

SCORPIONS OF MEDICAL IMPORTANCE.

Scorpions are infamous for their sting and venoms, and to the general public have a reputation as dangerous killers. All scorpions have venom, but the danger of scorpions is exaggerated. Some species do indeed pose a danger to the public, especially children, the elderly and people with an impaired immune system. But the majority of the 1270 to 1300 known species in the world have no medical significance.

The goals of these pages are to present a list of species that have a documented medical significance and to present short information sheets about these species. This is an ongoing project, therefore more species will be added in the future.

Here you will find a list of species that are reported to have medical significance in the literature. It is important to note that this list is not exhaustive. Species not mentioned in this list might pose a threat to humans. Many scorpions live in desert areas and have little or no contact with humans. These species might be dangerous, but stings rarely, if ever, happen. In addition, a lot of severe cases will not be reported in medical journals. This is especially true in the less developed countries. An additional problem is that the scorpion causing the sting is unknown, or not properly identified. Also, many stings are dry or a reduced amount of venom is used, causing minor/mild symptoms and by this camouflaging a dangerous species. It is therefore important to emphasize that the list presented here only covers species documented to cause moderate to severe symptoms in humans. Other species, especially species closely related to those known to be dangerous, might also pose a threat to humans.

Buthidae:

Androctonus:

A. amoreuxi (Audouin, 1826) (Egypt, Mali, Morocco)

A. australis (Linnaeus, 1758) (North Africa, Middle East)

A. bicolor Ehrenberg, 1828 (North Africa, Middle East)

A. crassicauda (Olivier, 1807) (North Africa, Middle East, Asia)

A. liouvillei (Pallary, 1924) (Morocco)

A. mauritanicus (Pocock, 1902) (Algeria, Mauritania, Morocco)

Other *Androctonus* species may also be of medical importance, but specific data are missing.

Apistobuthus:

A. pterygocerus Finnegan, 1932 (Iran, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen)

Buthacus:

B. macrocentrus (Ehrenberg, 1828) (Middle East)

Buthus:

B. lienhardi Lourenço, 2003 (Morocco)

B. malhommei Vachon, 1949 (Morocco)

B. mardochei Simon, 1878 (Morocco)
B. occitanus (Amoreux, 1789) (France, Spain)
B. paris (C. L. Koch, 1839) (Algeria, Morocco, Tunisia)
B. tunetanus (Herbst, 1800) (Algeria, Libya, Morocco, Tunisia)
Other African *Buthus* species may also be of medical importance, but specific data are missing.

Centruroides:

C. balsasensis Ponce & Francke, 2004 (Mexico)
C. bicolor (Pocock, 1898) (Panama)
C. bonito Quijano-Ravell, Teruel & Ponce-Saavedra, 2016
C. chamela Ponce-Saavedra and Francke, 2011
C. elegans (Thorell, 1876) (Mexico)
C. elegans insularis Pocock, 1902
C. exilicauda (Wood, 1863)
C. gracilis (Latreille, 1804) (Caribbean, Central and South America (northern parts))
C. granosus (Thorell, 1876) (Panama)
C. hirsutipalpus Ponce-Saavedra & Francke, 2009 (Mexico)
C. huichol Teruel, Ponce-Saavedra, Quijano-Ravell, 2015 (Mexico)
C. infamatus (C. L. Koch, 1844) (Mexico)
C. limbatus (Pocock, 1898) (Central America)
C. limpidus (Karsch, 1879) (Mexico)
C. margaritatus (Gervais, 1841) (Central America)
C. mascota Ponce-Saavedra and Francke, 2011
C. meisei Hoffmann, 1939 (Mexico)
C. noxius Hoffman, 1932 (Mexico)
C. ornatus Pocock, 1902 (Mexico)
C. pallidiceps Pocock, 1902
C. panamensis Arias & Esposito, 2014 (Panama)
C. pococki Sissom & Francke, 1983 (Lesser Antilles)
C. poncei Teruel, Kovarik, Baldazo-Monsivaiz & Hoferek, 2015
C. ruana Quijano-Ravell & Ponce-Saavedra, 2016
C. sculpturatus Ewing, 1928
Centruroides sp. nv. B (Cumpas, Sonora, Mexico)
Centruroides sp. nv. A (Huajuapán, Oaxaca, Mexico in prep.)
C. suffusus Pocock, 1902 (Mexico)
C. tecomanus Hoffmann, 1932 (Mexico)
C. testaceus (DeGeer, 1778) (Lesser Antilles, Venezuela)
C. villegasi Baldazo-Monsivaiz, Ponce-Saavedra & Flores-Moreno, 2013 (Mexico)
Other *Centruroides* species may also be of medical importance, but specific data are missing.

Compsobuthus:

C. matthiesseni (Birula, 1905) (Iran)
C. persicus Navidpour, Soleglad, Fet & Kovarik, 2008 (Iran)

Hottentotta:

H. gentili (Pallary, 1924) (Algeria, Morocco)
H. alticola (Pocock, 1895)
H. jayakari (Pocock, 1895) (Middle East)

?*H. hottentotta* (Fabricius, 1787)

H. saulcyi (Simon, 1880) (Afghanistan, Iran, Iraq, Turkey)

H. schach (Birula, 1905) (Iran, Iraq)

H. tamulus (Fabricius, 1798) (previously *Mesobuthus tamulus*) (India, Nepal, Pakistan, Sri Lanka)

H. zagroensis Kovarik, 1997 (Iran)

Other *Hottentotta* species may also be of medical importance, but specific data are missing.

Leiurus:

L. abdullahbayrami Yagmur, Koc & Kunt, 2009 (Syria, Turkey)

L. arabicus Lowe, Yagmur & Kovarik, 2014 (Saudi Arabia)

L. brachycentrus (Ehrenberg, 1829) (Saudi Arabia, Yemen)

L. haengii Lowe, Yagmur & Kovarik, 2014 (Oman, Saudi Arabia, Yemen)

L. heberti Lowe, Yagmur & Kovarik, 2014 (Oman)

L. hebraeus (Birula, 1908) (Israel, Jordan, Lebanon, Syria)

L. jordanensis Lourenço, Modry & Amr, 2002 (Jordan, Saudi Arabia)

L. macroctenus Lowe, Yagmur & Kovarik, 2014 (Oman)

L. nasheri Kovarik, 2007 (?)

L. quinquestriatus (Ehrenberg, 1828) (Egypt, Sudan)

L. savanicola Lourenço, Qi & Cloudsley-Thompson, 2006 (?)

Other *Leiurus* species may also be of medical importance, but specific data are missing.

Mesobuthus:

M. caucasicus complex (Iran, Turkey)

M. eupeus (C. L. Koch, 1839) (Iran, Turkey)

M. gibbosus (Brulle, 1832) (Greece, Balkan, Bulgaria, Turkey)

[*M. tamulus* (Fabricius, 1798)] [New name *Hottentotta tamulus*]

Other *Mesobuthus* species may also be of medical importance, but specific data are missing.

Odontobuthus:

O. doriae (Thorell, 1876) (Iran)

Orthochirus:

O. scrobiculosus (Grube, 1873) (Iran)

Parabuthus:

P. granulatus (Ehrenberg, 1831) (Southern Africa)

P. maximus Werner, 1913 (previously known as *P. lisoma*) (Kenya, Tanzania)

P. mossambicensis (Peters, 1861) (Southern Africa)

P. transvaalicus Purcell, 1899 (Southern Africa)

P. villosus (Peters, 1862) (Angola, Namibia, South Africa)

Other *Parabuthus* species may also be of medical importance, but specific data are missing.

Rhopalurus:

?*R. debilis* (C. L. Koch, 1840)

Tityus:

T. apiacas Lourenço 2002 (Brazil)

T. argentinus Borelli, 1899

T. arellanoparrai González-Sponga, 1985 (Venezuela)

T. asthenes Pocock, 1893 (Central and South America)
T. bahiensis (Perty, 1833) (Argentina, Brazil, Paraguay)
T. bastosi Lourenço 1984 (Central and South America)
T. breweri González-Sponga, 1997 (Venezuela)
T. carabobensis González-Sponga, 1987 (Venezuela)
T. caripitensis GQuiroga, deSousa & Parrilla-Alvarez, 2000 (Venezuela)
T. cerroazul Lourenço, 1986 (Costa Rica, Panama)
T. confluens Borelli, 1899 (South America)
T. costatus (Karsh, 1879) (Brazil)
 ?*T. dasyurus* Pocock, 1897
T. discrepans (Karsch, 1879) (Venezuela)
T. falconensis (Karsch, 1879) (Venezuela)
T. festae Borelli, 1899 (Colombia, Panama)
 ?*T. forcipula* (Gervais, 1843)
T. feuhrmanni Kraepelin, 1914(Colombia)
T. isabelceciliae González-Sponga, D'Suze & Sevcik, 2001(Venezuela)
T. ivic-nancor González-Sponga, 1997(Venezuela)
T. magnimanus Pocock, 1897 (Venezuela)
T. matthieseni Lourenço & Pinto-da-Rocha, 2000 (Brazil)
T. mettuendus Pocock, 1897 (Brazil, Peru)
T. monaguensis González-Sponga, 1974 (Venezuela)
T. neoespartanus González-Sponga, 1996 (Venezuela)
T. nororientalis González-Sponga, 1996 (Venezuela)
T. obscurus (Gervais, 1843) (Brazil, French Guiana, Suriname)
T. pachyrus Pocock, 1897 (Central America)
 s ?*T. parvulus* Kraepelin, 1914
T. perijanensis González-Sponga, 1994 (Venezuela)
T. pittieri González-Sponga, 1981 (Venezuela)
T. pusillus Pocock, 1893 (Brazil)
 ?*T. pugilator* Pocock, 1898
T. quirogae De Sousa, Manzanilla & Parrilla-Alvarez, 2006 (Venezuela)
T. sanarensis González-Sponga, 1997 (Venezuela)
T. serrulatus Lutz & Mello, 1922 (Argentina, Bolivia, Brazil)
T. silvestris Pocock, 1897 (Brazil, Fench Guiana, Peru)
T. stigmurus (Thorell, 1876) (Brazil)
T. surorientalis González-Sponga, 1996 (Venezuela)
T. trinitatis Pocock, 1897 (Trinidad and Tobago)
 ?*T. trinitatus* Pocock, 1897
T. trivittatus Kraepelin, 1898 (Argentina, Brazil)
T. valarae Scorza, 1954 (Venezuela)
T. zulianus González-Sponga, 1981 (Venezuela)
 Other *Tityus* species may also be om medical importance, but specific data are missing.

Caraboctonidae:

Chactidae:

No species of medical importance have been reported.

Chaerilidae:

Diplocentridae:

See Scorpionidae.

Euscorpidae:**Hemiscorpiidae:*****Hemiscorpius:***

Hemiscorpius acanthocercus Monod & Lourenço, 2005 (Iran)

Hemiscorpius lepturus Peters, 1861 (Middle East)

Other *Hemiscorpius* species may also be of medical importance, but specific data are missing.

Iuridae:**Microcharmidae:****Pseudochactidae:****Scorpionidae:*****Nebo:***

Nebo hierochonticus (Simon, 1872) (Egypt, Israel, Jordan, Saudi Arabia, Syria)

(<https://www.ntnu.no/ub/scorpion-files/medicallist.php>)