

FIRST DETECTION OF ARGAS (*ARGAS*) *NEGhmei* (ACARI: ARGASIDAE) IN ARGENTINADANIEL H. AGUIRRE<sup>1</sup>, ANALÍA B. GAIDO<sup>2</sup>, MARÍA M. CAFRUNE<sup>3</sup>, ALBERTO A. GUGLIELMONE<sup>4</sup>,  
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**Summary** Attacks by adult stages of the soft tick *Argas (Argas) neghmei* (Acari: Argasidae) on inhabitants of the High Andean plateau of Argentina are reported. This is the first local report of this species, which was previously found in the north of Chile. Taxonomic differences between *A. (A.) neghmei* and other neotropical and exotic species of the genus are underlined. The status of the knowledge about the Argentine argasid fauna is briefly described.

**Key word:** *Argas (A.) neghmei*

Ticks are relatively common ectoparasites of people, and many species can attack humans and transmit pathogens, cause dermatologic lesions or even paralysis<sup>1</sup>. Records of human infestation by ticks refer to members of both Ixodidae and Argasidae families, although argasid tick species biting people are less numerous than ixodid species. Notwithstanding, several reports on human parasitism by argasid ticks (mainly *Argas* genus) have been recorded<sup>2-6</sup>.

In September 1995 rural people living at Cobres (23° 42' S, 66° 14' W), La Poma Department, Salta Province, Argentina, reported nocturnal attacks by arthropods. The place is located in the north of the Andean Patagonic phytogeographical region of the country, at an altitude of 3775 m, with a mean annual rainfall of 80 mm. Several of those specimens were received at the Animal Health Laboratory, Instituto Nacional de Tecnología Agropecuaria (INTA) where they were identified as adult stages of *Argas (A.) neghmei* Kohls and Hoogstraal.

This tick has been recognized early in the century at Calama and Chuquicamata, Antofagasta Province, in northern Chile<sup>9</sup>. However, it was misidentified as *Argas (P.) persicus* Oken and as a local variant of *Argas (A.) reflexus* Fabricius<sup>10</sup>. Later, Kohls and Hoogstraal<sup>10</sup> distinguished that tick as *Argas (A.) neghmei* and described all their stages.

Following the keys of Keirans *et al.*<sup>11</sup>, adults of *A. (A.) neghmei* differ from those of other South American species of the subgenus by their true *persicus*-like peripheral cells and fewer lateral ribs on the integumental ridges. This species resembles closely the Peruvian *A. (A.) moreli* Keirans, Hoogstraal and Clifford, except that the latter has pseudo *persicus*-like peripheral cells, divided by narrow sutures and numerous lateral ribs on the integumental ridges<sup>11</sup>. On the other hand, adults of *A. (A.) neghmei* are distinguished from those of *A. (P.) persicus* by the presence in the latter of long postpalpal hairs and by marked differences in the dorsolateral integument<sup>10</sup>.

The *A. (A.) neghmei* is the sole species from the neotropical fauna of the subgenus *Argas* found infesting humans<sup>9</sup>. Previous reports indicate that its bite causes severe erythema which lasts from seven to ten days<sup>4, 5</sup>. In the present case, people complained of serious pruritus, and skin discolou-

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ration was observed at least in one bitten person. The tick has always been detected living in domestic chicken houses, dovescotes, and human dwellings, where it obtains relatively stable microclimatic conditions for its existence. Their wild hosts are still unknown.

In Argentina, argasid ticks from the *Ornithodoros* and *Otobius* genus have been detected parasitizing humans<sup>12, 13</sup>. However, this is the first report of an *Argas* species biting humans in the country. Moreover, no human infestations with ticks were previously recorded in the Argentine Andean Patagonic region<sup>14</sup>, the site of the *A. (A.) neghmei* finding. There is no certainty if this species was recently introduced or is an ancestral representative of the local fauna. According to local people this tick is found in their houses since a few years ago.

The fauna of *Argasidae* still remains unknown in Argentina in terms of systematics and ecology. Argasid ticks are often difficult to find and the keys for their differentiation are still incomplete. Boero<sup>12</sup> described the occurrence of both the exotic *A. (P.) persicus* Oken in several Argentine Provinces, and the *A. (A.) reflexus* Fabricius only in Tucumán Province. However, several of these reports are probably erroneous due to taxonomical uncertainties. In the last decades, only *Argas (A.) monachus*, a Monk Parakeet parasite, has been recognized as a new local species in Córdoba Province<sup>15</sup>.

## Resumen

### Primer hallazgo de *Argas (Argas) neghmei* (Acari: Argasidae) en la Argentina

Se informan ataques por estadios adultos de la garrapata *Argas (Argas) neghmei* (Acari: Argasidae) a pobladores de la meseta andina argentina. Este representa el primer hallazgo local de la especie, detectada previamente en el norte de Chile.

Se señalan las diferencias taxonómicas entre el *A. (A.) neghmei* y otras especies neotropicales y exóticas del género. Se refiere brevemente el estado del conocimiento de la fauna argasídea de la Argentina.

## References

- Spach DH, Liles WC, Campbell GL, Quick RE, Anderson DE, Fritsche TR. Tickborne diseases in the United States. *New Engl J Med* 1993; 329: 936-47.
- Benoit-Bazille H. *L' Argas reflexus* (Fabr.) et son parasitisme chez l'homme. *Mem Soc Zool Fr* 1910; 22: 261-80.
- Escomel E. Essai sur la parasitologie d'Arequipa (Pérou) et de ses environs. *Bull Soc Pathol Exot* 1972; 17: 906-25.
- Porter CE. Notas de parasitología. V. Sobre *Argas persicus* en Calama. *Rev Chil Hist Nat* 1928; 32: 325-7.
- Reyes H. Algunas observaciones sobre *Argas neghmei* Kohls y Hoogstraal, 1961 (Ixodoidea). *Bol Chil Parasitol* 1971; 26: 50-2.
- Coudert J, Battesti MR, Despeignes J. Un cas d'allergie aux piqures d'*Argas reflexus*. *Bull Soc Pathol Exot* 1972; 65: 884-9.
- Miadonna A, Tedeschi A, Leggeri E. et al. Anaphylactic shock caused by allergy to the venom of *Argas reflexus*. *Ann Allergy* 1982; 49: 293-4.
- Dautel H, Kahl O, Knülle W. The soft tick *Argas reflexus* (F.) (Acari, Argasidae) in urban environments and its medical significance in Berlin (West). *J Appl Entomol* 1991; 111: 380-90.
- Clifford CM, Hoogstraal H, Keirans JE, Rice RCA, Dale WE. Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). 14. Identity and biological observations of *Argas (A.) cucumerinus* from Peruvian seaside cliffs and a summary of the status of the subgenus in the Neotropical Faunal Region. *J Med Entomol* 1978; 15: 57-73.
- Kohls GM, Hoogstraal H. Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). 4. *A. neghmei*, new species, from poultry houses and human habitations in northern Chile. *Ann Entomol Soc Amer* 1961; 54: 844-51.
- Keirans JE, Hoogstraal H, Clifford CM. Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*) 16. *Argas (A.) moreli*, new species, and keys to Neotropical species of the subgenus. *J Med Entomol* 1979; 15: 246-52.
- Boero JJ. Las garrapatas de la República Argentina (Acarina-Ixodidae). Universidad de Buenos Aires, Departamento Editorial, 1957.
- Lombardero OJ, Peretti RE. Presencia de *Otobius megnini* (Dugès, 1883) en el litoral argentino. *Rev Med Vet* (Buenos Aires) 1973; 54: 77-9.
- Guglielmone AA, Mangold AJ, Viñabal AE. Ticks (Ixodidae) parasitizing humans in four provinces of north-western Argentina. *Ann Trop Med Parasitol* 1991; 85: 539-42.
- Keirans JE, Radvosky FJ, Clifford CM. *Argas (Argas) monachus*, new species (Ixodoidea: Argasidae), from nests of the Monk Parakeet, *Myiopsitta monachus*, in Argentina. *J Med Entomol* 1973; 10: 511-6.