



Short Note

Trapelus boehmei Wagner, Melville, Wilms & Schmitz, 2011 (Squamata: Agamidae): New locality in the Southwest of Algeria

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ABSTRACT

Trapelus boehmei (Squamata: Agamidae) is distributed on the High Plateau of North Algeria, from M'sila to Naâma and Tlemcen-south. An uncertain presence noted from El Tarf to Batna and Tebessa in Northeast of Algeria. In this note, a new locality of this species at Tindouf region of Southwest of Algeria.

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1. Introduction

North Africa biogeography is considered to be particularly complex, because it is located in very complex orographic structures that evolved mainly during the Neogene, and can become a prerequisite to the fragmentation of the range of different species, leading to high biodiversity endemic taxa [1, 2, 3]. Among these ecological barriers such as mountains, which are considered as an important factor leading to fragmentation of the range of different species [4].

The genus *Trapelus* Cuvier, 1817 [5] in the agamid subfamily, Agaminae was resurrected by it has a broad distribution across northern Africa into the Middle East and Asia [6, 7]. In the

Saharo-Sindian, this genus currently consists of 15 species, with six species occur in Africa [7], i.e, *Trapelus pallidus* (Reuss, 1834): Egypt, Republic of Djibouti, Jordan [8, 9]; *Trapelus savignii* (Duméril & Bibron, 1837): eastern Egypt[10]; *Trapelus mutabilis* (Merrem, 1820): northern Africa[11]; *Trapelus tournevillei* (Lataste, 1880) [12]: Algeria and Tunisia; *Trapelus schmitzi* (Wagner and Böhme, 2007): Algeria; Chad[13] and *Trapelus boehmei* (Wagner, Melville, Wilms and Schmitz, 2011) : north-western Africa[7].

Therefore, Algeria counts four *Trapelus* species: *T. tournevillei*, *T. schmitzi*, *T. boehmei*

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and *T. mutabilis* [14, 15, 16, 17, 18].

According to the IUCN red list all this species are ranked least concern species (LC), characterized by a wide range, except *T. schmitzi* have an unknown status (DD [14, 15, 16, 17, 19]. However, in Algeria, two species, i.e, *T. tournevillei* and *T. mutabilis* are protected by Algerian flat (12-235) of 24 May 2012.

The objective of this note is to provide a new locality of this species in the Sahara of the Southwest of Algeria at Tindouf, situated at Tindouf region at more than 200Km east from the distribution range [16].

2. Materials and methods

2.1. Study area

Tindouf region is located in the Southwestern part of Algeria and covers an area of 158,874 km², representing 6.67% of the total area of the National territory [20]. This region is characterized by hyper arid climate with an average annual rainfall of 35mm [21] (Fig. 1).

This region is relatively homogeneous. It is characterized by the extension of the Tabular platform of the Hamadas [22]. The average altitude is around 450 m. Overall, the topography is flat with low slopes ranging between 0 and 3 % [23].

2.2. Reptile sampling

We recorded species based on transects from 10 to 20 km in open areas, each transect was divided to 150 m of observation segment because reptiles are small animals with limited ranges, and deserve a good concentration in observation,

further, we searched animal species in cavities and under rocks [24, 25].

3. Results and Discussion

As part of the Herpetological inventory in the region of Tindouf. The first observation of this species was on July 23, 2022. A single individual of *Trapelus boehmei* male, with bluish coloration on the throat (nuptial coloration) , measures more than 20 cm in length, taking sunbathes at 10:15pm (Fig. 3a, b), where the temperature was estimated at 36 C°.

The type locality is a Wadi bed, characterized by rocky plateau (Reg) with some plants, i.e, *Acacia raddiana*, *Retama raetam*, *Tamarix gallica* (Fig. 2).

3.1. Taxonomic account

Agamidae Gray, 1827

Trapelus Cuvier, 1817

Trapelus boehmei Wagner, Melville, Wilms & Schmitz, 2011

Type material. Algeria, Tindouf, Region of Hassi Mounir, 6°26'39.83"O, 28°19'34.99"N, 457m, 23/07/2022 (M. El Bouhissi & F. Seddiki), one individual ♂. This specimen was photographed, examined and released in the same area.

3.2. Description

Trapelus boehmei has a relatively long head tapering abruptly at the nose. Body escalation is a matrix of small, feebly keeled and homogeneous scales intermixed with larger keeled scales, which usually differ in coloration from the matrix

scales in breeding coloration of adult males. Males have bluish coloration on the throat and body when in nuptial coloration, and a small gular pouch [7].

3.3. Biogeographical and ecological considerations

The range of this species is confirmed in the northwest of Africa in Algeria, Mauritania and Niger, with an uncertain distribution in Mali, Tunisia and Western Sahara.

As for Algeria, the distribution is confirmed in the High Plateau, from M'sila to Naâma and Tlemcen-south, with an uncertain presence from Batna, extends to the entire east of Algeria between El Tarf and Tebessa (Fig.01) [7].

Recently, many studies have been concentrated in desert regions, which has led to the discovery of several new expansion sites, among which the current study, and others researches like El-Menia [26], El Oued and Touggourt [18, 27].

The presence of the *Trapelus boehmei* in Tindouf is interesting and it i suggest that further research at different seasons, in order to learn more about the distribution of this species and others of the genus *Trapelus*.

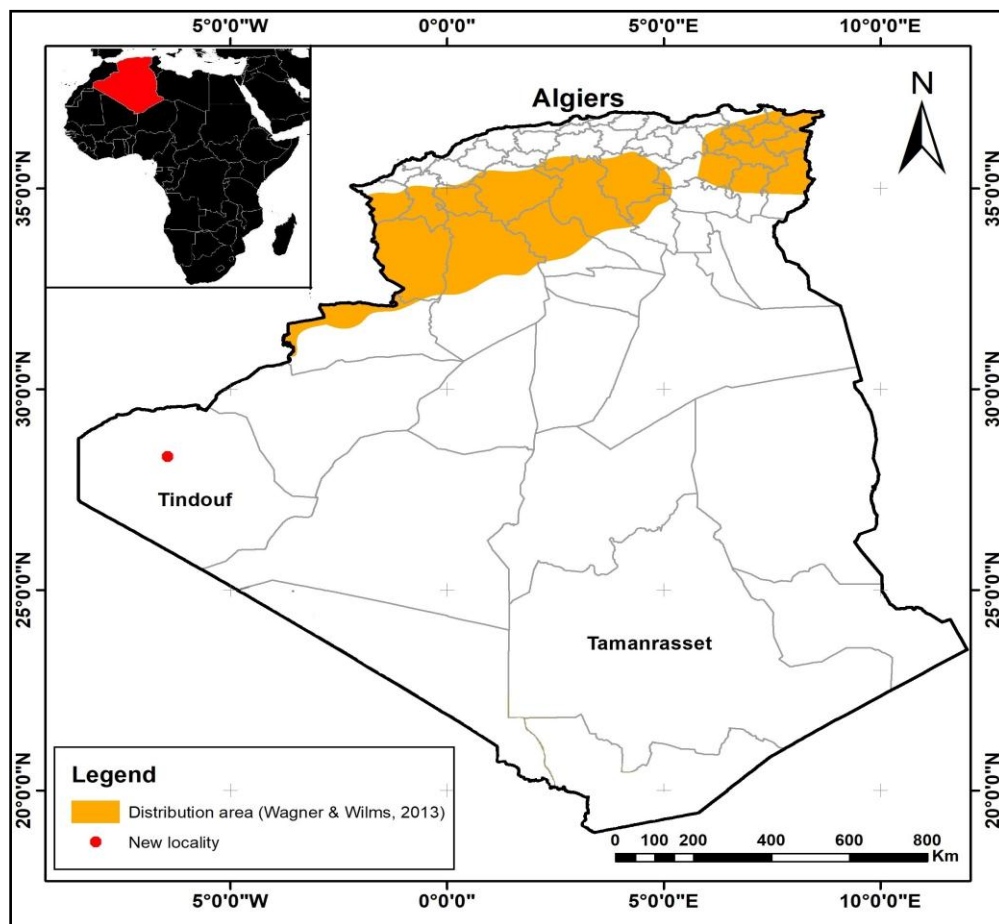


Fig. 1. Map of known distribution of *Trapelus boehmei* in Algeria (following Wagner & Wilms, 2013). News locality (red circle).



Fig. 2. General view of the study area, Hassi Mounir, Tindouf.

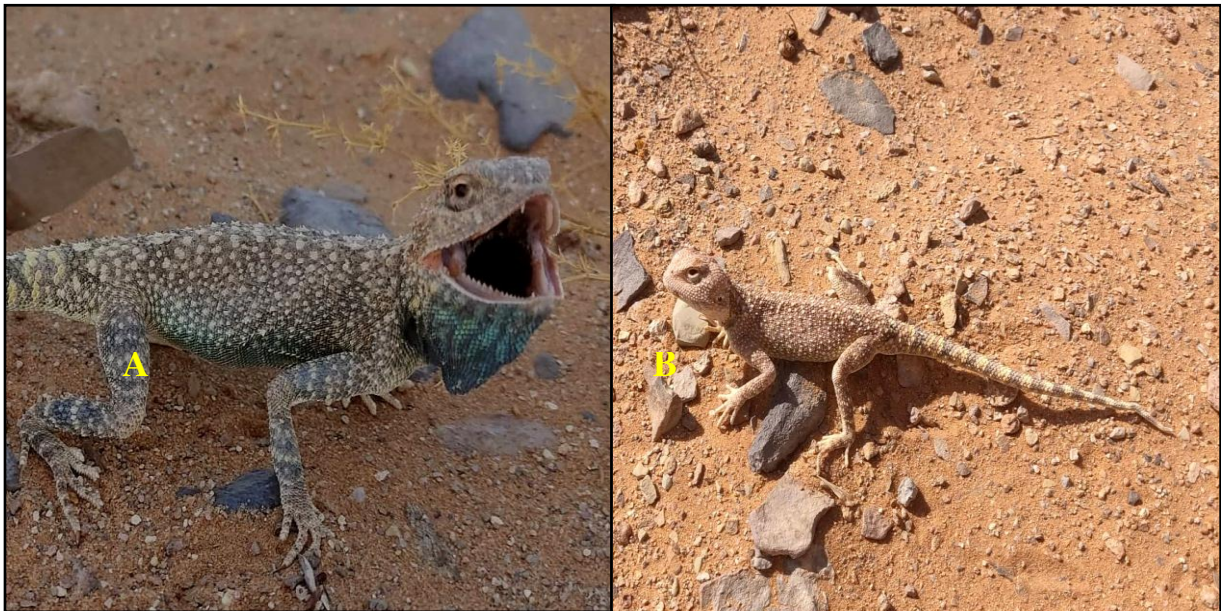


Fig. 3. *Trapelus boehmei* in natural habitat. a: Close-up view (Snout-vent length), b: General view.

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Conflict of Interest

The authors declare that they have no conflict of interest

References

1. Beauchamp, W., Allmendinger, R.W., Barazangi, M., Demnati, A., El Alji, M., Dahmani, M. Inversion tectonics and the evolution of the High Atlas Mountains, Morocco, based on a geological-geophysical transect. *Tectonics*, 1999. 18: 163-184. DOI: 10.1029/1998TC900015.
2. Hewitt, G.M. Mediterranean Peninsulas: the evolution of hotspots. In: Zachos F, Habel J (eds). *Biodiversity Hotspots*. 2011. Springer, Berlin, Heidelberg.
3. Husemann, M., Schmitt, T., Zachos, F.E., Ulrich, W.U., Habel, J.C. Palaeartic biogeography revisited: Evidence for the existence of a North African refugium for western Palaeartic biota. *J Biogeogr*, 2014, 41: 81-94. DOI: 10.1111/jbi.12180.
4. Chedad, A, Ait Hammou, M., Chelghoum, H., Chedad, A., Ould Amara, O., El Bouhissi, M., Dahmani, W., Sadine, S.E. Diversity and distribution pattern of scorpions from the Ouarsenis massif of Tissemsilt, North-West Algeria. *Biodiversitas*. 2022, 23(5): 2444-2450. DOI: 10.13057/biodiv/d230523
5. Cuvier G.L.C.F.D. Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée. Avec figures, dessinées d'après nature. Tome II, contenant les reptiles, les poissons, les mollusques et les annélides. Paris : Deterville 1817.
6. Moody, S.M. Phylogenetic and historical relationships of the genera in the family Agamidae (Reptilia: Lacertrilia). Unpublished PhD thesis, University of Michigan, 1980.
7. Wagner, P., Melville, J., Wilms, T.M., Schmitz, Opening a box of cryptic taxa – The first review of the North African desert lizards in the *Trapelus mutabilis* Merrem, 1820 complex (Squamata: Agamidae) with descriptions of new taxa. *Zoological Journal of the Linnean Society*, A. 2011, 163: 884-912. <https://doi.org/10.1111/j.1096-3642.2011.00726.x>
8. Reuss, A. Zoologische Miscellen, Reptilien. Abhandlungen aus dem Gebiete der beschreibenden Naturgeschichte. *Zoologische Miscellen*. Museum Senckenbergianum, 1834. 1: 27–62.
9. Ineich, I. Reptiles & Amphibiens de la République de Djibouti. Internal report to the Ministère de l'habitat, de l'urbanisme, de l'environnement et de l'aménagement du territoire. 2001. Bureau National de la diversité biologique, Djibouti.
10. Duméril, A.M.C, Bibron, G. *Erpétologie Générale ou Histoire Naturelle Complete des Reptiles*. 1837.Vol. 4. Paris: Libr. Encyclopédique Roret, 570 pp.
11. Merrem B. Versuch eines Systems der Amphibien – Tentamen Systematis Amphibiorum. Marburg : J. C. Kriegeri. 1820.
12. Lataste F. Diagnoses de reptiles nouveaux d'Algérie ». *Le Naturaliste*, 1880, 2(41), p. 325.
13. Wagner P, Böhme, W. A new species of the genus *Trapelus* Cuvier, 1816 (Squamata: Agamidae) from arid central Africa. *Bonner Zoologische Beiträge*. 2007. 55: 81–87.
14. Joger, U., Geniez, P., Nouira, S. 2006. *Trapelus tournevillei*. The IUCN Red List of Threatened Species 2006: e.T61588A12501750. <https://dx.doi.org/10.2305/IUCN.UK.2006.RLTS.T61588A12501750.en>. Accessed on 26 July 2022.
15. Wagner, P. & Wilms, T. 2013. *Trapelus schmitzi*. The IUCN Red List of Threatened Species 2013: e.T203805A2771549. <https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T203805A2771549.en>. Accessed on 26 July 2022.
16. Wagner, P. & Wilms, T. 2013. *Trapelus boehmei*. The IUCN Red List of Threatened Species 2013: e.T203803A2771535. <https://dx.doi.org/10.2305/IUCN.UK.2013-1.RLTS.T203803A2771535.en>. Accessed on 24 July 2022.
17. Beddek M. Déficit de connaissances de la biodiversité et biologie de la conservation : le cas de l'Herpétofaune d'Algérie. *Biodiversité et Ecologie*. Université Montpellier, 2017. Français. NNT: 2017MONTT167
18. Mouane A., Harrouchi A., Ghennoum I., Sekour M. Diversity and distribution patterns of reptiles in the northern Algerian Sahara (Oued Souf, Taibet and Touggourt). *Algerian Journal of Biosciences*. 2021, 02(02) :078-087.
19. Wagner, P., Wilms, T., Niagate, B. 2021. *Trapelus mutabilis*. The IUCN Red List of Threatened Species 2021: e.T198525A2529839. <https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T198525A2529839.en>. Accessed on 26 July 2022.
20. Ould Safi., M. Caractérisation et l'état sanitaire de l'Arganeraie de Tindouf [Characteristics and health status of Argan grove of Tindouf]. Thèse de Magister. 2014. Univ. Tlemcen. Algérie. 62p.
21. Remini, B., Abidi Saad, N. The Foggara of Tindouf (Algeria): A Hydraulic heritage declined. *Larhyss Journal*. 2019, 39: 215-228
22. Kchairi, R. Contribution à l'étude écologique de l'Arganier *Argania spinosa* (L.) Skeels, dans la région de Tindouf (Algérie). Mémoire de Magister, université des sciences et de la technologie « Houari Boumediene » 2009 :76p.
23. Benkheira, A. L'Arganeraie Algérienne. Bulletin d'information, conservation de la biodiversité et gestion durable des ressources naturelles, publication du projet. ALG/ G35. 2009, 15p.
24. Carvajal-Cogollo, J.E., Urbina-Cardona, N. Ecological grouping and edge effects in tropical dry forest: reptile-microenvironment relationships. *Biodiversity and Conservation*. 2015. 24: 1109–1130.
25. Nekhla, H., Mansouri, I., Zahri, A., Squalli, W., Achiban, H., Hmidani, M., El Agy A., Harrach, A., El Ghadraoui, L. The Ecological importance of *Chamaerops humilis* steppe for animal biodiversity in Northwest Africa (Morocco). *Zoology and Ecology*. 2022. 32(1):74–83. <https://doi.org/10.35513/21658005.2022.1.8>

26. Sadine S., Bounab C., El Bouhissi M. A new locality of an invasive Gecko, *Cyrtopodion scabrum* (Heyden,1827) in Algeria (Squamata: Gekkonidae). Algerian Journal of Biosciences. 2021, 02(01):016-018. doi : [http://dx.doi.org/ 10.5281/zenodo.5045172](http://dx.doi.org/10.5281/zenodo.5045172)
27. Mouane A, Bourougaa D, Hamdi M, Boudjerada K, Harrouchi A, Ghennoum I, Sekour M, Chenchouni, H. The Rough Bent-toed Gecko *Cyrtopodion scabrum* (Heyden, 1827) (Squamata: Gekkonidae): First records in Algeria and NW Africa with morphometric and meristic description of population. African Journal of Ecology. 2020. <https://doi.org/10.1111/aje.127976>

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