

Chapter 8

Individual species accounts

In sections A (Ixodidae) and B (Argasidae) of this chapter, individual accounts are provided for each species considered to be established in the Middle Eastern countries. Tick nomenclature follows [Guglielmone et al. \(2023\)](#) and [Mans et al. \(2021\)](#). The synonyms for the species mentioned in this book were mainly based on [Guglielmone and Nava \(2014\)](#).

References

- Guglielmone, A.A., Nava, S., 2014. Names for Ixodidae (Acari: Ixodoidea): valid, synonyms, *incertae sedis, nomina dubia, nomina nuda, lapsus*, incorrect and suppressed names - with notes on confusions and misidentifications. *Magnolia Press; Zootaxa* 3767 (1), 1–256.
- Guglielmone, A.A., Sánchez, M.E., Franco, L.G., Nava, S., Rueda, L.M., Robbins, R.G., 2023. Names of Species of Hard Ticks. Instituto Nacional de Tecnología Agropecuária, Rafaela, Argentina. Available from: <http://rafaela.inta.gob.ar/nombresgarrapatas/>. (Accessed 25 March 2023).
- Mans, B.J., Kelava, S., Pienaar, R., Featherston, J., de Castro, M.H., Quetglas, J., Reeves, W.K., Durden, L.A., Miller, M.M., Laverty, T.M., Shao, R., 2021. Nuclear (18S-28S rRNA) and mitochondrial genome markers of *Carios (Carios) vespertilionis* (Argasidae) support *Carios* Latreille, 1796 as a lineage embedded in the Ornithodorinae: re-classification of the *Carios* sensu Klompen and Oliver (1993) clade into its respective subgenera. *Ticks Tick-borne Dis.* 12 (4), 101688.

A. Ixodidae

The genus *Alloceraea* Schulze, 1919

Alloceraea inermis (Birula, 1895) (Fig. 8.1)

Synonyms: *Haemaphysalis inermis* Birula, 1895; *Alloceraea inermis inermis* (Birula, 1895); *Haemaphysalis ambigua* Neumann, 1901; *Haemaphysalis ibrikliensis* Özkan, 1978.

- Rahbari, S., Nabian, S., Shayan, P., 2007. Primary report on distribution of tick fauna in Iran. *Parasitol. Res.* 101, 175–177. <https://doi.org/10.1007/s00436-007-0692-7>.
- Roth, A., Akad, F., Zonstein, I., King, R., Orshan, L., Erster, O., 2019. Molecular characterization of six *Hyalomma* species using mitochondrial markers. *Ticks Tick Borne Dis.* 10 (4), 911–917. <https://doi.org/10.1016/j.tbd.2019.04.015>.
- Selçuk, Ö., Aydın, L., Girişkin, A.O., Özakin, C., 2015. Long term investigation on tick infestations of human. *Kafkas Üniv. Vet. Fak. Derg.* 21, 795–798.
- Siroký, P., Kamler, M., Modrý, D., 2004. Long-term occurrence of *Hemolivia* cf. *mauritanica* (Apicomplexa: Adeleina: Haemogregarinidae) in captive *Testudo marginata* (Reptilia: Testudinidae): evidence for cyclic merogony? *J. Parasitol.* 90 (6), 1391–1393.
- Siroký, P., Petrzalková, K.J., Kamler, M., Mihalca, A.D., Modrý, D., 2006. *Hyalomma aegyptium* as dominant tick in tortoises of the genus *Testudo* in Balkan countries, with notes on its host preferences. *Exp. Appl. Acarol.* 40, 279–290.
- Siroký, P., Mikulíček, P., Jandžík, D., Kami, H., Mihalca, A.D., Rouag, R., Kamler, M., Schneider, C., Záruba, M., Modrý, D., 2009. Co-Distribution pattern of a haemogregarine *Hemolivia mauritanica* (Apicomplexa: Haemogregarinidae) and its vector *Hyalomma aegyptium* (Metastigmata: Ixodidae). *J. Parasitol.* 95 (3), 728–733. <https://doi.org/10.1645/GE-1842.1>.
- Široký, P., Bělohlávek, T., Papoušek, I., Jandžík, D., Mikulíček, P., Kubelová, M., Siroký, P., Erhart, J., Petrzalková, K.J., Kamler, M., 2011. Life cycle of tortoise tick *Hyalomma aegyptium* under laboratory conditions. *Exp. Appl. Acarol.* 54, 277–284. <https://doi.org/10.1007/s10493-011-9442-8>.
- Široký, P., Bělohlávek, T., Papoušek, I., et al., 2014. Hidden threat of tortoise ticks: high prevalence of Crimean-Congo haemorrhagic fever virus in ticks *Hyalomma aegyptium* in the Middle East. *Parasit. Vectors* 7, 101. <https://doi.org/10.1186/1756-3305-7-101>.
- Sweatman, G.K., 1968. Temperature and humidity effects on the oviposition of *Hyalomma aegyptium* ticks of different engorgement weights. *J. Med. Entomol.* 5, 429–439.
- Tavassoli, E., Rahimi-Asiabi, N., Tavassoli, M., 2007. *Hyalomma aegyptium* on spur-thighed tortoise (*Testudo graeca*) in Urmia region West Azerbaijan, Iran. *Iranian J. Parasitol.* 2, 40–47.
- Theodor, O., Costa, M., 1967. A survey of the parasites of wild mammals and birds in Israel. Part I. Ectoparasites. *Israel Academy of Sciences and Humanities*, p. 117.
- Vatansever, Z., Gargili, A., Aysul, N.S., Sengoz, G., Estrada-Peña, A., 2008. Ticks biting humans in the urban area of Istanbul. *Parasitol. Res.* 102, 551–553. <https://doi.org/10.1007/s00436-007-0809-z>.

***Hyalomma albiparmatum* Schulze, 1919**

Synonyms: *Hyalomma aegyptium albiparmatum* Schulze, 1919; *Hyalomma albiparmatum* Schulze, 1920; *Hyalomma brunneiparmatum* Schulze and Schlottkke, 1930; *Hyalomma impressum brunneiparmatum* Schulze and Schlottkke, 1930; *Hyalomma planum albiparmatum* Schulze, 1919.

Hyalomma albiparmatum is an Afrotropical tick (Hoogstraal, 1956; Yeoman and Walker, 1967; Walker, 1974; Apanaskevich and Horak, 2008; Guglielmone et al., 2014; Guglielmone and Robbins, 2018) that has been also documented in Egypt (Yassin et al., 2017; Allam et al., 2018).

Adults of *H. albiparmatum* have been recorded on domestic cattle, sheep, goats, and dogs, as well as on large wild mammals including the African buffalo, gemsbok, hartebeest, blue wildebeest, greater kudu, impala, giraffe, desert warthog, black rhinoceros, Burchell's zebra, lion, and leopard (Apanaskevich and Horak, 2008).

Hyalomma albiparmatum is capable of infesting humans (Apanaskevich and Horak, 2008; Guglielmono and Robbins, 2018), but its role as a vector of pathogens to animals and humans remains unconfirmed.

References

- Allam, N.A., El Moghazy, F.M., Abdel-Baky, S.M., 2018. Molecular epidemiological updates on spotted fever rickettsioses in animal species and their hard ticks settling Egyptian desert. *J. Adv. Pharm. Educ. Res.* 8, 65.
- Apanaskevich, D.A., Horak, I.G., 2008. The genus *Hyalomma*. VI. Systematics of *H. (Euhyalomma) truncatum* and the closely related species, *H. (E.) albiparmatum* and *H. (E.) nitidum* (Acari: Ixodidae). *Exp. Appl. Acarol.* 44 (2), 115–136. <https://doi.org/10.1007/s10493-008-9136-z>.
- Guglielmono, A.A., Robbins, R.G., 2018. Hard Ticks (Acari: Ixodida: Ixodidae) Parasitizing Humans - A Global Overview. Springer Publ., New York, p. 314.
- Guglielmono, A.A., Robbins, R.G., Apanaskevich, D.A., Petney, T.N., Estrada-Peña, A., Horak, I., 2014. The Hard Ticks of the World (Acari: Ixodida: Ixodidae). Springer, Dordrecht, p. 738.
- Hoogstraal, H., 1956. African Ixodoidea. I. Ticks of the Sudan (with special reference to Equatoria Province and with preliminary reviews of the genera *Boophilus*, *Margaropus* and *Hyalomma*). In: Research Report NM 005 050.29.07. Department of the Navy Bureau of Medicine and Surgery, Washington D.C., 1101 pp.
- Walker, J.B., 1974. The Ixodid Ticks of Kenya. A Review of Present Knowledge of Their Hosts and Distribution. Commonwealth Institute of Entomology, London.
- Yassin, S.S., Abd El Baky, S.M.M., Khalil, M.S., Allam, N.A.T., 2017. Incidence of hard tick infestations in ruminants settling Egyptian deserts regarding morpho-molecular characteristics. *Bull. NRC* 41 (Bi.1), 32–53.
- Yeoman, G.H., Walker, J.B., 1967. The ixodid ticks of Tanzania. In: A Study of the Zoogeography of the Ixodidae of an East African Country. Commonwealth Institute of Entomology, London.

***Hyalomma anatolicum* Koch, 1844 (Fig. 8.10)**

Synonyms: *Hyalomma aegyptium aegyptium brunnipes* Schulze, 1919; *Hyalomma aegyptium excavata* Koch, 1844; *Hyalomma aegyptium excavatum* Koch, 1844; *Hyalomma aegyptium mesopotamium* Schulze, 1920; *Hyalomma aegyptium ornatipes* Schulze, 1919; *Hyalomma anatolicum anatolicum* Koch, 1844; *Hyalomma armeniorum* Schulze and Schlottke, 1930; *Hyalomma depressum* Stella, 1938; *Hyalomma detritum albipictum ornatipes* Schulze, 1919; *Hyalomma lusitanicum depressum* Schulze, 1919; *Hyalomma marginatum balcanicum brunnipes* Schulze, 1919; *Hyalomma marginatum*