

Chironomidae (non-biting midges) is the largest group of aquatic insects and one of the most diverse families of dipterans, with nearly 7500 described species and 550 genera (Pape *et al.* 2011). *Cladotanytarsus* Kieffer, 1921, with 78 known species is a large chironomid genus of the tribe Tanytarsini. All life stages of *Cladotanytarsus* are important elements of trophic chains; immatures may be used as bioindicators due to diverse range of tolerance or preference for habitat conditions; phytophagous larvae of some *Cladotanytarsus* are pests, while mass presence of other species may cause allergic symptoms and diseases of the respiratory system (Cranston *et al.* 1981, Darby 1962, Giłka 2011, Puchalski *et al.* 2016). Recent concepts of the systematic division of *Cladotanytarsus* indicated two subgenera: *Cladotanytarsus s. str.* and *Lenziella* - redefined on the basis of morphological characters of adults and pupa (Giłka 2011). Research on species richness show significant disproportions within the two subgenera: 71 species of *Cladotanytarsus s. str.* and only 7 *Lenziella* (Puchalski & Giłka 2017a, b). Though the European and East Asian *Cladotanytarsus* fauna is comparatively well studied, the genus is still insufficiently explored in Africa and South America, being one of the least known within the tribe. This report is a short inventory of *Cladotanytarsus*, with an updated checklist and notes on geographical distribution of the genus.

Characteristics of the genus

The genus *Cladotanytarsus* includes small or medium sized chironomids, of which fully grown larvae (Fig. 1A), pupae (Fig. 1B) and adults (Fig. 1C) are several millimetres long. Most important structures/characters of adults, crucial in diagnostics of the genus are: the shape of eyes and mouth parts (Fig. 1D), the shape and length proportions of antennal segments (Fig. 1E, F), the slender wing covered with sparse macrotrichia apically (Fig. 1G), the leg armature and the shape of structures of the male and female genital apparatus (hypopygium) (Fig. 1H, I). The male hypopygium (Fig. 1I), typical for the genus and critical in species delimitation, is consisted of the short gonostylus, usually shorter than the gonocoxite, the anal tergite armed with spinulae, four pairs of volsellae of specific shape, including the median volsella bearing branched lamellae - the prior generic character (Fig. 1J). Keys to determination based on characters of female hypopygia (Fig. 1H) include the size/shape of cerci, vagina and seminal capsules, though identification of females is much more difficult due to subtle differences between species.

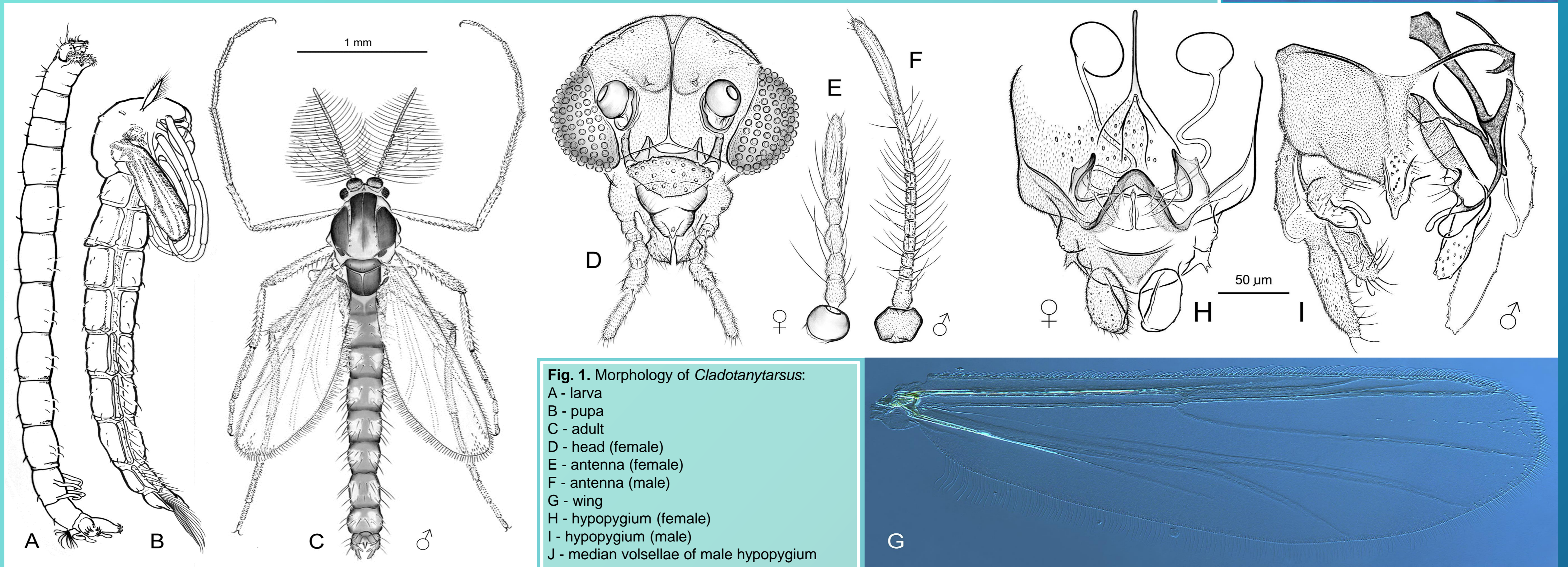
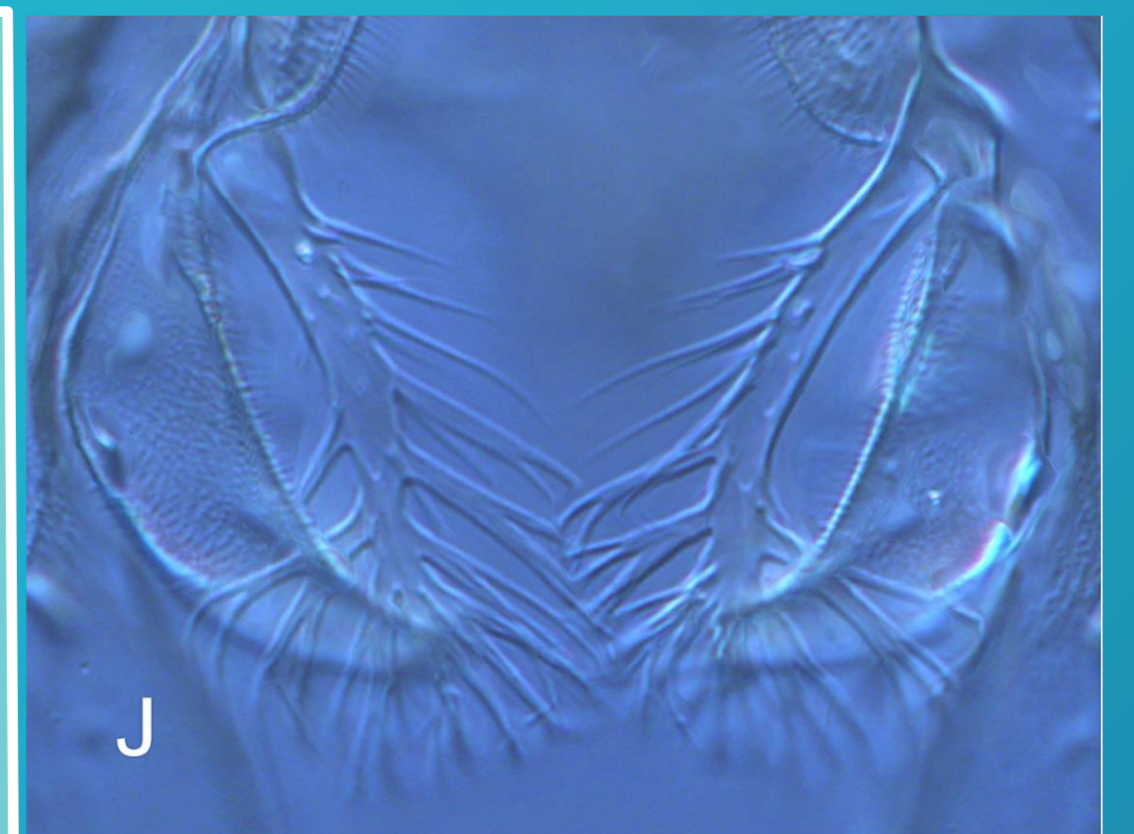


Fig. 1. Morphology of *Cladotanytarsus*:
A - larva
B - pupa
C - adult
D - head (female)
E - antenna (female)
F - antenna (male)
G - wing
H - hypopygium (female)
I - hypopygium (male)
J - median volsellae of male hypopygium

Checklist and brief inventory

nomina dubia not included

red font - species recorded in Europe

Family: Chironomidae Newman, 1834
Subfamily: Chironominae Newman, 1834
Tribe: Tanytarsini Zavřel, 1917
Subtribe: Tanytarsina Zavřel, 1917

Genus: *Cladotanytarsus* Kieffer, 1921

Subgenus: *Cladotanytarsus s. str.* Kieffer, 1921

- Cladotanytarsus acinatus* Datta *et al.*, 1992
- Cladotanytarsus acornutus* Jacobsen *et al.*, 2007
- Cladotanytarsus aduncus* Mazumdar *et al.*, 2000
- Cladotanytarsus aegyptius* Ghonaim *et al.*, 2005
- Cladotanytarsus aeiparthenus* Bilyj, 1989
- Cladotanytarsus atridorsum* Kieffer, 1924
- Cladotanytarsus australomancus* Glover, 1973
- Cladotanytarsus bilinearis* Glover, 1973
- Cladotanytarsus bilyji* Giłka *et al.*, 2017
- Cladotanytarsus bisetus* Wang *et al.*, 2004
- Cladotanytarsus bukavus* (Lehmann, 1979)
- Cladotanytarsus capensis* (Freeman, 1954)
- Cladotanytarsus congolensis* (Lehmann, 1979)
- Cladotanytarsus conversus* (Johannsen, 1932)
- Cladotanytarsus crebrus* (Lehmann, 1981)
- Cladotanytarsus cyrylae* Giłka, 2001
- Cladotanytarsus daviesi* Bilyj, 1989
- Cladotanytarsus difficilis* Brundin, 1947
- Cladotanytarsus digitalis* Wang *et al.*, 1993
- Cladotanytarsus dilatus* Wang *et al.*, 2004
- Cladotanytarsus dividualis* Majumdar *et al.*, 2010
- Cladotanytarsus dispersopilosus* Goetghebuer, 1935
- Cladotanytarsus donmacbeani* Langton *et al.*, 2010
- Cladotanytarsus ecristatus* Reiss, 1991
- Cladotanytarsus elaensis* Bilyj, 1989
- Cladotanytarsus flexus* Datta *et al.*, 1992
- Cladotanytarsus frontalis* Wang *et al.*, 1993
- Cladotanytarsus furcatus* Freeman, 1961
- Cladotanytarsus fusiformis* Bilyj, 1989
- Cladotanytarsus fustistylus* Datta *et al.*, 1992
- Cladotanytarsus gedanicus* Giłka, 2001
- Cladotanytarsus gloveri* Chaudhuri *et al.*, 1988
- Cladotanytarsus gracillistylus* (Datta *et al.*, 1992)
- Cladotanytarsus hibaroactavus* Sasa, 1993
- Cladotanytarsus irsacus* Lehmann, 1979
- Cladotanytarsus isigacedeus* (Sasa *et al.*, 2000)
- Cladotanytarsus iucundus* Hirvenoja, 1962
- Cladotanytarsus lepidocalcar* Kruger, 1938
- Cladotanytarsus lewisi* (Freeman, 1950)

- Cladotanytarsus linearis* (Freeman, 1954)
- Cladotanytarsus mancus* (Walker, 1856)
- Cladotanytarsus marki* Sublette, 1998
- Cladotanytarsus matthei* Giłka, 2001
- Cladotanytarsus molestus* Hirvenoja, 1962
- Cladotanytarsus multispinulus* Guha *et al.*, 1985
- Cladotanytarsus muricatus* Bilyj, 1989
- Cladotanytarsus neovanderwulpi* Ree *et al.*, 2011
- Cladotanytarsus nigrovittatus* (Goetghebuer, 1922)
- Cladotanytarsus omanensis* Cranston, 1989
- Cladotanytarsus ovatus* Mazumdar *et al.*, 2000
- Cladotanytarsus pallidus* Kieffer, 1922
- Cladotanytarsus palmatus* Wang *et al.*, 1993
- Cladotanytarsus paratrirdorsum* Wang *et al.*, 2004
- Cladotanytarsus parvus* Wang *et al.*, 1993
- Cladotanytarsus pinnaticornis* Bilyj, 1989
- Cladotanytarsus pseudomancus* (Goetghebuer, 1934)
- Cladotanytarsus reductus* (Freeman, 1954)
- Cladotanytarsus sagittifer* Giłka, 2009
- Cladotanytarsus sinjongsensis* Ree *et al.*, 1988
- Cladotanytarsus stylifer* Giłka, 2015
- Cladotanytarsus tasmanicus* Glover, 1973
- Cladotanytarsus teres* Hirvenoja, 1962
- Cladotanytarsus tobaquindecimus* Kikuchi *et al.*, 1990
- Cladotanytarsus tobaxdecimus* Kikuchi *et al.*, 1990
- Cladotanytarsus tribelus* Bilyj, 1989
- Cladotanytarsus unilinearis* Glover, 1973
- Cladotanytarsus utonaiquartus* (Sasa, 1988)
- Cladotanytarsus vanderwulpi* (Edwards, 1929)
- Cladotanytarsus verbosus* Mazumdar *et al.*, 2000
- Cladotanytarsus viridiventris* (Malloch, 1915)
- Cladotanytarsus yunnanensis* Wang *et al.*, 1990

Subgenus: *Lenziella* Kieffer, 1922

- Cladotanytarsus amandus* Hirvenoja, 1962
- Cladotanytarsus bicornutus* Kieffer, 1922
- Cladotanytarsus crusculus* (Saether, 1971)
- Cladotanytarsus glaber* Giłka *et al.*, 2017
- Cladotanytarsus latissimus* Giłka, 2011
- Cladotanytarsus piniger* Giłka, 2011
- Cladotanytarsus subletteorum* Giłka, 2011

| Continent | Number of species |
|---------------|------------------------------|
| Africa | 12 |
| Asia | 33 |
| Australia | 6 |
| Europe | 19 |
| North America | 22 |
| South America | records of generic rank only |

Geographical distribution and species richness

Representatives of the genus *Cladotanytarsus* have so far been reported from all continents excluding Antarctica, with the small subgenus *Lenziella* predominantly distributed in the temperate zone of the Northern Hemisphere (Fig. 2). The best studied realm is the Palaearctic, including Europe, where the vast majority of *Cladotanytarsus* (19 species) probably have already been recorded. The data coming from other regions, however, often are unspecified records based on determinations to the genus level (e.g. Neotropics); some regions/countries have been investigated locally (e.g. Africa) or have not been explored at all. Therefore, the highest number of unknown species is expected from the Southern Hemisphere as well as from North America (authors' unpublished data). A total number of *Cladotanytarsus* species worldwide most likely exceeds 100.

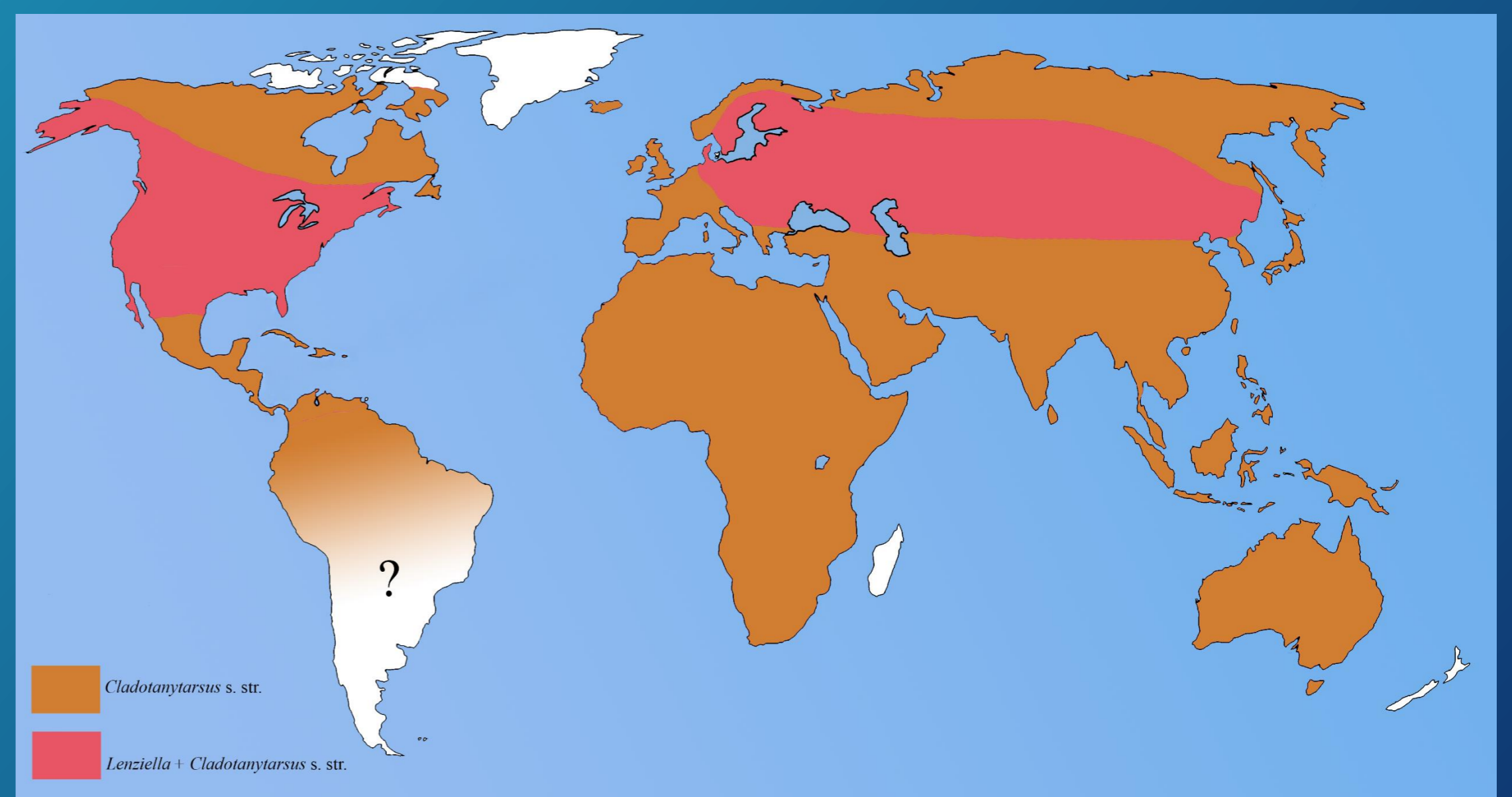


Fig. 2. Geographical distribution of *Cladotanytarsus*.

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