



IALE 2017 EUROPEAN LANDSCAPE ECOLOGY  
CONGRESS GHENT, 12–15 SEPTEMBER 2017

FROM PATTERN AND PROCESS  
TO PEOPLE AND ACTION

Certificate of Attendance

Ghent, 15 September 2017

This is to certify that

NAME Dr. Fatemneh Tabatabaeu Yazdi

attended the IALE 2017 European Congress "From pattern and process to people and action" that took place from 12 to 15 September 2017 in Ghent, Belgium.

On behalf of the congress organisers

Veerle Van Eetvelde  
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## Morphological variation in jirds, in a context of their conservation biology

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### Abstract:

Of the many species groups of which an in-depth study in morphology and conservation biology fields are currently lacking, rodents belonging to the genus *Meriones* (Muridae: Gerbillinae) are one of them [1]. The lack of sufficient knowledge on these species could prevent the required actions for the protection and conservation of them.

Some *Meriones* species, such as *M. zarudnyi* are rare and were assessed as 'endangered' in the IUCN (International Union for Conservation of Nature) Red List of Threatened Species [2]. *Meriones chengi* is 'critically endangered', hence considered to be facing a very high risk of extinction in the wild. But, some other jirds e.g. *M. hurrianae* are listed as Lower Risk species. Since, conservation priorities are commonly based on some criteria e.g. the number of endemic species in a defined area and/or potential threat to those assets, a lack of data in biological variation and habitats of jirds, distribution range and status, prevent to determine the level of protection they should be afforded.

Climate change, habitat loss and fragmentation result in a loss of biodiversity. In less developed countries, small mammals like *M. hurrianae*, similar to most of focal species, have been lost from considerable parts of their populations during the last decades, because of landscape change, habitat fragmentation and expansion of civilization. But, since the population trend of this species is unknown and the threats



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on this species are augmenting, we should consider this species as “threatened”. Species as the latter one might be facing the risk of becoming extinct due to small isolated populations and restricted suitable habitats.

This study was done using two-dimensional geometric morphometric approach on more than 500 skull specimens belonging to three species: *M. hurrianae*, *M. meridianus* and *M. crassus*. The results show that the studied species exhibit a remarkable intra-specific morphological variation, with intraspecific differences in some species (such as *M. meridianus* and *M. crassus*) being larger than interspecific differences. As such, they could be considered as cryptic species, and hence difficult to identify and properly estimate their endangered status in the wild. In the future, a comprehensive study must be done on the populations and the potential habitats of this species. Intensive trapping in the sampling localities of existing museum specimens must be done to be able to determine existence and estimate abundance of this species in their habitats. The next step is to apply species distribution models of these species to determine potential habitats in current and future time, and to be able to conserve these animals as part of geographical biodiversity.

#### References:

- [1] Tabatabaei Yazdi, F., Adriaens, D., Darvish, J., 2012. Geographic pattern of cranial differentiation in the Asian Midday Jird *Meriones meridianus* (Rodentia: Muridae: Gerbillinae) and its taxonomic implications. *J. Zool. Syst. Evol. Res.* 50(2), 157–164.
- [2] IUCN. 2015. Red List of Threatened Species, < <http://www.iucnredlist.org>> (<http://www.iucnredlist.org>), accessed (8.10.16).

#### Symposium:

[Linking Landscape Ecology to Regional Planning and Conservation in Semi-Arid areas, Obstacles and Solutions \(/symposium/linking-landscape-ecology-regional-planning-and-conservation-semi-arid-areas-obstacles-and\)](#)

#### Oral or poster:

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