

An annotated list of tick (Acari: Ixodida) common names authored by Harry Hoogstraal (1917–1986)

RICHARD G. ROBBINS¹ & TERRY L. CARPENTER

Information Services Division, Armed Forces Pest Management Board, Office of the Deputy Under Secretary of Defense for Installations and Environment, Washington, DC

¹Corresponding author. E-mail: richard.robbins@osd.mil

Abstract

Documentation is presented for 292 common names of ticks authored by Dr. Harry Hoogstraal, the twentieth century's preeminent authority on ticks and tick-borne diseases.

Key words: Harry Hoogstraal, ticks, common names

Introduction

Harry Hoogstraal, Ph.D., D.Sc., D.Sc.(hon.), D.(h.c.) (1917–1986) was a prolific publisher of descriptions of new and known ticks (Keirans & Oliver 1999). In many of his publications, he designated common names to accompany tick scientific names; these common names have not heretofore been catalogued. A search of the 507 published papers listed in Keirans' bibliography of Hoogstraal's works (Keirans 1987), the 14 listed in the authors' supplement to that bibliography (Carpenter *et al.* 2007), and a previously uncatalogued abstract discovered during our search (Saito *et al.* 1974b) yielded 68 argasid and 224 ixodid common names for a total of 292 names, here listed with initial sources, subsequent citations (if any), pertinent metadata, and a discussion of their significance. Where necessary, Hoogstraal's taxa have been emended to conform to Guglielmone *et al.* (2010), but his sometimes idiosyncratic and inconsistent usages are presented verbatim.

Argasidae

Abdussalam's bird-roost argasid, *Argas abdussalami* Hoogstraal and McCarthy, 1965
— Hoogstraal & McCarthy (1965a)

African bird argasid, *Argas reflexus hermanni* Audouin, 1827, now considered two separate species, *reflexus* (Fabricius, 1794) and *hermanni* Audouin, 1826 (Guglielmone *et al.* 2010)
— Hoogstraal & Kohls (1960b)—precedes "North African-Asian pigeon argasid," *q.v.*

African dove argasid, *Argas streptopelia* Kaiser, Hoogstraal and Horner, 1970
— Kaiser *et al.* (1970)

Arabian marine bird argasid, *Ornithodoros muesebecki* Hoogstraal, 1969
— Hoogstraal *et al.* (1983)—precedes by "Muesebeck's Arabian marine bird-argasid," *q.v.*

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- Australian elliptical bat-argas**, *Argas australiensis* Kohls and Hoogstraal, 1962
 — Kohls & Hoogstraal (1962)
 — Hoogstraal & Kohls (1965a)
- Australian elongate bat-argas**, *Argas daviesi* Kaiser and Hoogstraal, 1973
 — Kaiser & Hoogstraal (1973)
- Australian fairy-martin argasid**, *Argas lagenoplastis* Froggatt, 1906
 — Hoogstraal & Kohls (1963)
- Australian kestrel argasid**, *Argas falco* Kaiser and Hoogstraal, 1974
 — Kaiser & Hoogstraal (1974a)
- Brumpt's argas**, *Argas brumpti* Neumann, 1907
 — Hoogstraal (1956)
 — Hoogstraal & Kaiser (1958d)
- Ceylon elliptical bat-argas**, *Argas ceylonensis* Hoogstraal and Kaiser, 1968
 — Hoogstraal & Kaiser (1968)
- Common North African-Near Eastern tampan**, *Ornithodoros erraticus* (Lucas, 1849)
 — Hoogstraal & Kaiser (1958d)—precedes "North African relapsing fever tampan," *q.v.*
 — Hoogstraal *et al.* (1981)
- Dale's Peruvian burrowing-owl argasid**, *Argas dalei* Clifford, Keirans, Hoogstraal and Corwin, 1976
 — Clifford *et al.* (1976)
- Delanoe's North-African tampan**, *Ornithodoros delanoei* Roubaud and Colas-Belcour, 1931
 — Hoogstraal & Kaiser (1958d)
- Dew's Australian bat argasid**, *Argas dewae* Kaiser and Hoogstraal, 1974
 — Kaiser & Hoogstraal (1974b)
- Ecuadorian pyriform argasid**, *Argas magnus* Neumann, 1896
 — Clifford *et al.* (1979)
- Egyptian desert tampan**, *Ornithodoros arenicolous* Hoogstraal, 1953
 — Hoogstraal & Kaiser (1958d)
- Egyptian heron rookery argasid**, *Argas arboreus* Kaiser, Hoogstraal and Kohls, 1964
 — Kaiser *et al.* (1964)
- European bird argasid**, *Argas reflexus* (Fabricius, 1794)
 — Hoogstraal & Kohls (1960a)
- Eyed tampan**, *Ornithodoros savignyi* (Audouin, 1826)
 — Hoogstraal (1956)—precedes "eyed (or sand) tampan," *q.v.*

- Hoogstraal & Kaiser (1958c)
- Hoogstraal & Kaiser (1958d)
- Hoogstraal & Kaiser (1959a)
- Hoogstraal & Kaiser (1960a)
- Karrar *et al.* (1963)

Eyed (or sand) tampan, *Ornithodoros savignyi* (Audouin, 1826)
 — Hoogstraal *et al.* (1981)—preceded by "eyed tampan," *q.v.*

Eyeless tampan, *Ornithodoros moubata* (Murray, 1877)
 — Hoogstraal (1956)

Fain's Congo fruit-bat tampan, *Ornithodoros faini* Hoogstraal, 1960
 — Hoogstraal (1960)

Foley's North African tampan, *Ornithodoros foleyi* Parrot, 1928
 — Hoogstraal & Kaiser (1958d)
 — Hoogstraal & Kaiser (1960a)

Fowl tick—see "poultry argas or fowl tick"

Himalayan snow partridge argasid, *Argas himalayensis* Hoogstraal and Kaiser, 1973
 — Hoogstraal & Kaiser (1973a)

Hoogstraal's Madagascar lizard argasid, *Argas hoogstraali* Morel and Vassiliades, 1965
 — Hoogstraal *et al.* (1967a)

Humboldt penguin argasid, *Ornithodoros spheniscus* Hoogstraal, Wassef, Hays and Keirans, 1985
 — Hoogstraal *et al.* (1985)

Indonesian cave-swiftlet argasid, *Ornithodoros collocaliae* Hoogstraal, Kadarsan, Kaiser and Van Peenen, 1974
 — Hoogstraal *et al.* (1974a)

Long-legged bat-argas, *Argas boueti* Roubaud and Colas-Belcour, 1933
 — Hoogstraal (1956)
 — Hoogstraal & Kaiser (1958d)

Lowry's Nullarbor kestrel argasid, *Argas lowryae* Kaiser and Hoogstraal, 1975
 — Kaiser & Hoogstraal (1975)

Madagascar small-hedgehog argasid, *Argas echinops* Hoogstraal, Uilenberg and Blanc, 1967
 — Hoogstraal *et al.* (1967a)

McMillan's Australian bird nest argasid, *Ornithodoros macmillani* Hoogstraal and Kohls, 1966
 — Hoogstraal & Kohls (1966a)

Mediterranean-Turanian pigeon argasid, *Ornithodoros coniceps* (Canestrini, 1890)
 — Hoogstraal *et al.* (1979)

Middle East sheep tampan, *Ornithodoros lahorensis* Neumann, 1908

— Hoogstraal & Kaiser (1958c)

Minute Galápagos argasid, *Argas transversus* Banks, 1902

— Hoogstraal & Kohls (1966b)

— Hoogstraal *et al.* (1973b)

Muesebeck's Arabian booby argasid, *Ornithodoros muesebecki* Hoogstraal, 1969

— Hoogstraal (1969b)—precedes "Muesebeck's Arabian marine bird-argasid," *q.v.*

Muesebeck's Arabian marine bird argasid, *Ornithodoros muesebecki* Hoogstraal, 1969

— Hoogstraal *et al.* (1970c)—preceded by "Muesebeck's Arabian booby argasid" and followed by "Arabian marine-bird argasid," both *q.v.*

Neghme's South American bird argasid, *Argas neghmei* Kohls and Hoogstraal, 1961

— Kohls & Hoogstraal (1961)

North African-Asian pigeon argasid, *Argas hermanni* Audouin, 1826

— Hoogstraal *et al.* (1981)—preceded by "African bird argasid," *q.v.*

North African relapsing fever tampan, *Ornithodoros erraticus* (Lucas, 1849)

— Hoogstraal *et al.* (1981)—preceded by "common North African-Near Eastern tampan," *q.v.*

North American bird argas, *Argas radiatus* Railliet, 1893

— Kohls *et al.* (1970)

Nullarbor pyriform bird-argasid, *Argas nullarborensis* Hoogstraal and Kaiser, 1973

— Hoogstraal & Kaiser (1973b)

Persian fowl tick, *Argas persicus* (Oken, 1818)

— Hoogstraal *et al.* (1981)—preceded by "Persian poultry argas," *q.v.*

Persian poultry argas, *Argas persicus* (Oken, 1818)

— Kohls *et al.* (1970)—preceded by "poultry argas or fowl tick."

Persian relapsing fever tampan, *Ornithodoros tholozani* (Laboulbène and Mégnin, 1882)

— Hoogstraal & Kaiser (1958c)

— Hoogstraal & Kaiser (1958d)

— Hoogstraal & Kaiser (1960a)

Peruvian cucumiform argasid, *Argas cucumerinus* Neumann, 1901

— Clifford *et al.* (1978)

Peruvian marine bird argasid, *Ornithodoros amblus* Chamberlin, 1920

— Clifford *et al.* (1980)

Pigeon argas, *Argas reflexus* (Fabricius, 1794)

— Hoogstraal (1956)

- Hoogstraal & Kaiser (1958c)
- Hoogstraal & Kaiser (1958d)

Polish pigeon argasid, *Argas polonicus* Siuda, Hoogstraal, Clifford and Wassef, 1979

- Siuda *et al.* (1979)

Poultry argas or fowl tick, *Argas persicus* (Oken, 1818)

- Hoogstraal (1956)—precedes "Persian poultry argas" *q.v.*
- Hoogstraal & Kaiser (1958c)
- Hoogstraal & Kaiser (1958d)
- Hoogstraal & Kaiser (1959a)
- Hoogstraal & Kaiser (1960a)

Queensland ghost-bat argasid, *Argas macrodermae* Hoogstraal, Moorhouse, Wolf and Wassef, 1977

- Hoogstraal *et al.* (1977)

Rice's Texas vulture argasid, *Argas ricei* Hoogstraal, Kaiser, Clifford and Keirans, 1975

- Hoogstraal *et al.* (1975)

Roberts' Australian bird argasid, *Argas robertsi* Hoogstraal, Kaiser and Kohls, 1968

- Hoogstraal *et al.* (1968a)

Round bat-argas, *Argas vespertilionis* (Latreille, 1796)

- Hoogstraal (1956)
- Hoogstraal (1958)
- Hoogstraal & Kaiser (1958c)
- Hoogstraal & Kaiser (1958d)

Salah's Egyptian fruit-bat tampan, *Ornithodoros salahi* Hoogstraal, 1953

- Hoogstraal & Kaiser (1958d)

Sanchez' Western bird argas, *Argas sanchezi* Dugès, 1887

- Kohls *et al.* (1970)

Sand tampan—see "eyed (or sand) tampan"

Secretive bat-argas, *Argas transgaripepinus* White, 1846

- Hoogstraal (1957)
- Hoogstraal & Kaiser (1958d)

Short-legged North American bird argasid, *Argas brevipes* Banks, 1908

- Kohls *et al.* (1961)

South American bird argas, *Argas miniatus* Koch, 1844

- Kohls *et al.* (1970)

South-West Africa cordiform bat-argasid, *Argas cordiformis* Hoogstraal and Kohls, 1967

- Hoogstraal & Kohls (1967)

Theiler's African white-backed vulture argasid, *Argas theilerae* Hoogstraal and Kaiser, 1970
— Hoogstraal & Kaiser (1970)

Van Someren's Kenya swallow-nest argasid, *Ornithodoros vansomereni* Keirans, Hoogstraal and Clifford, 1977
— Keirans *et al.* (1977)

Walker's South African fowl argasid, *Argas walkerae* Kaiser and Hoogstraal, 1969
— Kaiser & Hoogstraal (1969)

Western North American bird argasid, *Argas cooleyi* Kohls and Hoogstraal, 1960
— Kohls & Hoogstraal (1960)

Western Palearctic marine-bird argasid, *Ornithodoros maritimus* Vermeil and Marguet, 1967
— Hoogstraal *et al.* (1976b)

Wide bat-argas, *Argas confusus* Hoogstraal, 1955
— Hoogstraal (1956)
— Hoogstraal & Kaiser (1958d)

Zumpt's South African Cape-vulture argasid, *Argas zumpti* Hoogstraal, Kaiser and Kohls, 1968
— Hoogstraal *et al.* (1968b)

Ixodidae

Abor forest haemaphysalid, *Haemaphysalis aborensis* Warburton, 1913
— Hoogstraal *et al.* (1971c)

African antelope spurred-rugose haemaphysalid, *Haemaphysalis rugosa* Santos Dias, 1956
— Hoogstraal & El Kammah (1972)

African antelope spurred-smooth haemaphysalid, *Haemaphysalis aciculifer* Warburton, 1913
— Hoogstraal & El Kammah (1972)—preceded by "sharp-spurred haemaphysalid," *q.v.*

African avian haemaphysalid, *Haemaphysalis hoodi* Warburton and Nuttall, 1909
— Hoogstraal (1956)

African boophiline or blue tick, *Rhipicephalus decoloratus* (Koch, 1844)*
— Hoogstraal *et al.* (1981)—preceded by "blue tick," *q.v.*

African hyalomma, *Hyalomma truncatum* Koch, 1844—this species may be conspecific with *H. albiparatum* and *H. nitidum* (Guglielmone *et al.* 2010)
— Hoogstraal (1956)—precedes "truncate hyalommine," *q.v.*
— Hoogstraal & Kaiser (1958d)
— Hoogstraal & Theiler (1959)
— Karrar *et al.* (1963)

- African snake tick**, *Amblyomma latum* Koch, 1844
— Hoogstraal & Kaiser (1959a)
- Anatolian brown tick**, *Rhipicephalus bursa* Canestrini and Fanzago, 1878
— Hoogstraal & Kaiser (1958c)
- Angolan russet tick**, *Ixodes cavipalpus* Nuttall and Warburton, 1908
— Hoogstraal (1956)
— Hoogstraal & Theiler (1959)
- Anomalous scissor-spurred haemaphysalid**, *Haemaphysalis anomala* Warburton, 1913
— Hoogstraal *et al.* (1967b)
— Hoogstraal *et al.* (1972a)
- Arabian goat hyalomminid**, *Hyalomma arabica* Pegram, Hoogstraal and Wassef, 1982
— Pegram *et al.* (1982)
- Arabian goat hyalomminine** [*sic*], "*Hyalomma* sp. in press Pegram, Hoogstraal and Wassef, 1982"—this species was named *Hyalomma arabica*, "Arabian goat hyalomminid," *q.v.*
— Hoogstraal *et al.* (1981)
- Arabian sheep and goat boophiline**, *Rhipicephalus kohlsi* (Hoogstraal and Kaiser, 1960)*
— Hoogstraal *et al.* (1981)
- Arnold's brown tick**, *Rhipicephalus arnoldi* Theiler and Zumpt, 1949
— Hoogstraal (1956)
- Asian brush-tailed porcupine haemaphysalid**, *Haemaphysalis atheruri* Hoogstraal, Trapido and Kohls, 1965
— Hoogstraal *et al.* (1965a)
- Asian obese-hirsute haemaphysalid**, *Haemaphysalis obesa* Larrousse, 1925
— Hoogstraal *et al.* (1966a)—precedes "Indo-Vietnam hirsute haemaphysalid," *q.v.*
- Asiatic hyalomma**, *Hyalomma asiaticum* Schulze and Schlottke, 1930
— Kaiser & Hoogstraal (1963)
- Australian-Northeast Asian haemaphysalid**, *Haemaphysalis longicornis* Neumann, 1901
— Hoogstraal *et al.* (1968d)—precedes "Northeast Asian-Australian haemaphysaline," *q.v.*
- Bandicoot rat haemaphysalid**, *Haemaphysalis bandicota* Hoogstraal and Kohls, 1965
— Hoogstraal & Kohls (1965b)
- Beautiful rhipicephaline**, *Rhipicephalus pulchellus* (Gerstäcker, 1873)
— Hoogstraal *et al.* (1981)
- Bequaert's brown tick**, *Rhipicephalus bequaerti* Zumpt, 1949
— Hoogstraal (1956)

Blue tick, *Rhipicephalus decoloratus* (Koch, 1844)

— Hoogstraal (1956)—precedes "African boophiline or blue tick," *q.v.*

— Karrar *et al.* (1963)

Borneo deer haemaphysalid, *Haemaphysalis borneata* Hoogstraal, 1971

— Hoogstraal (1971b)

Brazilian haemaphysalid, *Haemaphysalis cinnabarina* Koch, 1844

— Hoogstraal (1973)

Brown dog tick—see "kennel tick or brown dog tick"

Brown ear-tick, *Rhipicephalus appendiculatus* Neumann, 1901

— Hoogstraal (1956)

— Hoogstraal & Theiler (1959)

— Hoogstraal *et al.* (1981)

Burma haemaphysalid, *Haemaphysalis birmaniae* Supino, 1897

— Hoogstraal *et al.* (1965a)—precedes "Burmese artiodactyl haemaphysalid," *q.v.*

Burmese artiodactyl haemaphysalid, *Haemaphysalis birmaniae* Supino, 1897

— Hoogstraal (1970b)—preceded by "Burma haemaphysalid," *q.v.*

Camel hyalomma, *Hyalomma dromedarii* Koch, 1844

— Hoogstraal (1956)—precedes "camel hyalommine," *q.v.*

— Hoogstraal & Kaiser (1958a)

— Hoogstraal & Kaiser (1958c)

— Hoogstraal & Kaiser (1958d)

— Hoogstraal & Kaiser (1959a)

— Hoogstraal & Kaiser (1960a)

— Kaiser & Hoogstraal (1963)

— Karrar *et al.* (1963)

— Kaiser & Hoogstraal (1964)

Camel hyalommine, *Hyalomma dromedarii* Koch, 1844

— Hoogstraal *et al.* (1981)—preceded by "camel hyalomma," *q.v.*

Cane-rat glossy tick, *Rhipicephalus simpsoni* Nuttall, 1910

— Hoogstraal (1956)

Canestrini's Asian carnivore haemaphysalid, *Haemaphysalis canestrinii* (Supino, 1897)

— Hoogstraal (1971a)

Cape hyrax haemaphysalid, *Haemaphysalis hyracophila* Hoogstraal, Walker and Neitz, 1971

— Hoogstraal *et al.* (1971b)

Caspian mountain wild goat haemaphysaline, *Haemaphysalis kopetdaghica* Kerbabaev, 1962

— Hoogstraal & Wassef (1979)

- Celebes haemaphysalid**, *Haemaphysalis celebensis* Hoogstraal, Trapido and Kohls, 1965
— Hoogstraal *et al.* (1973a)—preceded by "Celebes pig haemaphysalid," *q.v.*
- Celebes pig haemaphysalid**, *Haemaphysalis celebensis* Hoogstraal, Trapido and Kohls, 1965
— Hoogstraal *et al.* (1965e)—precedes "Celebes haemaphysalid," *q.v.*
- Central African highland brown tick**, *Rhipicephalus kochi* Dönitz, 1905
— Hoogstraal (1956)
— Hoogstraal *et al.* (1981)
- Central African russet tick**, *Ixodes rarus* Neumann, 1899
— Hoogstraal (1956)
— Hoogstraal & Theiler (1959)
- Chinese artiodactyl haemaphysalid**, *Haemaphysalis goral* Hoogstraal, 1970
— Hoogstraal (1970b)
- Chinese ground squirrel (suslik) haemaphysalid**, *Haemaphysalis verticalis* Itagaki, Noda and Yamaguchi, 1944
— Emel'yanova & Hoogstraal (1973)
- Colobus russet tick**, *Ixodes schillingsi* Neumann, 1901
— Hoogstraal (1956)—precedes "East African colobus russet tick," *q.v.*
- Convex-eyed brown rhipicephaline**, *Rhipicephalus pravus* Dönitz, 1910
— Hoogstraal *et al.* (1981)—preceded by "East African convex-eyed brown tick," *q.v.*
- Cooley's rock-hyrax haemaphysaline**, *Haemaphysalis cooleyi* Bedford, 1929
— Hoogstraal & Wassef (1981)
- Daniel's western Himalayan haemaphysaline**, *Haemaphysalis danieli* Černý and Hoogstraal, 1977
— Černý & Hoogstraal (1977)
- Darjeeling artiodactyl haemaphysalid**, *Haemaphysalis darjeeling* Hoogstraal and Dhanda, 1970
— Hoogstraal & Dhanda (1970)
- Davis' bispined haemaphysalis**, *Haemaphysalis davisii* Hoogstraal, Dhanda and Bhat, 1970
— Hoogstraal *et al.* (1970b)
- Doenitz' Oriental-Australian bird haemaphysalid**, *Haemaphysalis doenitzi* Warburton and Nuttall, 1909
— Hoogstraal & Wassef (1973)
- East African bont tick**, *Amblyomma lepidum* Dönitz, 1909
— Hoogstraal (1956)
— Karrar *et al.* (1963)
— Hoogstraal *et al.* (1981)

- East African buffalo tick**, *Amblyomma cohaerens* Dönitz, 1909
— Hoogstraal (1956)
- East African colobus russet tick**, *Ixodes schillingsi* Neumann, 1911
— Hoogstraal & Theiler (1959)—preceded by "colobus russet tick," *q.v.*
- East African convex-eyed brown tick**, *Rhipicephalus pravus* Dönitz, 1910
— Hoogstraal (1956)—precedes "convex-eyed brown rhipicephaline," *q.v.*
— Hoogstraal & Theiler (1959)
- East African highland bont tick**, *Amblyomma gemma* Dönitz, 1909
— Hoogstraal & Kaiser (1959a)—precedes "gemlike bont," *q.v.*
- East African highland brown tick**, *Rhipicephalus compositus* Neumann, 1897
— Hoogstraal (1956)
- East African hyrax tick**, *Haemaphysalis bequaerti* Hoogstraal, 1956
— Hoogstraal (1956)
- East-African shagreened tick**, *Rhipicephalus supertritus* Neumann, 1907
— Hoogstraal (1956)
- East Asian mountain haemaphysalid**, *Haemaphysalis hystricis* Supino, 1897
— Hoogstraal *et al.* (1965c)
- Egyptian fox-cub russet tick**, *Ixodes kaiseri* Arthur, 1957
— Hoogstraal & Kaiser (1958d)
- Elephant amblyomma**, *Amblyomma tholloni* Neumann, 1899
— Hoogstraal (1956)
- Elephant dermacentor**, *Dermacentor circumguttatus* Neumann, 1897
— Hoogstraal (1956)
- Elongate tenrec-haemaphysaline**, *Haemaphysalis elongata* Neumann, 1897
— Hoogstraal *et al.* (1974b)
- Enamel-legged hyalomma**, *Hyalomma turanicum* Pomerantzev, 1946—see also "Turanian hyalomma"
— Hoogstraal (1956)
- Eritrean hyalommine**, *Hyalomma erythraeum* Tonelli-Rondelli, 1932—junior synonym of *Hyalomma impeltatum* Schulze and Schlottke, 1930 (Guglielmone *et al.* 2010)
— Hoogstraal *et al.* (1981)—preceded by "Somali hyalomma," *q.v.*
- European rabbit haemaphysalid**, *Haemaphysalis hispanica* Gil Collado, 1938
— Hoogstraal & Morel (1970)

Falanouc haemaphysaline, *Haemaphysalis eupleres* Hoogstraal, Kohls and Trapido, 1965
— Hoogstraal & Camicas (1977)—preceded by "Madagascar Falanouc haemaphysalid," *q.v.*

Festa's North African russet tick, *Ixodes festai* Tonelli-Rondelli, 1926
— Hoogstraal (1959)
— Hoogstraal & Kaiser (1960a)

Fish River bush haemaphysalid, *Haemaphysalis silacea* Robinson, 1912
— Hoogstraal (1963)

Flat-inner-spurred haemaphysalis, *Haemaphysalis intermedia* Warburton and Nuttall, 1909
— Hoogstraal & Trapido (1963c)

Gemlike bont, *Amblyomma gemma* Dönitz, 1909
— Hoogstraal *et al.* (1981)—preceded by "East African highland bont tick," *q.v.*
— Hoogstraal & Kaiser (1959a)

Glossy rhipicephaline, *Rhipicephalus simus* Koch, 1844
— Hoogstraal *et al.* (1981)—preceded by "glossy tick," *q.v.*

Glossy tick, *Rhipicephalus simus* Koch, 1844
— Hoogstraal (1956)—precedes "glossy rhipicephaline," *q.v.*
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Theiler (1959)
— Karrar *et al.* (1963)

Grooved brown rhipicephaline, *Rhipicephalus sulcatus* Neumann, 1908
— Hoogstraal *et al.* (1981)—preceded by "grooved brown tick," *q.v.*

Grooved brown tick, *Rhipicephalus sulcatus* Neumann, 1908
— Hoogstraal (1956)—precedes "grooved brown rhipicephaline," *q.v.*

Guilhon rhipicephaline, *Rhipicephalus guilhoni* Morel and Vassiliades, 1963
— Hoogstraal *et al.* (1981)

Hairy hyalomma, *Hyalomma rufipes* Koch, 1844
— Hoogstraal (1956)—precedes "setose hyalommine," *q.v.*
— Hoogstraal & Kaiser (1958d)
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Kaiser (1960a)
— Karrar *et al.* (1963)

Heinrich's ferret-badger haemaphysalid, *Haemaphysalis heinrichi* Schulze, 1939
— Hoogstraal & Kohls (1968)

Highland bont tick, *Amblyomma pomposum* Dönitz, 1909
— Hoogstraal (1956)

- Himalayan artiodactyl haemaphysalid**, *Haemaphysalis himalaya* Hoogstraal, 1966
— Hoogstraal & El Kammah (1970)—preceded by "Indian Himalayan haemaphysalid," *q.v.* for taxonomic notes.
- Himalayan primitive haemaphysalid**, *Haemaphysalis aponommoides* Warburton, 1913
— Hoogstraal & Mitchell (1971)
- Hussain's Indian hyalomma**, *Hyalomma hussaini* Sharif, 1928
— Hoogstraal (1956)
— Kaiser & Hoogstraal (1964)
- Hyderabad jungle-cat haemaphysalid**, *Haemaphysalis silvafelis* Hoogstraal and Trapido, 1963
— Hoogstraal & Trapido (1963a)
- Hyrax glossy tick**, *Rhipicephalus distinctus* Bedford, 1932
— Hoogstraal (1956)
- Indian goat hyalomma**, *Hyalomma kumari* Sharif, 1928
— Kaiser & Hoogstraal (1963)
— Kaiser & Hoogstraal (1964)
- Indian Himalayan haemaphysalid**, *Haemaphysalis himalaya* Hoogstraal, 1966—this species is "probably a junior synonym of *H. (H.) sundrai*," per Hoogstraal & Kim (1985).
— Hoogstraal (1966d)—precedes "Himalayan artiodactyl haemaphysalid," *q.v.*
- Indian multispurred haemaphysalid**, *Haemaphysalis cornigera shimoga* Trapido and Hoogstraal, 1964, now considered two separate species, *cornigera* Neumann, 1897 and *shimoga* Trapido and Hoogstraal, 1964 (Guglielmone *et al.* 2010)
—Trapido & Hoogstraal (1964)
- Indian sambar deer haemaphysalid**, *Haemaphysalis sambar* Hoogstraal, 1971
— Hoogstraal (1971c)
- Indian small carnivore haemaphysalid**, *Haemaphysalis indica* Warburton, 1910
— Hoogstraal (1970a)
- Indonesian flying-squirrel haemaphysalid**, *Haemaphysalis bartelsi* Schulze, 1938
— Wilson *et al.* (1968)
— Hoogstraal *et al.* (1972b)
- Indo-Vietnam hirsute haemaphysalid**, *Haemaphysalis obesa* Larrousse, 1925
— Hoogstraal *et al.* (1971a)—preceded by "Asian obese-hirsute haemaphysalid," *q.v.*
- Iranian camel hyalommine**, *Hyalomma schulzei* Olenov 1931
— Hoogstraal *et al.* (1981)—preceded by "Near-Eastern camel hyalomma," *q.v.*

- Iraq russet tick**, *Ixodes* "sp. nov. Arthur, in press (1958)"—this species was named *Ixodes tatei* Arthur, 1959 (Arthur 1959), a junior synonym of *Ixodes eldaricus* Dzhaparidze, 1950 (Camicas *et al.* 1998).
— Hoogstraal & Kaiser (1958c)
- Isaac's Indian hyalomma**, *Hyalomma marginatum isaaci* Sharif, 1928, now considered two separate species, *marginatum* Koch, 1844 and *isaaci* Sharif, 1928 (Guglielmone *et al.* 2010)
— Kaiser & Hoogstraal (1964)
- Ivory bont**, *Amblyomma eburneum* Gerstäcker, 1873
— Hoogstraal *et al.* (1981)
- Japanese bird haemaphysalid**, *Haemaphysalis phasiana* Saito, Hoogstraal and Wassef, 1974
— Saito *et al.* (1974a)
- Japanese black-rabbit haemaphysalid**, *Haemaphysalis pentalagi* Pospelova-Shtrom, 1935
— Hoogstraal & Yamaguti (1970)
- Javanese hirsute haemaphysalid**, *Haemaphysalis hirsuta* Hoogstraal, Trapido and Kohls, 1966
— Hoogstraal *et al.* (1966a)
- Kadarsan's Celebes forest rodent haemaphysaline**, *Haemaphysalis kadarsani* Hoogstraal and Wassef, 1977
— Hoogstraal & Wassef (1977)
- Kashmir haemaphysalid**, *Haemaphysalis kashmirensis* Hoogstraal and Varma, 1962
— Hoogstraal & McCarthy (1965b)
- Kennel tick**, *Rhipicephalus sanguineus* (Latreille, 1806)
— Hoogstraal (1956)—precedes "kennel tick or brown dog-tick," *q.v.*
— Hoogstraal & Kaiser (1958c)
— Hoogstraal & Kaiser (1958d)
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Theiler (1959)
— Hoogstraal & Kaiser (1960a)
— Karrar *et al.* (1963)
- Kennel tick or brown dog-tick**, *Rhipicephalus sanguineus* (Latreille, 1806)
— Hoogstraal *et al.* (1981)—preceded by "kennel tick," *q.v.*
- Kinnear's Indian haemaphysalid**, *Haemaphysalis papuana kinneari* Warburton, 1913, now considered two separate species, *papuana* Thorell, 1883 and *kinneari* Warburton, 1913 (Guglielmone *et al.* 2010)
— Trapido *et al.* (1964b)
- Kitaoka's Japanese primitive haemaphysalid**, *Haemaphysalis kitaokai* Hoogstraal, 1969
— Hoogstraal (1969a)

Kohls' Jordanian sheep and goat boophilid, *Rhipicephalus kohlsi* (Hoogstraal and Kaiser, 1960)*
— Hoogstraal & Kaiser (1960b)—precedes "Arabian sheep and goat boophiline," *q.v.*

Kratz's hyalomma, *Hyalomma impeltatum* Schulze and Schlottke, 1930—this is a senior synonym
of *Hyalomma erythraeum* Tonelli-Rondelli, 1932 (Guglielmone *et al.* 2010)
— Hoogstraal (1956)—precedes "Kratz's hyalommine," *q.v.*
— Hoogstraal & Kaiser (1958a)
— Hoogstraal & Kaiser (1958c)
— Hoogstraal & Kaiser (1958d)
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Kaiser (1960a)
— Kaiser & Hoogstraal (1963)
— Karrar *et al.* (1963)

Kratz's hyalommine, *Hyalomma impeltatum* Schulze and Schlottke, 1930
— Hoogstraal *et al.* (1981)—preceded by "Kratz's hyalomma," *q.v.* for taxonomic notes.

Kuntz's Taiwan flying squirrel tick, *Ixodes kuntzi* Hoogstraal and Kohls, 1965
— Hoogstraal & Kohls (1965c)

Kutch haemaphysalid, *Haemaphysalis kutchensis* Hoogstraal and Trapido, 1963
— Hoogstraal & Trapido (1963b)

Kyasanur Forest haemaphysalid, *Haemaphysalis kyasanurensis* Trapido, Hoogstraal and
Rajagopalan, 1964
— Trapido *et al.* (1964a)

Lama's anomalous Himalayan tick, *Anomalohimalaya lamai* Hoogstraal, Kaiser and Mitchell,
1970
— Hoogstraal *et al.* (1970a)

Large African carnivore haemaphysaline, *Haemaphysalis paraleachi* Camicas, Hoogstraal and El
Kammah, 1983
— Camicas *et al.* (1983)

Large Anatolian hyalomma, *Hyalomma anatolicum excavatum* Koch, 1844, now considered two
separate species, *anatolicum* Koch, 1844 and *excavatum* Koch, 1844 (Guglielmone *et al.* 2010)
— Hoogstraal & Kaiser (1959a)—precedes "large Anatolian hyalommine," *q.v.*
— Hoogstraal & Kaiser (1959b)
— Hoogstraal & Kaiser (1960a)
— Karrar *et al.* (1963)

Large Anatolian hyalommine, *Hyalomma anatolicum excavatum* Koch, 1844, now considered two
separate species, *anatolicum* Koch, 1844 and *excavatum* Koch, 1844 (Guglielmone *et al.* 2010)
— Hoogstraal *et al.* (1981)—preceded by "large Anatolian hyalomma," *q.v.*

Large Malayan serow haemaphysalid, *Haemaphysalis capricornis* Hoogstraal, 1966
— Hoogstraal (1966c)

- Large reptile-amblyomma**, *Amblyomma marmoreum* Koch, 1844
— Hoogstraal (1956)
- Leach's Afro-Asian haemaphysalid**, *Haemaphysalis leachi* (Audouin, 1826)
— Hoogstraal & Trapido (1966)—preceded by "yellow dog-haemaphysalid," *q.v.*
- Leathery Madagascar rodent haemaphysalid**, *Haemaphysalis nesomys* Hoogstraal, Uilenberg and Klein, 1966
— Hoogstraal *et al.* (1966b)
- Long-legged bat-russet tick**, *Ixodes vespertilionis* Koch, 1844
— Hoogstraal (1956)
- Lusitanian hyalomma**, *Hyalomma lusitanicum* Koch, 1844
— Hoogstraal & Kaiser (1959b)
- Luzon clipped-spur haemaphysalid**, *Haemaphysalis psalistos* Hoogstraal, Kohls and Parrish, 1967
— Hoogstraal *et al.* (1967c)
- Luzon mountain glossy haemaphysalid**, *Haemaphysalis luzonensis* Hoogstraal and Parrish, 1968
— Hoogstraal & Parrish (1968)
- Madagascar bird haemaphysalid**, *Haemaphysalis madagascariensis* Colas-Belcour and Millot, 1948
— Hoogstraal (1966b)
- Madagascar bird ixodid**, *Ixodes domerguei* Uilenberg and Hoogstraal, 1965
— Uilenberg & Hoogstraal (1965)
- Madagascar Falanouc haemaphysalid**, *Haemaphysalis eupleres* Hoogstraal, Kohls and Trapido, 1965
— Hoogstraal *et al.* (1965d)—precedes "Falanouc haemaphysaline," *q.v.*
- Madagascar lemur haemaphysalid**, *Haemaphysalis lemuris* Hoogstraal, 1953
— Hoogstraal & Theiler (1959)
- Madagascar lemur russet tick**, *Ixodes lemuris* Arthur, 1958
— Hoogstraal & Theiler (1959)
- Madagascar spurless rodent-haemaphysalid**, *Haemaphysalis anoplos* Hoogstraal, Uilenberg and Klein, 1967
— Hoogstraal *et al.* (1967d)
- Mage Island haemaphysalid**, *Haemaphysalis mageshimaensis* Saito and Hoogstraal, 1973
— Saito & Hoogstraal (1973)
- Malay-Borneo civet haemaphysalid**, *Haemaphysalis vidua* Warburton and Nuttall, 1909
— Hoogstraal (1964)

Mediterranean ear haemaphysalid, *Haemaphysalis otophila* Schulze, 1918—this is a junior synonym of *Haemaphysalis parva* (Neumann, 1897) (Camicas *et al.* 1998)
— Hoogstraal & Kaiser (1958c)—precedes "Near-Eastern sheep and goat haemaphysalid," *q.v.*

Mediterranean hedgehog-haemaphysalid, *Haemaphysalis erinacei* Pavesi, 1884
— Hoogstraal & Kaiser (1958d)—contemporaneous to "Mediterranean hedgehog tick and precedes "Turanian hedgehog-carnivore haemaphysalinae," both *q.v.*

Mediterranean hedgehog tick, *Haemaphysalis erinacei* Pavesi, 1884
— Hoogstraal & Kaiser (1958c)—contemporaneous to "Mediterranean hedgehog-haemaphysalid," *q.v.*

Mediterranean hyalomma, *Hyalomma marginatum* Koch, 1844
— Hoogstraal (1956)
— Hoogstraal & Kaiser (1958d)
— Karrar *et al.* (1963)

Middle East boophiline or Texas fever tick, *Rhipicephalus annulatus* (Say, 1921)*
— Hoogstraal *et al.* (1981)—preceded by "Texas-fever tick," *q.v.*

Middle East lizard haemaphysalid, *Haemaphysalis sulcata* Canestrini and Fanzago, 1878
— Hoogstraal & Kaiser (1959a)—preceded by "Near-East lizard haemaphysalid" and its contemporaneous "Near East lizard tick," both *q.v.*

Middle East lizard-goat-sheep haemaphysaline, *Haemaphysalis sulcata* Canestrini and Fanzago, 1878
— Hoogstraal *et al.* (1981)—preceded by "Middle East lizard haemaphysalid," *q.v.*

Mjöberg's deer haemaphysaline, *Haemaphysalis mjoebergi* Warburton, 1926
— Hoogstraal & Wassef (1982)

Monitor lizard tick, *Amblyomma exornatum* Koch, 1844
— Hoogstraal (1956)

Montgomery's Himalayan hirsute haemaphysalid, *Haemaphysalis montgomeryi* Nuttall, 1912
— Hoogstraal *et al.* (1966a)

Morel's Middle African carnivore haemaphysalid, *Haemaphysalis moreli* Camicas, Hoogstraal and El Kammah, 1972
— Camicas *et al.* (1972)

Mouse deer haemaphysalid, *Haemaphysalis traguli* Oudemans, 1928
— Hoogstraal (1964)

Mühlens' brown tick, *Rhipicephalus muehlensi* Zumpt, 1943
— Hoogstraal (1956)

- Nadchatram's forest haemaphysalid**, *Haemaphysalis papuana nadchatrami* Hoogstraal, Trapido and Kohls, 1965, now considered two separate species, *papuana* Thorell, 1883 and *nadchatrami* Hoogstraal, Trapido and Kohls, 1965 (Guglielmone *et al.* 2010)
— Hoogstraal *et al.* (1965c)
- Near-East lizard haemaphysalid**, *Haemaphysalis sulcata* Canestrini and Fanzago, 1878
— Hoogstraal & Kaiser (1958d)—preceded by "Near East lizard tick," *q.v.*
- Near East lizard tick**, *Haemaphysalis sulcata* Canestrini and Fanzago, 1878
— Hoogstraal & Kaiser (1958c)—precedes "Near-East lizard haemaphysalid," *q.v.*
- Near-Eastern camel hyalomma**, *Hyalomma schulzei* Olenov, 1931
— Hoogstraal (1956)—precedes "Iranian camel hyalommine," *q.v.*
— Hoogstraal & Kaiser (1958c)
— Hoogstraal & Kaiser (1958d)
- Near-Eastern sheep and goat haemaphysalid**, *Haemaphysalis otophila* Schulze, 1918—this is a junior synonym of *Haemaphysalis parva* (Neumann, 1897) (Camicas *et al.* 1998)
— Hoogstraal & Kaiser (1960a)—preceded by "Mediterranean ear haemaphysalid," *q.v.*
- New Guinea pig haemaphysalid**, *Haemaphysalis papuana* Thorell, 1883
— Trapido *et al.* (1964b)
- North African lizard hyalomma**, *Hyalomma franchinii* Tonelli-Rondelli, 1932
— Hoogstraal & Kaiser (1960a)—preceded by "Northeast African lizard hyalomma," *q.v.*
- Northeast-African lizard hyalomma**, *Hyalomma franchinii* Tonelli-Rondelli, 1932
— Hoogstraal & Kaiser (1958b)—precedes "North African lizard hyalomma," *q.v.*
— Hoogstraal & Kaiser (1958d)
- Northeast Asian-Australian haemaphysaline**, *Haemaphysalis longicornis* Neumann, 1901
— Hoogstraal *et al.* (1981)—preceded by "Australian-Northeast Asian haemaphysalid," *q.v.*
- Norval's southern African hedgehog haemaphysaline**, *Haemaphysalis norvali* Hoogstraal and Wassef, 1983
— Hoogstraal & Wassef (1983a)
- Oriental Dermacentor**, *Dermacentor auratus* Supino, 1897
— Wassef & Hoogstraal (1984a)
- Palestinian haemaphysalid**, *Haemaphysalis adleri* Feldman-Muhsam, 1951
— Hoogstraal & Kaiser (1958c)
- Pantropical cattle tick**, *Rhipicephalus microplus* (Canestrini, 1888)
— Hoogstraal (1956)
— Hoogstraal & Kaiser (1958c)
- Parmated African hyalomma**, *Hyalomma albiparmatum* Schulze, 1919
— Hoogstraal (1956)

Philippine boar haemaphysalid, *Haemaphysalis susphilippensis* Hoogstraal, Kohls and Parrish, 1968

— Hoogstraal *et al.* (1968c)

Philippine deer and pig haemaphysaline, *Haemaphysalis rusae* Kohls, 1950

— Hoogstraal & Wassef (1983b)

Pospelova-Shtrom's USSR mountain haemaphysalid, *Haemaphysalis pospelovashtromae* Hoogstraal, 1966

— Hoogstraal (1966a)

Punctate rhipicephaline, *Rhipicephalus punctatus* Warburton, 1912

— Hoogstraal *et al.* (1981)

Ramachandra's bispined haemaphysalid, *Haemaphysalis ramachandrai* Dhanda, Hoogstraal and Bhat, 1970

— Dhanda *et al.* (1970)

Red tick, *Rhipicephalus evertsi* Neumann, 1897

— Hoogstraal (1956)

— Hoogstraal & Kaiser (1959a)

— Hoogstraal & Theiler (1959)

— Karrar *et al.* (1963)

— Hoogstraal *et al.* (1981)

Redikorzev's russet tick, *Ixodes redikorzevi* Olenev, 1927

— Hoogstraal & Kaiser (1958d)

Rensch's Indonesian haemaphysalid, *Haemaphysalis renschi* Schulze, 1933

— Hoogstraal & Anastos, 1968

Rhinoceros amblyomma, *Amblyomma rhinocerotis* (de Geer, 1778)

— Hoogstraal (1956)

Rhinoceros dermacentor, *Dermacentor rhinocerinus* (Denny, 1843)

— Hoogstraal (1956)

Rodent russet tick, *Ixodes nairobiensis* Nuttall, 1916

— Hoogstraal (1956)

Roubaud's Vietnam obese-haemaphysalid, *Haemaphysalis roubaudi* Toumanoff, 1940

— Hoogstraal *et al.* (1966a)

Scimitar-shield cape brown tick, *Rhipicephalus longus* Neumann, 1907

— Hoogstraal (1956)

Scimitar-shielded glossy rhipicephaline, *Rhipicephalus senegalensis* Koch, 1844

— Hoogstraal *et al.* (1981)—preceded by "scimitar-shielded glossy tick," *q.v.*

Scimitar-shielded glossy tick, *Rhipicephalus simus senegalensis* Koch, 1844, now considered two separate species, *simus* Koch, 1844 and *senegalensis* Koch, 1844 (Guglielmone *et al.* 2010)
— Hoogstraal (1956)—precedes "scimitar-shielded glossy rhipicephaline," *q.v.*

Setose hyalommine, *Hyalomma marginatum rufipes* Koch, 1844, now considered two separate species, *marginatum* Koch, 1844 and *rufipes* Koch, 1844 (Guglielmone *et al.* 2010)
— Hoogstraal *et al.* (1981)—preceded by "hairy hyalomma," *q.v.*

Sharif's Indian hyalomma, *Hyalomma brevipunctata* Sharif, 1928
— Kaiser & Hoogstraal (1964)

Sharp-spurred haemaphysalid, *Haemaphysalis aciculifer* Warburton, 1913
— Hoogstraal (1956)—precedes "African antelope spurred-smooth haemaphysalid," *q.v.*

Shiny hyalomma, *Hyalomma detritum* Schulze, 1919—this is a junior synonym of *Hyalomma scupense* Schulze, 1919 (Guglielmone *et al.* 2010)
— Hoogstraal (1956)
— Hoogstraal & Kaiser (1958c)
— Hoogstraal & Kaiser (1958d)
— Kaiser & Hoogstraal (1963)
— Kaiser & Hoogstraal (1964)

Short-legged bat-russet-tick, *Ixodes simplex* Neumann, 1906
— Hoogstraal (1956)

Shrew russet tick, *Ixodes alluaudi* Neumann, 1913
— Hoogstraal (1956)

Small Anatolian hyalomma, *Hyalomma anatolicum* Koch, 1844
— Hoogstraal & Kaiser (1960a)—preceded by "small hyalomma," *q.v.*
— Kaiser & Hoogstraal (1963)
— Karrar *et al.* (1963)
— Kaiser & Hoogstraal (1964)

Small Anatolian hyalommine, *Hyalomma anatolicum* Koch, 1944
— Hoogstraal *et al.* (1981)—preceded by "small hyalomma," and "small Anatolian hyalomma," both *q.v.*

Small hyalomma, *Hyalomma anatolicum* Koch, 1844
— Hoogstraal & Kaiser (1958c)—precedes "small Anatolian hyalomma," *q.v.*
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Kaiser (1959b)

Small hyalomma, *Hyalomma excavatum* Koch, 1844
— Hoogstraal (1956)—precedes the designation of the same common name for *Hyalomma anatolicum* Koch, 1844, *q.v.* In the notes following the 1956 designation for *excavatum*, Hoogstraal stated, "[t]he name *H. anatolicum*, as used by Russian and French workers, applies

- to *H. excavatum*," implying synonymy; Guglielmone *et al.* (2010) recognize both *excavatum* and *anatolicum* as valid species.
- Hoogstraal & Kaiser (1958d)
- Small reptile-amblyomma**, *Amblyomma nuttalli* Dönitz, 1909
— Hoogstraal (1956)
- Snake tick**, *Amblyomma latum* Koch, 1844
— Hoogstraal (1956)
- Somali glossy tick**, *Rhipicephalus longicoxatus* Neumann, 1905
— Hoogstraal (1956)
- Somali hyalomma**, *Hyalomma erythraeum* Tonelli-Rondelli, 1932—this is a junior synonym of *Hyalomma impeltatum* Schulze and Schlottke, 1930 (Guglielmone *et al.* 2010)
— Kaiser & Hoogstraal (1968)—precedes "Eritrean hyalommine," *q.v.*
- Somali relict hyalomma**, *Hyalomma punt* Hoogstraal, Kaiser and Pedersen, 1969
— Hoogstraal *et al.* (1969)
- South African beady-legged tick**—see "winter horse tick"
- South African bont tick**, *Amblyomma hebraeum* Koch, 1844
— Hoogstraal & Theiler (1959)
- South African springhare haemaphysalid**, *Haemaphysalis pedetes* Hoogstraal, 1972
— Hoogstraal (1972)
- Southeast Asian bispined haemaphysalid**, *Haemaphysalis lagrangei* Larrousse, 1925
— Hoogstraal *et al.* (1973c)
- Southeast Asian Dermacentor**, *Dermacentor atrosignatus* Neumann, 1906
— Wassef & Hoogstraal (1984b)
- Southeast Asian forest haemaphysalid**, *Haemaphysalis semermis* Neumann, 1901
— Hoogstraal *et al.* (1965b)
- Southeast Asian grooved haemaphysalid**, *Haemaphysalis asiatica* (Supino, 1897).
— Hoogstraal & Trapido (1966)
— Saito *et al.* (1971)
- Southeast Asian pig Dermacentor**, *Dermacentor compactus* Neumann, 1901
— Wassef & Hoogstraal (1983)
- Southern ocean bird tick**, *Amblyomma loculosum* Neumann, 1907
— Hoogstraal *et al.* (1976a)
- Stein's Southeast Asian pig Dermacentor**, *Dermacentor steini* (Schulze, 1933)
— Wassef & Hoogstraal (1986b)

- Sudanese beady-legged tick**, *Margaropus reidi* Hoogstraal, 1956
— Hoogstraal (1956)
- Sumatran forest haemaphysalid**, *Haemaphysalis sumatraensis* Hoogstraal, El Kammah, Kadarsan and Anastos, 1971
— Hoogstraal *et al.* (1971d)
- Taiwan-Japanese pig *Dermacentor***, *Dermacentor taiwanensis* Sugimoto, 1935
— Wassef & Hoogstraal (1986a)
- Texas-fever tick**, *Rhipicephalus annulatus* (Say, 1821)
— Hoogstraal (1956)—precedes "Middle East boophiline or Texas fever tick," *q.v.*
— Hoogstraal & Kaiser (1958c)
— Hoogstraal & Kaiser (1958d)
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Kaiser (1960a)
- Tibet mountain haemaphysalid**, *Haemaphysalis tibetensis* Hoogstraal, 1965
— Hoogstraal (1965)
- Tortoise hyalomma**, *Hyalomma aegyptium* (Linnaeus, 1758)
— Hoogstraal (1956)
— Hoogstraal & Kaiser (1958c)
— Kaiser & Hoogstraal (1963)
— Kaiser & Hoogstraal (1964)
- Toxopeus' Indonesian haemaphysalid**, *Haemaphysalis papuana toxopei* Warburton, 1927, now considered two separate species, *papuana* Thorell, 1883 and *toxopei* Warburton, 1927 (Guglielmone *et al.* 2010)
— Hoogstraal (1964)
- Transvaal rodent ixodid**, *Ixodes transvaalensis* Clifford and Hoogstraal, 1966
— Clifford & Hoogstraal (1966)
- Traub's Borneo-Malayan artiodactyl haemaphysalid**, *Haemaphysalis traubi* Kohls, 1955
— Hoogstraal & El Kammah (1971)
- Tricuspid glossy tick**, *Rhipicephalus tricuspis* Dönitz, 1906
— Hoogstraal (1956)
- Tropical bont tick**, *Amblyomma variegatum* (Fabricius, 1794)
— Hoogstraal (1956)
— Hoogstraal & Kaiser (1959a)
— Hoogstraal & Theiler (1959)
— Hoogstraal *et al.* (1981)
- Truncate hyalommine**, *Hyalomma truncatum* Koch, 1844
— Hoogstraal *et al.* (1981)—preceded by "African hyalomma," *q.v.*

- Turanian hedgehog-carnivore haemaphysalinae** [*sic*], *Haemaphysalis erinacei turanica* Pospelova-Shtrom, 1940—the subspecies *Haemaphysalis erinacei turanica* is widely established in the literature, although the complex remains poorly known (Hoogstraal & Kim 1985)
— Hoogstraal *et al.* (1981)
- Turanian hyalomma**, *Hyalomma marginatum turanicum* Pomerantzev, 1946, now considered two separate species, *marginatum* Koch, 1844 and *turanicum* Pomerantzev, 1946 (Guglielmone *et al.* 2010)
— Hoogstraal & Kaiser (1958c)—precedes "Turanian hyalommine," *q.v.*
— Hoogstraal & Kaiser (1960a)
— Kaiser & Hoogstraal (1963)
— Karrar *et al.* (1963)
— Kaiser & Hoogstraal (1964)
- Turanian hyalommine**, *Hyalomma marginatum turanicum* Pomerantzev, 1946
— Hoogstraal *et al.* (1981)—preceded by "Turanian hyalomma," *q.v.* for taxonomic notes.
- Turanian rhipicephaline**, *Rhipicephalus turanicus* Pomerantzev, 1940
— Hoogstraal *et al.* (1981)
- Vietnam primitive haemaphysalid**, *Haemaphysalis vietnamensis* Hoogstraal and Wilson, 1966, now considered a junior synonym of *H. colasbelcourii* (Santos Dias, 1958) (Guglielmone *et al.* 2010)
— Hoogstraal & Wilson (1966)
- Warburton's Chinese serow haemaphysalid**, *Haemaphysalis warburtoni* Nuttall, 1912
— Hoogstraal (1966a)
— Hoogstraal (1971d)
- West African antelope haemaphysalid**, *Haemaphysalis parmata* Neumann, 1905
— Hoogstraal (1956)
— Hoogstraal & Theiler (1959)
- West African carnivore haemaphysalid**, *Haemaphysalis punctaleachi* Camicas, Hoogstraal and El Kammah, 1973
— Camicas *et al.* (1973)
- West African ground-squirrel tick**, *Haemaphysalis houyi* Nuttall and Warburton, 1915
— Hoogstraal (1956)
- West African hyalomma**, *Hyalomma impressum* Koch, 1844
— Hoogstraal (1956)
- West African warthog brown tick**, *Rhipicephalus cuspidatus* Neumann, 1906
— Hoogstraal (1956)
- Winter horse tick or South African beady-legged tick**, *Margaropus winthemi* Karsch, 1879
— Hoogstraal (1956)

Yellow dog-haemaphysalid, *Haemaphysalis leachi* (Audouin, 1826)

— Hoogstraal & Kaiser (1960a)—preceded by "yellow dog-tick," *q.v.* for taxonomic notes.

Yellow dog-tick, *Haemaphysalis leachi* (Audouin, 1826)

— Hoogstraal (1956)—precedes "yellow dog-haemaphysalid," *q.v.*

— Hoogstraal & Kaiser (1958d)

— Hoogstraal & Kaiser (1959a)

— Hoogstraal & Theiler (1959)

— Karrar *et al.* (1963)

Yellow small-carnivore tick, *Haemaphysalis muhsamae* Santos Dias, 1954

— Hoogstraal (1956)

— Hoogstraal & Kaiser (1959a)

Yemeni russet tick, *Ixodes hoogstraali* Arthur, 1955

— Hoogstraal & Kaiser (1959a)

Yen's haemaphysalid, *Haemaphysalis yeni* Toumanoff, 1944

— Saito & Hoogstraal (1972)

Zumpt's southern Africa haemaphysalid, *Haemaphysalis zumpti* Hoogstraal and El Kammah, 1974

— Hoogstraal & El Kammah (1974)

*This species was in the genus *Boophilus* when the common name was bestowed.

Discussion

These 292 common names represent nearly a third of the world's tick species, a remarkable number for any individual's work to touch upon in the course of a lifetime. Hoogstraal's designations of common names for ticks began in 1956 with his monograph on the ticks of the Sudan (Hoogstraal 1956) and continued irregularly throughout his career, closing in 1986 with two papers published during the year of his death (Wassef & Hoogstraal 1986a, 1986b). His common name designations were not limited to those species for which he was the original describer. He bestowed common names on tick species first described as early as the 18th century by Linnaeus and others, up to and including those described by his contemporaries (Hoogstraal 1956, Hoogstraal & Kaiser 1958c, Hoogstraal *et al.* 1981).

The number of names is also remarkable when one considers that not every Hoogstraal description or redescription included a common name designation. The reason for this was not elucidated by our analysis. The decision to designate a common name does not appear to be correlated with year of publication. For example, when Hoogstraal described *Ixodes jacksoni* in 1967 (Hoogstraal 1967) he did not designate a common name, though just a year previously he and Carleton Clifford had designated a common name for *Ixodes transvaalensis* (Clifford & Hoogstraal 1966). Coauthor preference also does not appear to have played a dominant role. Hoogstraal and Glen Kohls did not designate a common name for *Haemaphysalis ornithophila* (Hoogstraal & Kohls 1959), but that description was followed by several papers in which the two men did provide common names (Hoogstraal & Kohls 1960a–1968). And journal of publication does not appear to

have been a factor. Though many of Hoogstraal's common names were published in the *Journal of Parasitology*, when he described *Haemaphysalis nepalensis* in a *Journal of Parasitology* paper in 1962, he did not designate a common name (Hoogstraal 1962). In addition to the *Journal of Parasitology*, the *Journal of Medical Entomology* and the *Annals of the Entomological Society of America* were frequent venues for the publication of common names, as were the *Bulletin of Entomological Research*, *Fauna of Saudi Arabia*, *Fieldiana Zoology*, and the *Onderstepoort Journal of Veterinary Research*.

No clear system underlying Hoogstraal's composition of common names emerged from our analysis. A colleague who collaborated closely with him during the last 15-20 years of his professional life recalled that Hoogstraal was responsible for giving common names to new species, and that to her knowledge he followed a personal rule for the process (Wassef 2010). Most have an obvious origin, such as "Brumpt's argas" for *Argas brumpti* Neumann, 1907 (Hoogstraal 1956), but a few are not readily apparent, such as "Kratz's hyalomma" for *Hyalomma impeltatum* Schulze and Schlottke, 1930 (Hoogstraal 1956). The names range from minimally descriptive, such as "red tick" for *Rhipicephalus evertsi* Neumann, 1897 (Hoogstraal 1956), to highly descriptive, such as his designation for a species named in his honor, *Argas hoogstraali*, for which he chose "Hoogstraal's Madagascar lizard argasid," thus describing the species by honoree, locale, host, and tick family (Hoogstraal *et al.* 1967b).

The majority of Hoogstraal's common names were used only once in his publications, in conjunction with an initial description or redescription, but 13 argasid and 37 ixodid common names were mentioned in a declarative context in at least one paper after their initial designation. The most extensive use by Hoogstraal of common names as co-identifiers in a non-declarative context is a 1985 book chapter on economically important ticks in which he used them with several *Amblyomma*, *Dermacentor* and *Rhipicephalus* species, but not with other genera (Hoogstraal 1985). In this work, his pairings of specific and common names were at times inconsistent with his original designations. For example, he referred to *Amblyomma variegatum* as the "variegated bont," whereas he had designated this species the "tropical bont" in 1956. Other mismatches in this work are "buffalo bont" instead of "East African buffalo tick" for *Amblyomma cohaerens*, "Central African bont" instead of "highland bont" for *Amblyomma pomposum*, "West African bont" for the previously undesignated *Amblyomma astrion* Dönitz, 1909, and "Cape brown tick" for the previously undesignated *Rhipicephalus capensis* Koch, 1844 (Hoogstraal 1985). We have made no focused attempt to determine whether other authors adopted Hoogstraal's common names, but from our experience with the literature of the Ixodida, it is our observation that his common names were not adopted by others in a general way.

Though certainly not formulated to conform to the comparatively recent rules promulgated by the American Arachnological Society Committee on Common Names of Arachnids (2003), most of Hoogstraal's common names do conform to those rules, with exceptions. Some of his names exceed the recommended three or fewer words, and some use the possessive form, which is not permitted by the Committee's rules. To our knowledge, none of Hoogstraal's tick common names have been submitted to the Committee for formal adoption. Two appear in the Committee's most recent, 2003 list: "brown dog tick," *Rhipicephalus sanguineus*, and "fowl tick," *Argas persicus*, but these likely originated independent of Hoogstraal's designations. The Committee's list gives "southern cattle tick" as the common name for *Boophilus microplus* (= *Rhipicephalus microplus*), on which Hoogstraal bestowed the common name "pantropical cattle tick." We are unaware of any adoption of common names by the Committee resulting either directly or indirectly from Hoogstraal's designations.

Most of Hoogstraal's names were not subsequently modified, but 32 were modified once, three (*Ornithodoros muesebecki*, *Haemaphysalis leachi*, and *Hyalomma anatolicum*) were modified

twice, and one (*Hyalomma anatolicum*) was modified three times. One common name, "small hyalomma," is an unresolved conflict, having been bestowed upon two species, first *Hyalomma excavatum* and then *H. anatolicum*. This conflict can be resolved by adopting *H. anatolicum*'s later common name "small Anatolian hyalomma" and retaining "small hyalomma" for *H. excavatum*. In this and other examples, the later names are more precise due to updating of host or distribution data, so, contrary to the rules of scientific nomenclature, they are more suitable than the earlier names for initial establishment of an officially recognized common name. Changes in common names may have resulted from Hoogstraal's later evaluation of data that indicated the original name needed to be modified to be more precise or more representative. For example, emendment of the 1969 designator "Muesebeck's Arabian booby argasid" (Hoogstraal 1969b) to the broader "Muesebeck's Arabian marine bird-argasid" (Hoogstraal *et al.* 1970c) may have resulted from distribution data mentioned in Hoogstraal & Gallagher (1982) demonstrating that the host range was not limited to the blue-faced booby: "*O. (A.) muesebecki* was originally found under stones in a nesting area of the blue-faced booby... [s]ubsequent data show that this tick is commonly associated with marine birds to as far north as Al Jurayd reef in the Kingdom of Saudi Arabia." Changes also may have resulted from later discovery of host associations that made the original common name too restrictive. For example, *Haemaphysalis celebensis* Hoogstraal, Trapido and Kohls, 1965 was described from a single specimen collected from the wild pig *Sus verrucosus celebensis* Laurie & Hill, 1954 on Celebes (Sulawesi) Island, Indonesia, from which it received its scientific name and the common name "Celebes pig haemaphysalid" (Hoogstraal *et al.* 1965e). Subsequent records showed that the species' hosts include deer, cattle, horses, and Asian buffalo, which may have resulted in the change of common name to "Celebes haemaphysalid" in 1973 (Hoogstraal *et al.* (1973a).

In their memorial tribute, Keirans & Oliver (1999) mention that Hoogstraal "loved to give common names to the ticks he described." The inspiration for these names may have come from Hoogstraal's familiarity with and use of the common names of the host species of ticks. When listing hosts in his works, he frequently provided both common and scientific names for each. For example, in one of his earliest papers, where he describes the new species *Ornithodoros arenicolous* from Egyptian desert mammal burrows, he includes a summary of hosts with their common and scientific names (Hoogstraal 1953). In later papers, hosts were sometimes tabulated and identified by scientific and common name, as in Table 1 in Hoogstraal & Kaiser (1960a), which lists 28 mammal hosts from which 245 ticks were collected. When host associations were central to the theme of a publication, Hoogstraal's extensive familiarity with common names was apparent. Thus, Hoogstraal & Wassef (1985) devoted nearly an entire page to details about host data presented in two tables. The impressions formed by associating host common names with particular localities and habits may have stimulated Hoogstraal's interest in designating similarly descriptive common names for the ticks he studied. It appears certain that he alone was the source of these names—no other authors of tick scientific names have proffered common names, and Hoogstraal's efforts in this regard ceased with his death. No common name was designated for the single new species description published posthumously under his coauthorship (Hoogstraal *et al.* 1992).

The number and complexity of Harry Hoogstraal's common names are a testament to his passion for tick taxonomy, but the vivid descriptiveness of many of them suggests an exuberance that transcended the rules and regulations of scientific nomenclature, marking a man who was both ardent naturalist and meticulous scientist.

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References

- American Arachnological Society Committee on Common Names of Arachnids (2003) *Common Names of Arachnids*, Fifth Edition. American Tarantula Society, accessible online at <http://www.americanarachnology.org/acn5.pdf>. 42 pp.
- Arthur, D.R. (1959) *Ixodes tatei* n. sp. from Iraq (Acarina: Ixodidae). *Parasitology*, 49, 108–110.
- Camicas, J.-L., Hoogstraal, H. & El Kammah, K.M. (1972) Notes on African *Haemaphysalis* ticks. VIII. *H. (Rhipistoma) moreli* sp. n., a carnivore parasite of the *H. (R.) leachi* group (Ixodoidea: Ixodidae). *Journal of Parasitology*, 58, 1185–1196.
- Camicas, J.-L., Hoogstraal, H. & El Kammah, K.M. (1973) Notes on African *Haemaphysalis* ticks. XI. *H. (Rhipistoma) punctaleachi* sp. n., a parasite of West African forest carnivores (Ixodoidea: Ixodidae). *Journal of Parasitology*, 59, 563–568.
- Camicas, J.-L., Hoogstraal, H. & El Kammah, K.M. (1983) Notes on African *Haemaphysalis* ticks. XIV. Description of adults of *H. (Rhipistoma) paraleachi* sp. n., a carnivore parasite of the *H. (R.) leachi* group (Ixodoidea: Ixodidae). *Journal of Parasitology*, 69, 400–404.
- Camicas, J.-L., Hervy, J.-P., Adam, F. & Morel, P.-C. (1998) *Les tiques du monde. Nomenclature, stades décrits, hôtes, répartition (Acarida, Ixodida)*. Orstom, Paris. 233 pp.
- Carpenter, T.L., O'Brien, L.L. & Robbins, R.G. (2007) Supplement to the 1987 bibliography of publications of Harry Hoogstraal (1917–1986). *Systematic and Applied Acarology*, 12, 85–86.
- Černý, V. & Hoogstraal, H. (1977) *Haemaphysalis (Allophysalis) danieli*, sp. n. (Ixodoidea: Ixodidae), female and tentatively associated immature stages from high mountains of northern Pakistan and Afghanistan. *Journal of Parasitology*, 63, 567–574.
- Clifford, C.M. & Hoogstraal, H. (1966) *Ixodes transvaalensis* n. sp. from a rodent nest in the Republic of South Africa (Acarina: Ixodidae). *Journal of Medical Entomology*, 2, 372–373.
- Clifford, C.M., Keirans, J.E., Hoogstraal, H. & Corwin, D. (1976) Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). 13. *Argas (A.) dalei*, new species, parasitizing the burrowing owl in Peru. *Annals of the Entomological Society of America*, 69, 917–925.
- Clifford, C.M., Hoogstraal, H., Keirans, J.E., Rice, R.C.A. & Dale, W.E. (1978) 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. *Journal of Medical Entomology*, 15, 57–73.
- Clifford, C.M., Keirans, J.E., Hoogstraal, H. & Morel, P.C. (1979) Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). 15. Identity of *Argas (A.) magnus* from Ecuador and Colombia. *Journal of Medical Entomology*, 15, 157–165.
- Clifford, C.M., Hoogstraal, H., Radovsky, F.J., Stiller, D. & Keirans, J.E. (1980) *Ornithodoros (Alectorobius) amblus* (Acarina: Ixodoidea: Argasidae): identity, marine bird and human hosts, virus infections, and distribution in Peru. *Journal of Parasitology*, 66, 312–323.
- Dhanda, V., Hoogstraal, H. & Bhat, H.R. (1970) *Haemaphysalis (Kaiseriana) ramachandrai* sp. n. (Ixodoidea, Ixodidae), a parasite of man and domestic and wild mammals in northern India and Nepal. *Journal of Parasitology*, 56, 823–831.
- Emel'yanova, N.D. & Hoogstraal, H. (1973) *Haemaphysalis verticalis* Itagaki, Noda, and Yamaguchi: rediscovery in China, adult and immature identity, rodent hosts, distribution, and medical relationships (Ixodoidea: Ixodidae). *Journal of Parasitology*, 59, 724–733.
- Guglielmone, A.A., Robbins, R.G., Apanaskevich, D.A., Petney, T.N., Estrada-Peña, A., Horak, I.G., Shao, R. & Barker, S.C. (2010) The Argasidae, Ixodidae and Nuttalliellidae (Acari: Ixodida) of the world: a list of valid species names. *Zootaxa*, 2528, 1–28.
- Hoogstraal, H. (1953) *Ornithodoros arenicolous* sp. n. (Ixodoidea, Argasidae) from Egyptian desert mammal burrows. *Journal of Parasitology*, 39, 505–516.

- 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)*. Department of the Navy, Bureau of Medicine and Surgery, Washington, D.C. 1101 pp.
- Hoogstraal, H. (1957) Bat ticks of the genus *Argas* (Ixodoidea, Argasidae) 2. *Secretargas* new subgenus and *A. transgaripepinus* White, 1846, its adult and immature stages; with a definition of the subgenus *Argas*. *Annals of the Entomological Society of America*, 50, 544–549.
- Hoogstraal, H. (1958) Bat ticks of the genus *Argas* (Ixodoidea, Argasidae). 3. The subgenus *Carios*, a redescription of *A. (C.) vespertilionis* (Latreille, 1802), and variation within an Egyptian population. *Annals of the Entomological Society of America*, 51, 19–26.
- Hoogstraal, H. (1959) *Ixodes festai* Rondelli, 1926 (Ixodoidea, Ixodidae) of the western Mediterranean area: a review. *Archives de l'Institut Pasteur du Maroc*, 5, 710–713.
- Hoogstraal, H. (1960) *Ornithodoros (Reticulinasus) faini* sp. nov. (Ixodoidea, Argasidae) from Congo fruit bats, *Rousettus leachii* (Smith). *Revue de Zoologie et de Botanique Africaines*, 62, 358–372.
- Hoogstraal, H. (1962) *Haemaphysalis nepalensis* sp. n. from a Himalayan rodent and man, and description of the male of *H. aponomoides* Warburton (n. comb.) (Ixodoidea, Ixodidae). *Journal of Parasitology*, 48, 195–203.
- Hoogstraal, H. (1963) Notes on African *Haemaphysalis* ticks. V. Redescription and relationships of *H. silacea* Robinson 1912, from South Africa (Ixodoidea, Ixodidae). *Journal of Parasitology*, 49, 830–837.
- Hoogstraal, H. (1964) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). Redescription, hosts, and distribution of *H. traguli* Oudemans. The larva and nymph of *H. vidua* W. and N. Identity of *H. papuana toxopei* Warburton (n. comb.). *Journal of Parasitology*, 50, 765–782.
- Hoogstraal, H. (1965) *Haemaphysalis tibetensis* sp. n., and its significance in elucidating phylogenetic patterns in the genus (Ixodoidea, Ixodidae). *Journal of Parasitology*, 51, 452–459.
- Hoogstraal, H. (1966a) *Haemaphysalis (Allophysalis) pospelovashstromae* sp. n. from USSR and redescription of the type material of *H. (A.) warburtoni* Nuttall from China (Ixodoidea, Ixodidae). *Journal of Parasitology*, 52, 787–800.
- Hoogstraal, H. (1966b) The *Haemaphysalis* ticks (Ixodoidea, Ixodidae) of birds. 2. Redescription of the type material of *H. (Rhipistoma) madagascariensis* Colas-Belcour and Millot. *Journal of Parasitology*, 52, 801–804.
- Hoogstraal, H. (1966c) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (H.) capricornis* sp. n., the large Malayan serow haemaphysalid from southwestern Thailand. *Journal of Parasitology*, 52, 783–786.
- Hoogstraal, H. (1966d) *Haemaphysalis (Herpetobia) himalaya* sp. n. (Ixodoidea, Ixodidae), a parasite of the Himalayan thar (Artiodactyla, Caprinae) in northwestern India. *Journal of Parasitology*, 52, 805–809.
- Hoogstraal, H. (1967) *Ixodes jacksoni* n. sp. (Ixodoidea: Ixodidae), a nest parasite of the spotted cormorant, *Phalacrocorax punctatus* (Sparman), in New Zealand. *Journal of Medical Entomology*, 4, 37–41.
- Hoogstraal, H. (1969a) *Haemaphysalis (Alloceraea) kitaokai* sp. n. of Japan, and keys to species in the structurally primitive subgenus *Alloceraea* Schulze of Eurasia (Ixodoidea, Ixodidae). *Journal of Parasitology*, 55, 211–221.
- Hoogstraal, H. (1969b) *Ornithodoros (Alectorobius) muesebecki*, n. sp., a parasite of the blue-faced booby (*Sula dactylatra melanops*) on Hasikiya Island, Arabian Sea (Ixodoidea, Argasidae). *Proceedings of the Entomological Society of Washington*, 71, 368–374.
- Hoogstraal, H. (1970a) Identity, distribution and hosts of *Haemaphysalis (Rhipistoma) indica* Warburton (resurrected) (Ixodoidea: Ixodidae), a carnivore parasite of the Indian subregion. *Journal of Parasitology*, 56, 1013–1022.
- Hoogstraal, H. (1970b) *Haemaphysalis (H.) birmaniae* Supino and *H. (H.) goral* sp. n. (Ixodoidea: Ixodidae), Asian parasites of artiodactyl mammals. *Journal of Parasitology*, 56, 1227–1238.
- Hoogstraal, H. (1971a) Identity, hosts, and distribution of *Haemaphysalis (Rhipistoma) canestrinii* (Supino) (resurrected), the postulated Asian progenitor of the African *leachi* complex (Ixodoidea: Ixodidae). *Journal of Parasitology*, 57, 161–172.
- Hoogstraal, H. (1971b) *Haemaphysalis (Kaiseriana) borneata* sp. n. (Ixodoidea: Ixodidae), a tick of the *H. (K.) aculeata* group parasitizing the sambar deer in Borneo. *Journal of Parasitology*, 57, 1096–1098.
- Hoogstraal, H. (1971c) *Haemaphysalis (H.) sambar* sp. n. (Ixodoidea: Ixodidae), a parasite of the sambar deer in southern India. *Journal of Parasitology*, 57, 173–176.
- Hoogstraal, H. (1971d) *Haemaphysalis (Allophysalis) warburtoni* Nuttall: description of immature stages, adult structural variation, and hosts and ecology in Nepal, with a redefinition of the subgenus *Allophysalis*

- Hoogstraal (Ixodoidea: Ixodidae). *Journal of Parasitology*, 57, 1083–1095.
- Hoogstraal, H. (1972) Notes on African *Haemaphysalis* ticks. IX. *H. (Rhipistoma) pedetes* sp. n., a relict parasite of the springhare (Rodentia: Pedetidae) in Transvaal (Ixodoidea: Ixodidae). *Journal of Parasitology*, 58, 979–983.
- Hoogstraal, H. (1973) Redescription of the type material of *Haemaphysalis (Aboimisalis) cinnabarina* (revalidated) and its junior synonym *H. (A.) sanguinolenta* described by Koch in 1844 from Brazil (Ixodoidea: Ixodidae). *Journal of Parasitology*, 59, 379–383.
- Hoogstraal, H. (1985) Ticks (Chapter 19). In: Gaafar, S.M., Howard, W.E. & Marsh, R.E. (eds.), *Parasites, pests, and predators*. Amsterdam, Elsevier Science Publishers B.V. pp. 347–370.
- Hoogstraal, H. & Anastos, G. (1968) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). Redescription of *H. (Kaiseriana) renschi* Schulze (resurrected), and its hosts and distribution in Indonesia. *Journal of Parasitology*, 54, 1214–1222.
- Hoogstraal, H. & Camicas, J.-L. (1977) *Haemaphysalis (Rhipistoma) eupleres* (Ixodoidea: Ixodidae), a parasite of the Madagascar falanouc (mongoose): new data and male identity. *Journal of Parasitology*, 63, 1099–1102.
- Hoogstraal, H. & Dhanda, V. (1970) *Haemaphysalis (H.) darjeeling* sp. n., a member of the *H. (H.) birmaniae* group (Ixodoidea, Ixodidae) parasitizing artiodactyl mammals in Himalayan forests of India, and in Burma and Thailand. *Journal of Parasitology*, 56, 169–174.
- Hoogstraal, H. & El Kammah, K.M. (1970) *Haemaphysalis (Herpetobia) himalaya* Hoogstraal (Ixodoidea, Ixodidae), description of immature stages, hosts, and distribution. *Journal of Parasitology*, 56, 1023–1027.
- Hoogstraal, H. & El Kammah, K.M. (1971) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea: Ixodidae). *H. (H.) traubi* Kohls, redescription of male, description of female, and new artiodactyl host and Malayan distribution records. *Journal of Parasitology*, 57, 426–431.
- Hoogstraal, H. & El Kammah, K.M. (1972) Notes on African *Haemaphysalis* ticks. X. *H. (Kaiseriana) aciculifer* Warburton and *H. (K.) rugosa* Santos Dias, the African representatives of the *spinigera* subgroup (Ixodoidea: Ixodidae). *Journal of Parasitology*, 58, 960–978.
- Hoogstraal, H. & El Kammah, K.M. (1974) Notes on African *Haemaphysalis* ticks. XII. *H. (Rhipistoma) zumpti* sp. n., a parasite of small carnivores and squirrels in southern Africa (Ixodoidea: Ixodidae). *Journal of Parasitology*, 60, 188–197.
- Hoogstraal, H. & Gallagher, M.D. (1982) Blisters, pruritus and fever after bites by the Arabian tick *Ornithodoros muesebecki*. *Lancet*, August 7, 1982, 2, 288–289.
- Hoogstraal, H. & Kaiser, M.N. (1958a) Observations on Egyptian *Hyalomma* ticks (Ixodoidea, Ixodidae). 3. Infestation of greater gerbils, especially by immature *H. impeltatum* S. & S., 1930. *Annals of the Entomological Society of America*, 51, 17–19.
- Hoogstraal, H. & Kaiser, M.N. (1958b) Observations on Egyptian *Hyalomma* ticks (Ixodoidea, Ixodidae). 4. Identity, distribution, and hosts of *H. franchinii* Tonelli-Rondelli (new combination). Systematic status of *H. tunesiacum* Sc. & Sc. and its subspecies. *Annals of the Entomological Society of America*, 51, 397–400.
- Hoogstraal, H. & Kaiser, M.N. (1958c) The ticks (Ixodoidea) of Iraq: keys, hosts and distribution. *Journal of the Iraqi Medical Professions*, 6, 58–84.
- Hoogstraal, H. & Kaiser, M.N. (1958d) The ticks (Ixodoidea) of Egypt: a brief review and keys. *Journal of the Egyptian Public Health Association*, 33, 51–85.
- Hoogstraal, H. & Kaiser, M.N. (1959a) Ticks (Ixodoidea) of Arabia, with special reference to the Yemen. *Fiediana Zoology*, 39, 297–322.
- Hoogstraal, H. & Kaiser, M.N. (1959b) Observations on Egyptian *Hyalomma* ticks (Ixodoidea, Ixodidae). 5. Biological notes and differences in identity of *H. anatolicum* and its subspecies *anatolicum* Koch and *excavatum* Koch, among Russian and other workers. Identity of *H. lusitanicum* Koch. *Annals of the Entomological Society of America*, 52, 243–261.
- Hoogstraal, H. & Kaiser, M.N. (1960a) Observations on ticks (Ixodoidea) of Libya. *Annals of the Entomological Society of America*, 53, 445–457.
- Hoogstraal, H. & Kaiser, M.N. (1960b) *Boophilus kohlsi* n. sp. (Acarina: Ixodidae) from sheep and goats in Jordan. *Journal of Parasitology*, 46, 441–448.
- Hoogstraal, H. & Kaiser, M.N. (1968) Bat ticks of the genus *Argas* (Ixodoidea, Argasidae). 8. *A. (Chiropterargas) ceylonensis*, new species, from Ceylon. *Annals of the Entomological Society of America*, 61, 1049–1052.

- Hoogstraal, H. & Kaiser, M.N. (1970) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 8. *A. (P.) theilerae*, new species, a parasite of the white-backed vulture in South Africa. *Annals of the Entomological Society of America*, 63, 205–210.
- Hoogstraal, H. & Kaiser, M.N. (1973a) Observations on the subgenus *Argas* (Ixodoidea: Argasidae, *Argas*). 7. *A. (A.) himalayensis*, new species, parasitizing the snow partridge, *Lerwa lerwa*, in Nepal. *Annals of the Entomological Society of America*, 66, 1–3.
- Hoogstraal, H. & Kaiser, M.N. (1973b) The subgenus *Persicargas* (Ixodoidea: Argasidae: *Argas*). 18. *A. (P.) nullarborensis*, new species, from Western Australia. *Annals of the Entomological Society of America*, 66, 1296–1298.
- Hoogstraal, H. & Kim, K.C. (1985) Tick and mammal co-evolution, with emphasis on *Haemaphysalis*. Chapter 10. In: Kim, K.C. (ed.). *Coevolution of parasitic arthropods and mammals*. New York, John Wiley & Sons, 505–568.
- Hoogstraal, H. & Kohls, G.M. (1959) The *Haemaphysalis* ticks (Acarina: Ixodidae) of birds. I. *H. ornithophila* n. sp. from Burma and Thailand. *Journal of Parasitology*, 45, 417–420.
- Hoogstraal, H. & Kohls, G.M. (1960a) Observations on the subgenus *Argas* (Ixodoidea, Argasidae, *Argas*). I. Study of *A. reflexus reflexus* (Fabricius, 1794), the European bird argasid. *Annals of the Entomological Society of America*, 53, 611–618.
- Hoogstraal, H. & Kohls, G.M. (1960b) Observations on the subgenus *Argas* (Ixodoidea, Argasidae, *Argas*). 3. A biological study of *A. reflexus hermanni* Audouin, 1827 (revalidated), the African bird argasid. *Annals of the Entomological Society of America*, 53, 743–755.
- Hoogstraal, H. & Kohls, G.M. (1963) Observations on the subgenus *Argas* (Ixodoidea: Argasidae, *Argas*). 6. Redescription and biological notes on *A. lagenoplastis* Froggatt, 1906, of Australian Fairy Martins, *Hylochelidon ariel* (Gould). *Annals of the Entomological Society of America*, 65, 577–582.
- Hoogstraal, H. & Kohls, G.M. (1965a) Bat ticks of the genus *Argas* (Ixodoidea, Argasidae). 6. The female and larva of *A. (Carios) australiensis*. *Annals of the Entomological Society of America*, 58, 816–820.
- Hoogstraal, H. & Kohls, G.M. (1965b) Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. bandicota* sp. n. from bandicoot rats in Taiwan, Thailand, and Burma. *Journal of Parasitology*, 51, 460–466.
- Hoogstraal, H. & Kohls, G.M. (1965c) Description, hosts, and ecology of *Ixodes kuntzi* n. sp., Kuntz's Taiwan flying squirrel tick (Ixodoidea: Ixodidae). *Journal of Medical Entomology*, 2, 209–214.
- Hoogstraal, H. & Kohls, G.M. (1966a) *Ornithodoros (Pavlovskyella) macmillani*, new species (Ixodoidea, Argasidae), a nest parasite of Australian cockatoos (*Kakatoe roseicapilla*). *Annals of the Entomological Society of America*, 59, 86–92.
- Hoogstraal, H. & Kohls, G.M. (1966b) *Argas (Microargas) transversus* Banks (new subgenus) (Ixodoidea, Argasidae), a diminutive parasite of the Galapagos giant tortoise: redescription of the holotype male and description of the larva. *Annals of the Entomological Society of America*, 59, 247–252.
- Hoogstraal, H. & Kohls, G.M. (1967) Bat ticks of the genus *Argas* (Ixodoidea, Argasidae). 7. *A. (Chiropterargas) cordiformis*, new species, a heart-shaped parasite from South-West Africa. *Annals of the Entomological Society of America*, 60, 63–67.
- Hoogstraal, H. & Kohls, G.M. (1968) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). Redescription of type material of *H. (Rhipistoma) heinrichi* Schulze, parasite of the ferret-badger in Burma and Vietnam. *Journal of Parasitology*, 54, 1057–1062.
- Hoogstraal, H. & McCarthy, V.C. (1965a) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 2. *A. (P.) abdussalami*, new species associated with wild birds on trees and buildings near Lahore, Pakistan. *Annals of the Entomological Society of America*, 58, 756–762.
- Hoogstraal, H. & McCarthy, V.C. (1965b) Hosts and distribution of *Haemaphysalis kashmirensis* with descriptions of immature stages and definition of the subgenus *Herpetobia* Canestrini (resurrected). *Journal of Parasitology*, 51, 674–679.
- Hoogstraal, H. & Mitchell, R.M. (1971) *Haemaphysalis (Alloceraea) aponomoides* Warburton (Ixodoidea: Ixodidae), description of immature stages, hosts, distribution, and ecology in India, Nepal, Sikkim, and China. *Journal of Parasitology*, 57, 635–645.
- Hoogstraal, H. & Morel, P.-C. (1970) *Haemaphysalis (Rhipistoma) hispanica* Gil Collado, a parasite of the European rabbit, redescription of adults, and description of immature stages (Ixodoidea, Ixodidae). *Journal of Parasitology*, 56, 813–822.
- Hoogstraal, H. & Parrish, D.W. (1968) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Kaiseriana) luzonensis* sp. n. from Philippine deer and boars. *Journal of Parasitology*, 54, 402–410.
- Hoogstraal, H. & Theiler, G. (1959) Ticks (Ixodidae) parasitizing lower primates in Africa, Zanzibar, and Mad-

- agascar. *Journal of Parasitology*, 45, 217–222.
- Hoogstraal, H. & Trapido, H. (1963a) *Haemaphysalis silvafelis* sp. n., a parasite of the jungle cat in southern India (Ixodoidea, Ixodidae). *Journal of Parasitology*, 49, 346–349.
- Hoogstraal, H. & Trapido, H. (1963b) *Haemaphysalis kutchensis* sp. n., a common larval and nymphal parasite of birds in northwestern India (Ixodoidea, Ixodidae). *Journal of Parasitology*, 49, 489–497.
- Hoogstraal, H. & Trapido, H. (1963c) Redescription of cotypes and all stages of *Haemaphysalis intermedia* Warburton and Nuttall, 1909 (= *H. parva* Neumann, 1908, preoccupied) from Ceylon and India (Ixodoidea, Ixodidae). *Journal of Parasitology*, 49, 838–846.
- Hoogstraal, H. & Trapido, H. (1966) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). Species described by Supino in 1897 from Burma, with special reference to *H. (Rhipistoma) asiaticus* (= *H. dentipalpis* Warburton and Nuttall). *Journal of Parasitology*, 52, 1172–1187.
- Hoogstraal, H. & Wassef, H.Y. (1973) The *Haemaphysalis* ticks (Ixodoidea: Ixodidae) of birds. 3. *H. (Ornithophysalis)* subgen. n.: definition, species, hosts, and distribution in the Oriental, Palearctic, Malagasy, and Ethiopian faunal regions. *Journal of Parasitology*, 59, 1099–1117.
- Hoogstraal, H. & Wassef, H.Y. (1977) *Haemaphysalis (Ornithophysalis) kadarsani* sp. n. (Ixodoidea: Ixodidae), a rodent parasite of virgin lowland forests in Sulawesi (Celebes). *Journal of Parasitology*, 63, 1103–1109.
- Hoogstraal, H. & Wassef, H.Y. (1979) *Haemaphysalis (Allophysalis) kopetdaghica*: identity and discovery of each feeding stage on the wild goat in northern Iran (Ixodoidea: Ixodidae). *Journal of Parasitology*, 65, 783–790.
- Hoogstraal, H. & Wassef, H.Y. (1981) Notes on African *Haemaphysalis* ticks. XIII. Identity of *H. (Rhipistoma) cooleyi*, a parasite of the rock hyrax in South Africa (Acarina: Ixodidae). *Onderstepoort Journal of Veterinary Research*, 48, 135–140.
- Hoogstraal, H. & Wassef, H.Y. (1982) *Haemaphysalis (Garnhamphysalis) mjobergi*: identity, structural variation and biosystematic implications, deer hosts, and distribution in Borneo and Sumatra (Ixodoidea: Ixodidae). *Journal of Parasitology*, 68, 138–144.
- Hoogstraal, H. & Wassef, H.Y. (1983a) Notes on African *Haemaphysalis* ticks. XV. *H. (Rhipistoma) norvali* sp. n., a hedgehog parasite of the *H. (R.) spinulosa* group in Zimbabwe (Acarina: Ixodidae). *Onderstepoort Journal of Veterinary Research*, 50, 183–189.
- Hoogstraal, H. & Wassef, H.Y. (1983b) *Haemaphysalis (Garnhamphysalis) rusae* (Ixodoidea: Ixodidae): identity, deer and pig hosts, and distribution in Luzon and Mindanao. *Journal of Parasitology*, 69, 215–220.
- Hoogstraal, H. & Wassef, H.Y. (1985) *Dermacentor (Indocentor) auratus* (Acari: Ixodoidea: Ixodidae): hosts, distribution, and medical importance in tropical Asia. *Journal of Medical Entomology*, 22, 170–177.
- Hoogstraal, H. & N. Wilson. (1966) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Alloeceraea) vietnamensis* sp. n., the first structurally primitive haemaphysalid recorded from southern Asia. *Journal of Parasitology*, 52, 614–617.
- Hoogstraal, H. & Yamaguti, N. (1970) *Haemaphysalis (H.) pentalagi* Pospelova-Shtrom, a parasite of the Japanese black rabbit: redescription of the male and descriptions of the female, nymph, and larva (Ixodoidea: Ixodidae). *Journal of Parasitology*, 56, 367–374.
- Hoogstraal, H., Trapido, H. & Kohls, G.M. (1965a) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. atherurus* sp. n. and redescription of type material of *H. birmaniae* Supino, 1897. *Journal of Parasitology*, 51, 114–125.
- Hoogstraal, H., Trapido, H. & Kohls, G.M. (1965b) Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Kaiseriana) papuana nadchatrami* ssp. n. and redescription of *H. (K.) semermis* Neumann. *Journal of Parasitology*, 51, 433–451.
- Hoogstraal, H., Trapido, H. & Kohls, G.M. (1965c) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). The identity, distribution, and hosts of *H. (Kaiseriana) hystericis* Supino. *Journal of Parasitology*, 51, 467–480.
- Hoogstraal, H., Kohls, G.M. & Trapido, H. (1965d) *Haemaphysalis (Rhipistoma) eupleres* sp. n. from a Madagascar carnivore and definition of the subgenus *Rhipistoma* Koch (resurrected) (Ixodoidea, Ixodidae). *Journal of Parasitology*, 51, 997–1000.
- Hoogstraal, H., Trapido, H. & Kohls, G.M. (1965e) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Kaiseriana) celebensis* sp. n., from a wild boar in Celebes. *Journal of Parasitology*, 51, 1001–1003.
- Hoogstraal, H., Trapido, H. & Kohls, G.M. (1966a) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). Speciation in the *H. (Kaiseriana) obesa* group: *H. semermis* Neumann, *H. obesa* Lar-

- rousse, *H. roubaudi* Toumanoff, *H. montgomeryi* Nuttall, and *H. hirsuta* sp. n. *Journal of Parasitology*, 52, 169–191.
- Hoogstraal, H., Uilenberg, G. & Klein, J.M. (1966b) *Haemaphysalis (Dermaphysalis) nesomys* subgen. et sp. n. (Ixodoidea, Ixodidae), a leathery parasite of *Nesomys rufus* Peters (Rodentia) in Madagascar. *Journal of Parasitology*, 52, 1199–1202.
- Hoogstraal, H., Uilenberg, G. & Blanc, C.P. (1967a) The *Argas* subgenus *Secretargas* (Ixodoidea, Argasidae) in Madagascar: descriptions of *A. (S.) echinops*, new species, and of the adults and nymph of *A. (S.) hoogstraali*. *Annals of the Entomological Society of America*, 60, 149–162.
- Hoogstraal, H., Kohls, G.M. & Trapido, H. (1967b) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Kaiseriana) anomala* Warburton: redescription, hosts, and distribution. *Journal of Parasitology*, 53, 196–201.
- Hoogstraal, H., Kohls, G.M. & Parrish, D.W. (1967c) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Kaiseriana) psalistos* sp. n., a parasite of deer and boars in Luzon, Philippines. *Journal of Parasitology*, 53, 1096–1102.
- Hoogstraal, H., Uilenberg, G. & Klein, J.M. (1967d) *Haemaphysalis (Rhipistoma) anoplos* sp. n., a spurless tick of the *elongata* group (Ixodoidea, Ixodidae) parasitizing *Nesomys rufus* Peters (Rodentia) in Madagascar. *Journal of Parasitology*, 53, 1103–1105.
- Hoogstraal, H., Kaiser, M.N. & Kohls, G.M. (1968a) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 4. *Argas (P.) robertsi*, new species, a parasite of Australian fowl, and keys to Australian argasid species. *Annals of the Entomological Society of America*, 61, 535–539.
- Hoogstraal, H., Kaiser, M.N. & Kohls, G.M. (1968b) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 5. *A. (P.) zumpti*, new species, a parasite of the South African Cape vulture. *Annals of the Entomological Society of America*, 61, 744–751.
- Hoogstraal, H., Kohls, G.M. & Parrish, D.W. (1968c) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). *H. (Kaiseriana) susphilippensis* sp. n., a parasite of Luzon and Mindanao boars. *Journal of Parasitology*, 54, 616–621.
- Hoogstraal, H., Roberts, F.H.S., Kohls, G.M. & Tipton, V.J. (1968d) Review of *Haemaphysalis (Kaiseriana) longicornis* Neumann (resurrected) of Australia, New Zealand, New Caledonia, Fiji, Japan, Korea, and northeastern China and U.S.S.R., and its parthenogenetic and bisexual populations (Ixodoidea, Ixodidae). *Journal of Parasitology*, 54, 1197–1213.
- Hoogstraal, H., Kaiser, M.N. & Pedersen, E.C. (1969) *Hyalomma (Hyalomma) punt* n. sp., (Ixodoidea, Ixodidae), a relict parasite of domestic animals and gazelles in arid areas of northern Somali Republic. *Annals of the Entomological Society of America*, 62, 415–419.
- Hoogstraal, H., Kaiser, M.N. & Mitchell, R.M. (1970a) *Anomalohimalaya lama*, new genus and new species (Ixodoidea, Ixodidae), a tick parasitizing rodents, shrews, and hares in the Tibetan highland of Nepal. *Annals of the Entomological Society of America*, 63, 1576–1585.
- Hoogstraal, H., Dhanda, V. & Bhat, H.R. (1970b) *Haemaphysalis (Kaiseriana) davisi* sp. n. (Ixodoidea: Ixodidae), a parasite of domestic and wild mammals in northeastern India, Sikkim, and Burma. *Journal of Parasitology*, 56, 588–595.
- Hoogstraal, H., Oliver, R.M. & Guirgis, S.S. (1970c) Larva, nymph, and life cycle of *Ornithodoros (Alectorobius) muesebecki* (Ixodoidea, Argasidae), a virus-infected parasite of birds and petroleum industry employees in the Arabian Gulf. *Annals of the Entomological Society of America*, 63, 1762–1786.
- Hoogstraal, H., Saito, Y., Dhanda, V. & Bhat, H.R. (1971a) *Haemaphysalis (H.) obesa* Larrousse (Ixodoidea, Ixodidae) from northeast India and Southeast Asia: description of immature stages and biological observations. *Journal of Parasitology*, 57, 177–184.
- Hoogstraal, H., Walker, J.B. & Neitz, W.O. (1971b) Notes on African *Haemaphysalis* ticks. VII. *H. (Rhipistoma) hyracophila* sp. n. (Ixodoidea: Ixodidae), a parasite of hyraxes in South Africa. *Journal of Parasitology*, 57, 417–425.
- Hoogstraal, H., Dhanda, V. & El Kammah, K.M. (1971c) *Aborphysalis*, a new subgenus of Asian *Haemaphysalis* ticks; and identity, distribution, and hosts of *H. aborensis* Warburton (resurrected) (Ixodoidea: Ixodidae). *Journal of Parasitology*, 57, 748–760.
- Hoogstraal, H., El Kammah, K.M., Kadarsan, S. & Anastos, G. (1971d) *Haemaphysalis (H.) sumatraensis* sp. n. (Ixodoidea: Ixodidae), a tick parasitizing the tiger, boar, and sambar deer in Indonesia. *Journal of Parasitology*, 57, 1104–1109.
- Hoogstraal, H., Dhanda, V. & Bhat, H.R. (1972a) *Haemaphysalis (Kaiseriana) anomala* Warburton (Ixodoidea: Ixodidae) from India: description of immature stages and biological observations. *Journal of Parasitology*, 58, 119–120.

- tology, 58, 605–610.
- Hoogstraal, H., Gaber, S., Van Peenen, P.F.D., Duncan, J.F. & Kadarsan, S. (1972b) *Haemaphysalis (Rhipistoma) bartelsi* Schulze (Ixodoidea: Ixodidae): immature stages from a treehole nest of the Indonesian red giant flying squirrel. *Journal of Parasitology*, 58, 989–992.
- Hoogstraal, H., Carney, W.P., Kadarsan, S. & Van Peenen, P.F.D. (1973a) *Haemaphysalis (Kaiseriana) celebensis* Hoogstraal, Trapido, and Kohls (Ixodoidea: Ixodidae), a Wallacean member of the *hystricis* group: identity, distribution, hosts, and ecology. *Journal of Parasitology*, 59, 556–562.
- Hoogstraal, H., Clifford, C.M. & Keirans, J.E. (1973b) *Argas (Microargas) transversus* (Ixodoidea: Argasidae) of Galápagos giant tortoises: description of the female and nymph, *Annals of the Entomological Society of America*, 66, 727–732.
- Hoogstraal, H., El Kammah, K.M., Santana, F.J. & Van Peenen, P.F.D. (1973c) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea: Ixodidae). *H. (Kaiseriana) lagrangei* Larrousse: identity, distribution and hosts. *Journal of Parasitology*, 59, 1118–1129.
- Hoogstraal, H., Kadarsan, S., Kaiser, M.N. & Van Peenen, P.F.D. (1974a) *Ornithodoros (Alectorobius) collocaliae*, new species (Ixodoidea: Argasidae), parasitizing cave swiftlets (Aves: Apodidae) in Java. *Annals of the Entomological Society of America*, 67, 224–230.
- Hoogstraal, H., Wassef, H.Y. & Uilenberg, G. (1974b) *Haemaphysalis (Elongiphysalis) elongata* Neumann subgen. n. (Ixodoidea: Ixodidae): structural variation, hosts, and distribution in Madagascar. *Journal of Parasitology*, 60, 480–498.
- Hoogstraal, H., Kaiser, M.N., Clifford, C.M. & Keirans, J.E. (1975) The subgenus *Persicargas* (Ixodoidea: Argasidae: *Argas*). *A. (P.) ricei*, new species, a parasite of vultures in Texas. *Annals of the Entomological Society of America*, 68, 873–881.
- Hoogstraal, H., Wassef, H.Y., Converse, J.D., Keirans, J.E., Clifford, C.M. & Feare, C.J. (1976a) *Amblyomma loculosum* (Ixodoidea: Ixodidae): identity, marine bird and human hosts, virus infection, and distribution in the southern oceans. *Annals of the Entomological Society of America*, 69, 3–14.
- Hoogstraal, H., Clifford, C.M., Keirans, J.E., Kaiser, M.N. & Evans, D.E. (1976b) The *Ornithodoros (Alectorobius) capensis* group (Acarina: Ixodoidea: Argasidae) of the Palearctic and Oriental regions. *O. (A.) maritimus*: identity, marine bird hosts, virus infections, and distribution in western Europe and northwestern Africa. *Journal of Parasitology*, 62, 799–810.
- Hoogstraal, H., Moorhouse, D.E., Wolf, G. & Wassef, H.Y. (1977) Bat ticks of the genus *Argas* (Ixodoidea: Argasidae). *A. (Carios) macrodermae*, new species, from Queensland, Australia. *Annals of the Entomological Society of America*, 70, 861–870.
- Hoogstraal, H., Clifford, C.M. & Keirans, J.E. (1979) The *Ornithodoros (Alectorobius) capensis* group (Acarina: Ixodoidea: Argasidae) of the Palearctic and Oriental regions. *O. (A.) coniceps* identity, bird and mammal hosts, virus infections, and distribution in Europe, Africa, and Asia. *Journal of Parasitology*, 65, 395–407.
- Hoogstraal, H., Wassef, H.Y. & Büttiker, W. (1981) Ticks (Acarina) of Saudi Arabia. Fam. Argasidae, Ixodidae. *Fauna of Saudi Arabia*, 3, 25–110.
- Hoogstraal, H., Clifford, C.M. & Wassef, H.Y. (1983) The *Ornithodoros (Alectorobius) capensis* group (Acarina: Ixodoidea: Argasidae) of the Palearctic and Oriental regions. *O. (A.) muesebecki*: redescription by scanning electron microscopy. *Journal of Medical Entomology*, 20, 653–658.
- Hoogstraal, H., Wassef, H.Y., Hays, C. & Keirans, J.E. (1985) *Ornithodoros (Alectorobius) spheniscus* n. sp. [Acarina: Ixodoidea: Argasidae: *Ornithodoros (Alectorobius) capensis* group], a tick parasite of the Humboldt penguin in Peru. *Journal of Parasitology*, 71, 635–644.
- Hoogstraal, H., El Kammah, K.M. & Camicas, J.L. (1992) Notes on African *Haemaphysalis* ticks: XVI. *H. (Rhipistoma) subterra* sp. n., a new member of the *leachi* group (Ixodoidea: Ixodidae). *International Journal of Acarology*, 18, 213–220.
- Kaiser, M.N. & Hoogstraal, H. (1963) The *Hyalomma* ticks (Ixodoidea, Ixodidae) of Afghanistan. *Journal of Parasitology*, 49, 130–139.
- Kaiser, M.N. & Hoogstraal, H. (1964) The *Hyalomma* ticks (Ixodoidea, Ixodidae) of Pakistan, India and Ceylon, with keys to subgenera and species. *Acarologia*, 6, 257–286.
- Kaiser, M.N. & Hoogstraal, H. (1968) Redescription of *Hyalomma (H.) erythraeum* Tonelli-Rondelli (resurrected) (Ixodoidea, Ixodidae), description of the female and immature stages, and hosts and distribution in Ethiopia and Somali Republic. *Annals of the Entomological Society of America*, 61, 1228–1235.
- Kaiser, M.N. & Hoogstraal, H. (1969) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 7. *A. (P.) walckeræ*, new species, a parasite of domestic fowl in southern Africa. *Annals of the Entomological Society of*

- America*, 62, 885–890.
- Kaiser, M.N. & Hoogstraal, H. (1973) Bat ticks of the genus *Argas* (Ixodoidea: Argasidae). 9. *A. (Carios) daviesi*, new species, from Western Australia. *Annals of the Entomological Society of America*, 66, 423–428.
- Kaiser, M.N. & Hoogstraal, H. (1974a) Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). 9. *A. (A.) falco*, new species, parasitizing kestrels in Western Australia. *Annals of the Entomological Society of America*, 67, 5–10.
- Kaiser, M.N. & Hoogstraal, H. (1974b) Bat ticks of the genus *Argas* (Ixodoidea: Argasidae). 10. *A. (Carios) dewae*, new species, from southeastern Australia and Tasmania. *Annals of the Entomological Society of America*, 67, 231–237.
- Kaiser, M.N. & Hoogstraal, H. (1975) Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). *A. (A.) lowryae*, new species, parasitizing cave-dwelling kestrels in the Nullarbor region of Western Australia. *Annals of the Entomological Society of America*, 68, 585–590.
- Kaiser, M.N., Hoogstraal, H. & Kohls, G.M. (1964) The subgenus *Persicargas*, new subgenus (Ixodoidea, Argasidae, *Argas*). 1. *A. (P.) arboreus*, new species, an Egyptian *persicus*-like parasite of wild birds, with a redefinition of the subgenus *Argas*. *Annals of the Entomological Society of America*, 57, 60–69.
- Kaiser, M.N., Hoogstraal, H. & Horner, K.O. (1970) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 10. *A. (P.) streptopelia*, new species, a widely distributed parasite of resident and migrating doves in Africa and Cyprus, and epidemiological considerations. *Annals of the Entomological Society of America*, 62, 799–807.
- Karrar, G., Kaiser, M.N. & Hoogstraal, H. (1963) Ecology and host-relationships of ticks (Ixodoidea) infesting domestic animals in Kassala Province, Sudan, with special reference to *Amblyomma lepidum* Dönitz. *Bulletin of Entomological Research*, 54, 509–522.
- Keirans, J.E. (1987) Harry Hoogstraal (1917–1986): a bibliography. *Journal of Medical Entomology*, 24, 121–140.
- Keirans, J. E. & Oliver, J. H., Jr. (1999) Tribute to Harry Hoogstraal. In: Needham, G.R., Mitchell, R., Horn, D.J. & Welbourn, W.C. (eds.) *Acarology IX*, Vol. 2, Symposia. pp. 331–340.
- Keirans, J.E., Hoogstraal, H. & Clifford, C.M. (1977) *Ornithodoros (Proknekalia) vansomereni*, new subgenus and new species (Acarina: Ixodoidea: Argasidae), a swallow nest parasite in Kenya. *Annals of the Entomological Society of America*, 70, 221–228.
- Kohls, G.M. & Hoogstraal, H. (1960) Observations on the subgenus *Argas* (Ixodoidea, Argasidae, *Argas*). 2. *A. cooleyi*, new species, from western North American birds. *Annals of the Entomological Society of America*, 53, 625–631.
- Kohls, G.M. & Hoogstraal, H. (1961) Observations on the subgenus *Argas* (Ixodoidea, Argasidae, *Argas*). 4. *A. neghmei*, new species, from poultry houses and human habitations in northern Chile. *Annals of the Entomological Society of America*, 54, 844–851.
- Kohls, G.M. & Hoogstraal, H. (1962) Bat ticks of the genus *Argas* (Ixodoidea, Argasidae). 4. *A. (Carios) australiensis* n. sp. from Australia. *Annals of the Entomological Society of America*, 55, 555–559.
- Kohls, G.M., Hoogstraal, H. & Clifford, C.M. (1961) Observations on the subgenus *Argas* (Ixodoidea, Argasidae, *Argas*). 5. Study of *A. brevipes* Banks, 1908, from birds in Arizona and California, U.S.A., and Baja California, Mexico. *Annals of the Entomological Society of America*, 54, 869–877.
- Kohls, G.M., Hoogstraal, H., Clifford, C.M. & Kaiser, M.N. (1970) The subgenus *Persicargas* (Ixodoidea, Argasidae, *Argas*). 9. Redescription and New World records of *Argas (P.) persicus* (Oken), and resurrection, redescription, and records of *A. (P.) radiatus* Railliet, *A. (P.) sanchezi* Dugès, and *A. (P.) miniatus* Koch, New World ticks misidentified as *A. (P.) persicus*. *Annals of the Entomological Society of America*, 63, 590–606.
- Pegram, R.G., Hoogstraal, H. & Wassef, H.Y. (1982) *Hyalomma (Hyalommina) arabica* sp. n. parasitizing goats and sheep in the Yemen Arab Republic and Saudi Arabia. *Journal of Parasitology*, 68, 150–156.
- Saito, Y. & Hoogstraal, H. (1972) *Haemaphysalis (Kaiseriana) yeni* Toumanoff (Ixodoidea: Ixodidae): discovery in Japan, description of female and immature stages, environment, and life cycle. *Journal of Parasitology*, 58, 950–959.
- Saito, Y. & Hoogstraal, H. (1973) *Haemaphysalis (Kaiseriana) mageshimaensis* sp. n. (Ixodoidea: Ixodidae), a Japanese deer parasite with bisexual and parthenogenetic reproduction. *Journal of Parasitology*, 59, 569–578.
- Saito, Y., Hoogstraal, H. & Vasuvat, C. (1971) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea: Ixodidae). Identity and hosts of immature stages of *H. (Rhipistoma) asiatica* (Supino) from Thailand.

- Journal of Parasitology* 57, 1099–1103.
- Saito, Y., Hoogstraal, H. & Wassef, H.Y. (1974a) The *Haemaphysalis* ticks (Ixodoidea: Ixodidae) of birds. 4. *H. (Ornithophysalis) phasiana* sp. n. from Japan. *Journal of Parasitology*, 60, 198–208.
- Saito, Y., Hoogstraal, H. & Wassef, H.Y. (1974b) *Haemaphysalis* sp., parasites of the Sado pheasant. Abstracts and proceedings of the 26th annual meeting and the regional meetings of the Japan Society of Sanitary Zoology [in Japanese]. *Japanese Journal of Sanitary Zoology* 24, 332–333.
- Siuda, K., Hoogstraal, H., Clifford, C.M. & Wassef, H.Y. (1979) Observations on the subgenus *Argas* (Ixodoidea: Argasidae: *Argas*). 17. *Argas (A.) polonicus* sp. n. parasitizing domestic pigeons in Krakow, Poland. *Journal of Parasitology*, 65, 170–181.
- Trapido, H. & Hoogstraal, H. (1964) *Haemaphysalis cornigera shimoga* subsp. n. from southern India (Ixodoidea, Ixodidae). *Journal of Parasitology*, 50, 303–310.
- Trapido, H., Hoogstraal, H. & Rajagopalan, P.K. (1964a) *Haemaphysalis kysanurensis* sp. n., a member of the *formosensis* group in southern India and Ceylon (Ixodoidea, Ixodidae). *Journal of Parasitology*, 50, 295–302.
- Trapido, H., Hoogstraal, H. & Varma, M.G.R. (1964b) Status and descriptions of *Haemaphysalis p. papuana* Thorell (n. comb.) and of *H. papuana kinneari* Warburton (n. comb.) (Ixodoidea, Ixodidae) of southern Asia and New Guinea. *Journal of Parasitology*, 50, 172–188.
- Uilenberg, G. & Hoogstraal, H. (1965) *Ixodes domerguei* n. sp. (Ixodoidea: Ixodidae), the Madagascar bird ixodid. *Journal of Medical Entomology*, 2, 258–260.
- Wassef, H.Y. (2010) Personal communication, November 9, 2010.
- Wassef, H.Y. & Hoogstraal, H. (1983) *Dermacentor (Indocentor) compactus* (Acari: Ixodoidea: Ixodidae): identity of male and female. *Journal of Medical Entomology*, 20, 648–652.
- Wassef, H.Y. & Hoogstraal, H. (1984a) *Dermacentor (Indocentor) auratus* (Acari: Ixodoidea: Ixodidae): identity of male and female. *Journal of Medical Entomology*, 21, 169–173.
- Wassef, H.Y. & Hoogstraal, H. (1984b) *Dermacentor (Indocentor) atrosignatus* (Acari: Ixodoidea: Ixodidae): identity of male and female. *Journal of Medical Entomology*, 21, 586–591.
- Wassef, H.Y. & Hoogstraal, H. (1986a) *Dermacentor (Indocentor) taiwanensis* (Acari: Ixodoidea: Ixodidae): identity of male and female. *Journal of Medical Entomology*, 23, 173–177.
- Wassef, H.Y. & Hoogstraal, H. (1986b) *Dermacentor (Indocentor) steini* (Acari: Ixodoidea: Ixodidae): identity of male and female. *Journal of Medical Entomology*, 23, 532–537.
- Wilson, N., Hoogstraal, H. & Kohls, G.M. (1968) Studies on Southeast Asian *Haemaphysalis* ticks (Ixodoidea, Ixodidae). Redescription of *H. (Rhipistoma) bartelsi* Schulze (resurrected), the Indonesian flying squirrel haemaphysalid. *Journal of Parasitology*, 54, 1223–1227.

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