAR IS AN ENDANGERED PEAR TREE WHICH IS ALSO PROTECTED IN THIS RESERVE.

I RECENTLY HEARD ABOUT A LEOPARD CUB WHO WAS SPOTTED HERE. DO YOU THINK WE CAN SEE HIM?

I DON'T THINK SO! BUT LOOK OVER THERE! THOSE BEZOAR GOATS ARE ALSO PROTECTED IN THIS FOREST.

WHAT OTHER ANIMALS ARE PROTECTED IN THIS RESERVE?

THE BROWN BEAR SAKER FALCON



EGYPTIAN VULTURE

AND THE ARMENIAN VIPER ARE A FEW EXAMPLES.

WOW, AN ARMENIAN VIPER?

YES, IT IS A NEAR THREATENED SPECIES AND IT'S VENOMOUS!

OH, THAT'S ONE ANIMAL I HOPE WE DON'T MEET! BUT I REALLY WISH WE COULD SEE THAT LEOPARD!

I DON'T THINK THAT WILL HAPPEN, SINCE THEY ARE VERY ELLUSIVE CREATURES AND IT TOOK SCIENTISTS YEARS TO FINALLY SPOT ONE! BUT YOU CAN READ ABOUT IT AND SEE PHOTOS IN ATP'S BUILDING BRIDGES NEWSLETTER!

COOL! CAN'T WAIT!

I'M IN IT TOO! I TALK ABOUT HOW TO PREVENT WILDFIRES TO PROTECT FORESTS!

GLOSSARY

Carbon dioxide- the gas released into the air when you exhale, burn waste, or drive a car

Climate change- a change in climate factors including rain, snow, wind, and temperature, caused by global warming

Deforestation- the removal of trees, most often due to human activity

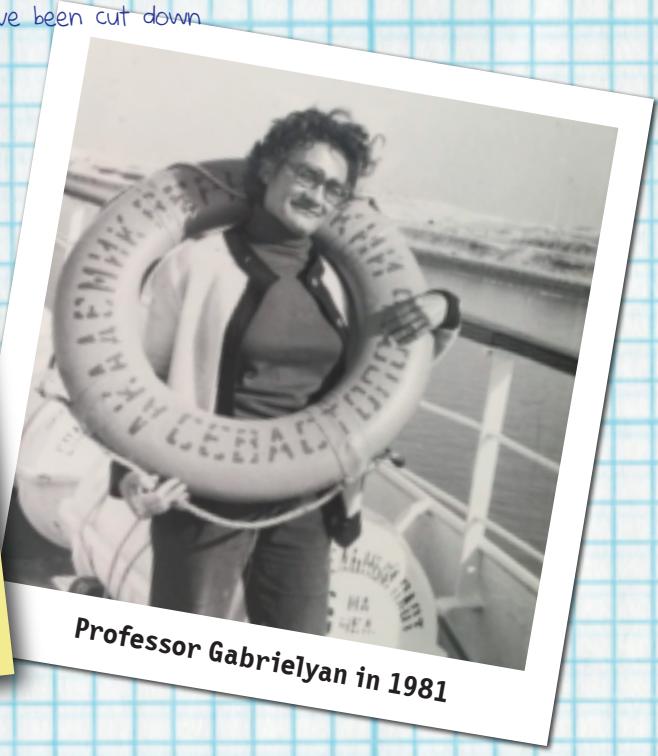
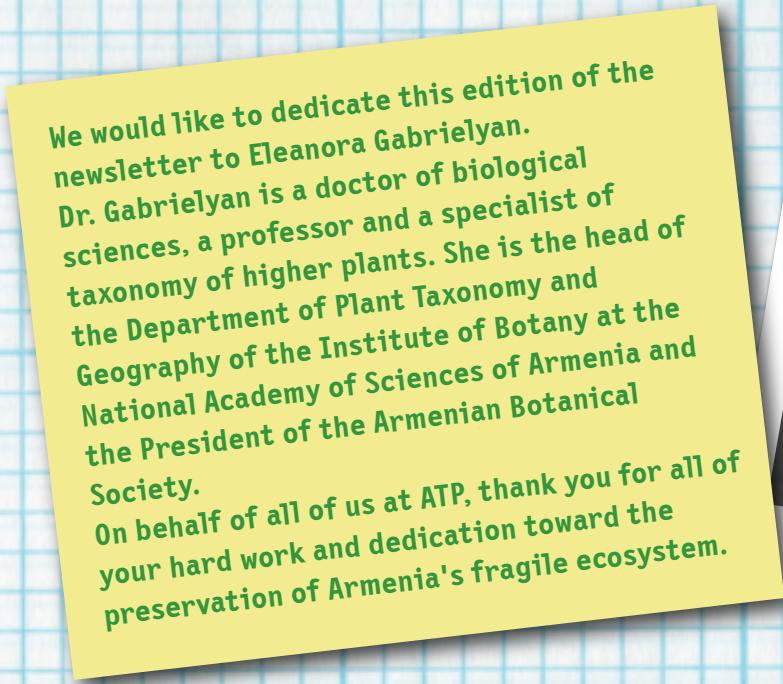
Erosion- the wearing away of the surface of the earth due to wind and water movement

Endangered- a species facing an extremely high risk of extinction in the world

Global warming- an increase in the earth's average surface temperature

Habitat-the place where a plant or animal naturally lives or grows

Reforestation- the replanting of trees or whole forests that have been cut down



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