

IRAN'S WILDLIFE

Iranian zoologist discovers unexpected species of rare intertidal spiders

By Farnaz Heidari

In a recent study by Iranian Alireza Zamani, Russian Yuri M. Marusik and American James W. Berry, arachnologists, a new species of intertidal spiders has been discovered in shores of the Persian Gulf and the Gulf of Oman in Iran, and named as *Paratheuma enigmatica*, hence its quite unexpected, enigmatic distribution.



Alireza Zamani

Discovering the genus *Paratheuma* in Iran was particularly interesting. Previously, they were known from Australia, USA, West Indies, Mexico, Japan, Korea and a few islands in the Pacific Ocean. The closest reported locality of this genus is in Korea, more than 6000 kilometers far to the east from one of the localities in southeastern Iran.

As a result, this record fills a gap in the middle of the whole known distribution range of the genus. The distribution of *P. enigmatica* supports the previous observation that there is only one species per island, but one species may be found on several islands.

It seems that dispersal must have been of primary importance in the evolutionary history of the Pacific *Paratheuma*. These spiders are of particular ecological interest as they inhabit broken coral rubble below the tide mark, and feed upon intertidal crustaceans, but the ecology and full distribution range of this particular rare species remains unknown.

As a result of this study, the whole genus *Paratheuma* which have had a doubtful systematic position is moved from Desidae to Dictynidae using both molecular and morphological evidence. The study's findings were published in the recent issue *Zoology* in the Middle East.



Unexpected for Iran biodiversity

In order to gain a better knowledge of the spider fauna of Iran (currently comprising more than 600 species in 48 families), several surveys in various regions of the country have been recently carried out especially by Alireza Zamani and his colleagues during 2014, 2015a, 2015b.

Zamani told *Tehran Times* that "While studying the spider fauna of the coastal and tidal zone of the Gulf of Oman and the Persian Gulf in Iran, several interesting species were found in the collected material e.g. Filistatidae."

Zamani added that "perhaps the most unusual finding was the occurrence of *Paratheuma*, a genus previously unknown from the shores of the Indian Ocean. This genus currently comprises 10 species of intertidal spiders, distributed in Australia, Hawaii, Florida, West Indies, Mexico, Japan, Korea and a few islands in the Pacific Ocean (World Spider Catalog, 2015)."

Pristine ecosystems

Zamani as a corresponding author told that "the first series of ten *Paratheuma* species are remarkably similar in size, setae, elongated spinnerets and general body morphology. The new species reported in Chabahar, southwest Asia, has several differences: individuals have more setae, shorter, less conspicuous spinnerets and more neutral coloring."

However, he said, the copulatory organs are similar to those of the previously described species and the distribution of this species supports observation that there is only one species per island, but one species may be found on several islands.

Dispersal must have been of primary importance in the evolutionary history of the Pacific *Paratheuma*. There is a strong possibility that several, perhaps many, species of the genus await discovery; perhaps, their characters and distribution may considerably change interpretation of their relationships and natural history with further studies.

Importance of intertidal spiders

The intertidal spiders' family Desidae which is now moved to Dictynidae, are named for members of which live in a very unusual location or better say between the tides. The family has been reevaluated in recent years and now includes inland genera and species as well, such as *Badumna* and *Phryganoporus*.

Those intertidal spiders that are truly marine commonly live in barnacle shells, which they seal up with silk; this allows them to maintain an air bubble during high tide. They emerge at night to feed on various small arthropods that live in the intertidal zone.

Conference on environmental pollutants kicks off in Tehran

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Monitoring and sampling fundamental to environmental strategies

Motesaddi explained the significance of monitoring and sampling of pollutants as being the fundamental components of environmental strategies.

"Regular monitoring and sampling of pollutants indicates if we are succeeding in minimizing the pollutants or not or whether they are increasing or decreasing," he noted.

"What we seek in this conference is to make improvement on the accuracy and validity of the monitoring and sampling measures," he added.

What DoE accomplished so far

Motesaddi went on to say that "we succeeded in decentralizing monitoring bodies and currently they all have distributed to all the cities across Iran."

Over the past two years 29 online river monitoring stations are added to the system and there are 188 air monitoring stations over the country, he highlighted.

Motesaddi also noted that "our dust monitoring stations are now completed with 50 stations for monitoring particles



[From left to right] Nayyereh Pirouzbakht, Sa'eed Motesaddi, and Masoumeh Ebtekar

smaller than 2.5 microns in diameter."

"We are now able to monitor 200 industrial units online and we are hoping to increase the number in the future," he said.

Air pollution accounts for one death out of seven

Ebtekar warned that based on a report by World Health Organization (WHO) one death out of seven is caused by air pollution and at least 35 million Iranian are affected by air pollution.

"Right now if someone draw blood

from us they can detect traces of dioxin in it which can affect and wreck our immune system," she lamented.

This shows how important monitoring is and it is not just limited to our country but it is one of the important subject matters discussed in Paris climate change conference as well, she said.

Fortunately this conference which particularly aims at training the environmental experts can pave the way for further improvements, she added.

600 environmental standards set by ISO

Pirouzbakht, for her part, pointed that "out of 19,000 standards set by the International Organization for Standardization (ISO) 600 are related to the environment which emphasizes the global importance of the environment."

Iran's national standard organization has been working side by side with the DoE for almost three years and plays a key role in promoting sustainable growth, she added.

She also highlighted that after the removal of the sanctions Iran's standards are approved by the countries in Asia and Oceania.

Mane event: 33 lions flown home after rescue from life in the circus

Big cats arrive in South Africa, where sanctuary beckons, after having suffered cruel treatment in Colombia and Peru

The roars of lions filled the cargo section of Johannesburg's main international airport on Saturday evening as 33 lions rescued from South American circuses landed in South Africa.

The animals will now be released into a bush sanctuary for big cats.

It was the largest airlift of lions in history, said Jan Creamer, president of Animal Defenders International, which carried out the operation.

"These lion have suffered tremendously," Creamer said as the lions were loaded in crates on to trucks.

"They lived in small cages on the backs of trucks for their entire lives. Some of them had their teeth bashed in with steel pipes in circuses in Colombia and Peru. Some of them had their claws removed ... it is a wonderful feeling to bring them back to their home."

Nine of the lions were surrendered by a circus in Colombia. The remaining 24 were rescued in raids on circuses in Peru by the animal defense group and officials enforcing a crackdown on wildlife trafficking.

The lions will be placed in quarantine in enclosures at the 5,000-hectare (12,355-acre) Emoya big cat sanctuary in Vaalwater in northern South Africa, started three years ago by Savannah Heuser and her mother Minunette.

The 33 lions will be monitored by a vet for their first weeks in Africa. They will then be introduced to each other in a 1-hectare bonding enclosure. Many of the lions were never allowed to have direct physical contact with other lions and have never been together without a fence or a cage separating them.

Their poor physical state means the lions will never be able to hunt again and will have to be cared for with



One of the 33 rescued lions in its travelling crate at Johannesburg's airport. Photograph: Dan Kitwood



The lions' crates are loaded on to a lorry prior to their transportation to a sanctuary. Photograph: Brett Eloff

food and water for the rest of their lives. The Emoya sanctuary will feed the cats with game meat which it buys in bulk.

The enclosures will be fitted with drinking pools, platforms and toys to ensure the lions do not become bored and will be steadily expanded as they become familiar with their new life, said Savannah Heuser.

Emoya, in an area with a mix of habitats including mountainous regions, rolling grasslands, forests, cliff caves and river gorges, has a strict non-breeding policy, Heuser said.

Female lions may receive contraceptive medications so they can remain with their mates, while males may undergo vasectomies to make sure that no lions are bred in captivity.

"The animals have no conservation value whatsoever. Many of them have been inbred," she said.

"When we are sure that no breeding will take place, we allow males to interact with females. By then a pattern will have emerged ... and we will know which lions can be placed together."

Emoya was opened in 2012, when Savannah Heuser was 16. The sanctuary's first cat, a lion rescued from Cairo, arrived in June 2013. The sanctuary is currently home to eight big cats, including two Siberian tigers.

The lions are part of a group of 100 animals which were rescued in Peru. Bears, monkeys, birds and other native wildlife have been relocated to sanctuaries in Peru and a tiger has been sent to a new home in Florida.

(Source: *The Guardian*)

3 Sumatran tiger cubs step out at San Diego Zoo

Three endangered Sumatran tiger cubs have made their debut at San Diego Zoo Safari Park.

Visitors got their first glimpses Tuesday of Nelson, Cathy and Debbie as

the 3-month-old cubs romped and munched on plants in their habitat.

The trio was born in late January to Joanne, a Sumatran tiger that's a popular attraction at the zoo. Zookeepers say

Joanne is a doting mother.

They say Nelson, the male, is the largest and calmest of the three cubs. His sister Cathy is the most vocal, and Debbie is the most adventurous.

Fewer than 350 Sumatran tigers are thought to exist in the wild. They are found only on the Indonesian island of Sumatra.

(Source: *Washington Post*)

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A Persian fallow deer calf named Javid, literally meaning eternal, was born in Pardisan rehabilitation center on Sunday morning. Another calf was born on April 21 in this center. The species are on the verge of extinction and only some are being kept in captivity in preserved areas or rehabilitation centers.

1 million goldfish dive into Tempe Town Lake near Phoenix

TEMPE, Ariz. (AP) — More than 1 million goldfish now have a giant fishbowl to call home in a Phoenix suburb.

Tempe officials dumped roughly 1.2 million goldfish and minnows into Tempe Town Lake on Friday.

They say the fish will serve as a natural insect control for midge flies' larvae, which are at the bottom.

KPNX-TV in Phoenix reports that the fish were transported from Arkansas by truck.

The man-made lake already has a variety of fish including bass and carp. The goldfish are expected to be a food source for the larger fish.

The lake was drained in March to replace a dam its west end. The lake is expected to reopen in May.

Officials say the new dam will be more cost-effective, dependable and last for at least 50 years.