

Case 2696***Ixodes angustus* Neumann, 1899 and *I. woodi* Bishopp, 1911 (Arachnida, Acari): proposed conservation by the replacement of the holotype of *I. angustus* by a neotype**

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Abstract. The purpose of this application is to conserve the name *Ixodes angustus* Neumann, 1899 in its accustomed usage for a tick suspected of transmitting disease in man, by replacement of the holotype by a neotype. This will also conserve the name *Ixodes woodi* Bishopp, 1911.

1. Neumann (1899, p. 136) described and named the tick *Ixodes angustus* on the basis of a single damaged specimen now in the U.S. National Parasite Collection, Beltsville, Maryland (NPC 2419, RML 119017).

2. Later, Bishopp (1911, p. 205) described what he believed was a variety of *Ixodes angustus* under the name *Ixodes angustus woodi* nov. var.

3. Cooley & Kohls (1945, p. 163) elevated Bishopp's *Ixodes angustus* var. *woodi* to specific rank as *Ixodes woodi*, a change that has been accepted by tick taxonomists worldwide, e.g. Filippova, 1977 (p. 121); Keirans & Clifford, 1978 (p. 136); Wilson, 1958 (p. 23). In the same publication, it was reported (p. 71) that the senior author (Cooley) had examined Neumann's type of *I. angustus*, but this specimen was not identified as *I. woodi*.

4. The present writers are the first since Cooley to have examined Neumann's type of *Ixodes angustus*. Despite the poor condition of this specimen, it definitely is *Ixodes woodi*. In all life history stages, a number of prominent morphological differences separate *I. angustus* of authors from *I. woodi*.

5. However, tick taxonomists throughout the world (e.g. Filippova, 1977 (p. 133); Yamaguti, Tipton, Keegan & Toshioka, 1971 (p. 115)) have consistently applied the name *Ixodes angustus* Neumann, 1899 to a particular taxon of species rank that parasitizes a broad range of cricetid and arvicolid rodents and other small mammals in Japan, eastern Siberia, and much of North America.

6. Since Neumann's original description, the name *Ixodes angustus* has been used consistently by acarologists, entomologists, parasitologists and health professionals in the Eastern and Western Hemispheres. Examination of the tick literature reveals that this name has appeared in at least 130 papers published in at least five languages. In addition to those cited above, the following major papers use the name *Ixodes angustus* Neumann in its accustomed sense: Bequaert, 1946 (p. 147); Gregson, 1956 (p. 38); Nuttall & Warburton, 1911 (p. 195); Serdyukova, 1956 (p. 43).

7. *Ixodes angustus* of authors has occasionally been reported feeding on man (Robbins, 1989, p. 291) and has been suspected of transmitting Powassan virus and the bacterium of tularemia (Artsob, Spence, Surgeoner, McCreadie, Thorsen, Th'ng & Lampotang, 1984 and McLean, Walker, MacPherson, Scholten, Ronald, Wyllie & McQueen, 1961). It would not be surprising if so common and widespread a tick were eventually to be implicated in the transmission of one or more infectious agents. Robbins (1989, p. 291) also reported the first known instance of human parasitization by *Ixodes woodi*.

8. The problem created by our certain identification of Neumann's type of *Ixodes angustus* as *Ixodes woodi* could be resolved in accordance with a strict application of the Code by accepting *Ixodes angustus* Neumann as a senior synonym of *I. woodi*, abandoning the latter name, and proposing a new specific name for *I. angustus* of authors. However, the inevitable confusion following such a change of current usage of both names *Ixodes angustus* and *I. woodi* could be avoided by suppressing the holotype of *Ixodes angustus* Neumann and conserving that name as currently used by designating a neotype. We propose as neotype the reared female specimen of *I. angustus* of authors, whose data and description follow: *I. angustus* Neumann, female reared from nymph ex nest, *Sorex* sp. U.S.A.: Montana, Missoula County, Pattee Canyon (46°49'N, 113°58'W), 28 April 1968, A. G. Canaris. Body unengorged, length (mm) from scapular apices to posterior body margin 1·534, width at level of spiracular plate 0·901; length of capitulum from palpal apices to cornua apices 0·513, width at level of palpal insertions 0·347; palpi 0·396 long, 0·133 wide; hypostome not on a median extension of basis capituli, apex pointed, dental formula 3/3, length of toothed portion 0·251, denticles sharp, those in lateral and median files about equal in size, lateral denticles flaring; scutum 0·909 long, 0·689 wide, scapulae short and sharp, lateral carinae present but not prominent, punctations small, evenly distributed; tarsus I 0·374 long, 0·104 wide. Specimen deposited in the U.S. National Tick Collection, Department of Entomology, Museum Support Center, Smithsonian Institution, as RML 49479.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers:
 - (a) to suppress the type status of the holotype of *Ixodes angustus* Neumann, 1899;
 - (b) to designate as neotype of *Ixodes angustus* Neumann, 1899 the specimen proposed as neotype in para. 8 above;
- (2) to place on the Official List of Specific Names in Zoology the names:
 - (a) *angustus* Neumann, 1899, as published in the binomen *Ixodes angustus* and as defined by the neotype designated in (1) (b) above;
 - (b) *woodi* Bishopp, 1911, as published in the trinomen *Ixodes angustus* var. *woodi*.

10. This application has been reviewed, edited and approved for publication by the National Institute of Allergy and Infectious Diseases. We thank Curtis W. Sabrosky for assistance with an earlier draft of this paper.

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Robbins, R G and Keirans, James E. 1989. "Ixodes angustus Neumann 1899 And Ixodes woodi Bishopp 1911 Arachnida Acari Proposed Conservation By The Replacement Of The Holotype Of Ixodes angustus By A Neotype." *The Bulletin of zoological nomenclature* 46, 167–169.

<https://doi.org/10.5962/bhl.part.524>.

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