

Photographic Catalogue of north west European *Tanytarsus* species (Diptera: Chironomidae: Chironominae: Tanytarsini)

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1. Introduction

Chironomidae or non-biting midges are amongst the most diverse and abundant inhabitants of freshwater aquatic habitats, occurring in nearly all regions in the world. Their larvae are known as blood worms and are amongst the most numerous macrofauna species groups, both in number of individuals as well as number of species. The pupae are less known, lacking a vernacular name. After having shed their pupal skin or exuviae, the adult chironomid appears. These adults are known as non-biting midges.

The ability to correctly identify the larvae of these midges is important for a number of reasons including their use in ecological monitoring and ecological studies. Unfortunately chironomids are often not identified beyond family or subfamily levels due to what are considered difficult and time consuming larval identifications. The authors like to emphasise that identifying chironomid larvae to species level can provide valuable ecological information.

Within the Chironomidae, Tanytarsini species rank among valuable indicators of the ecological quality of waterquality. Furthermore, the fossilised remains of the sclerotized head capsules, retrieved from sediments of lakes and other habitats, can be used for reconstruction of climate changes in the past. Thus, correct identification of these species may contribute substantially to both understanding of actual ecological situation and even serves palaeological studies.

Recently a key was provided for the identification of larvae of *Tanytarsus* species occurring in north western Europe (Cuppen *et al.* 2015). This current article serves as an appendage to this publication. We provide pictures of the species studied, giving still more suggestions for correct identification of species. Sharing these images, and keys, we hope this will be helpful for a correct identification of *Tanytarsus* species. Also we would like to encourage fellow workers on Chironomidae to share their photos, observations and experiences through the modern portals¹ which have served so well in numerous species groups.

¹ Such as Waarneming.nl, Waarnemingen.be and Observation.org.

2. Morphology

The morphology of Chironomidae larvae is amazingly complicated, especially regarding structures of the head capsule. As for terminology we generally follow Saether (1980) who produced a glossary of chironomid morphology.

Tanytarsus larvae have a sclerotized, non-retractile head capsule and a segmented cylindrical body. They bear one pair of unjointed anterior parapods ("prolegs") on the first body segment, one pair of unjointed posterior parapods on the last body segment, which also bears a pair of setae-bearing proceri, and one to two pairs of anal tubules.

The majority of the characters used for larval identification is found in the head. The head capsule is entirely sclerotised in *Tanytarsus*, as opposed to the rest of the body, which consists entirely of soft tissues. The best characters are located on the ventral side of the head. They include the color of the gula, postoccipital plate and postoccipital margin; the number of mandibular teeth; labral structures; aspects of the dorsal part of the head capsule and antennal structures.

The mandible normally has three inner teeth, one apical tooth and one dorsal tooth. Some species possess only two inner teeth, others have an additional paramandibular plate and yet other species more than one dorsal tooth. Other structures on the ventral part of the head are the ventromental plate, mentum and labrum.

The labrum possesses several characters which can be important for determination. Particularly the S setae (SI and SII) are useful. Other structures on the labrum are the pecten epipharyngis, labral lamella, chaetae laterales and chaetae labrales.

The dorsal part of the head is made up of several sclerites and bears the antennae. In dorsal view of the head, the frontal apotome is the largest obvious sclerite. In most species it is yellow, but in several species it is brown, or it has a brown, longitudinal stripe. The sclerite in front of the frontal apotome is the clypeus. It bears one pair of setae which are simple or branched.

The antennae of *Tanytarsus* are placed on pedestals, which may carry a spur. The antenna has five segments, of which the second is partly sclerotised. On the distal end of antenna 2 are two long pedicels which bear the lauterborn organs. The base of these pedicels is sclerotised in some species.

Morphology of *Tanytarsus* larvae: Ventral part of head.

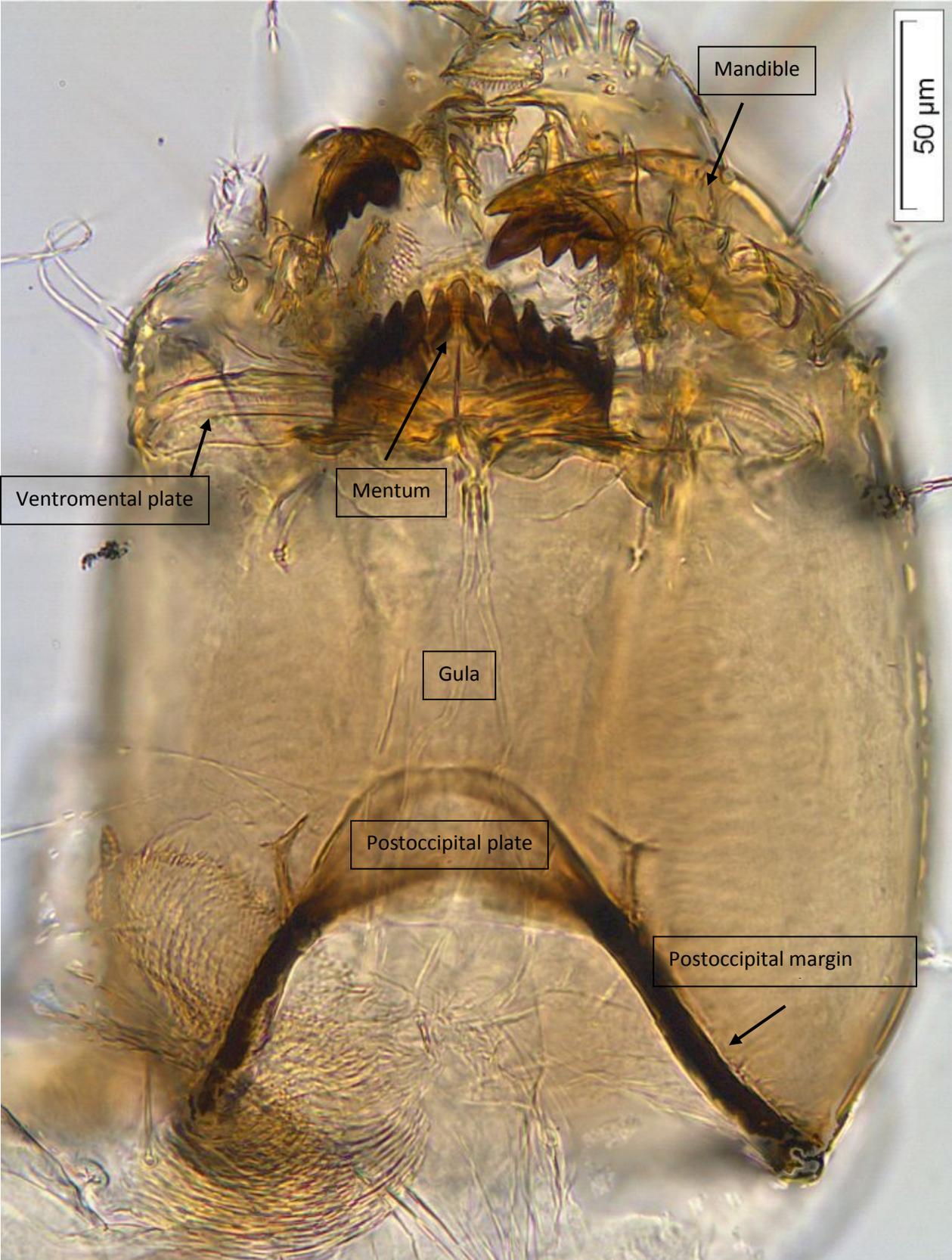


Figure 1. Head ventral of *Tanytarsus* spec.

Morphology of *Tanytarsus* larvae: Antenna and lauterborn organs.

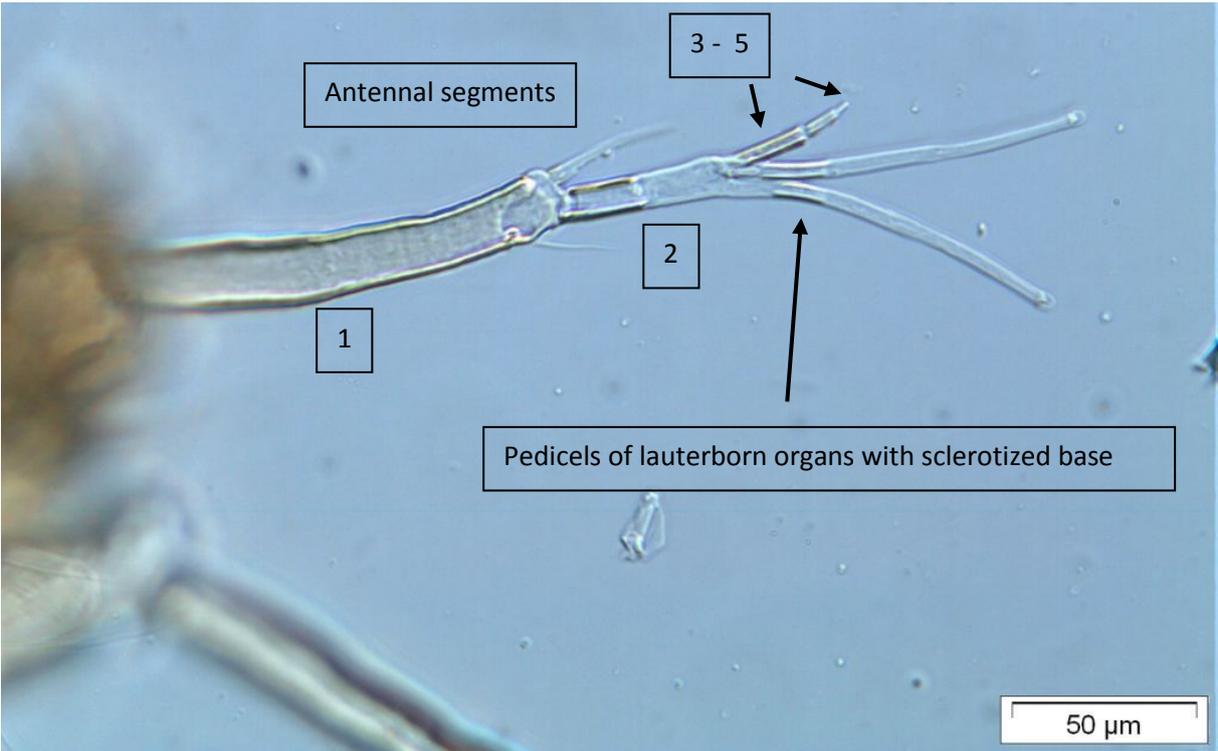


Figure 2. Antenna of *Tanytarsus* spec.

Labrum: SII and chaetulae labrales.

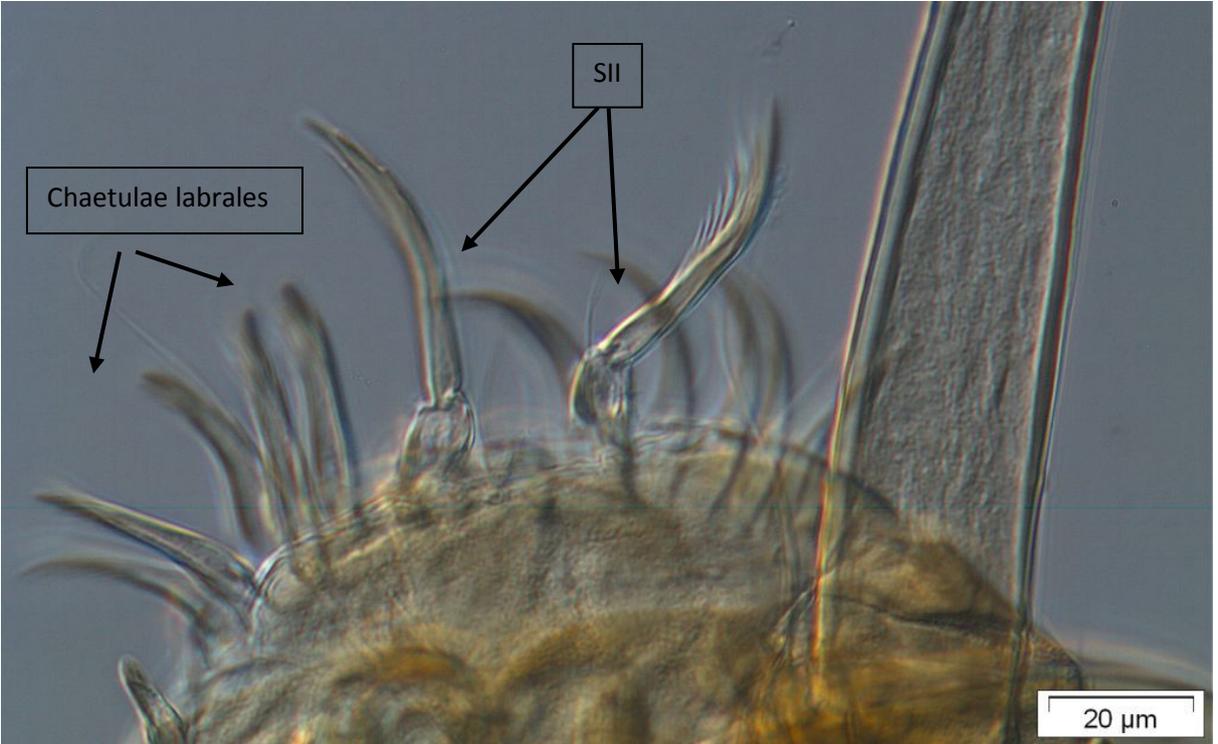


Figure 3. Chaetulae labrales of *Tanytarsus* spec. Note: SII is 2-segmented.

Antennal base and clypeal seta (S3).

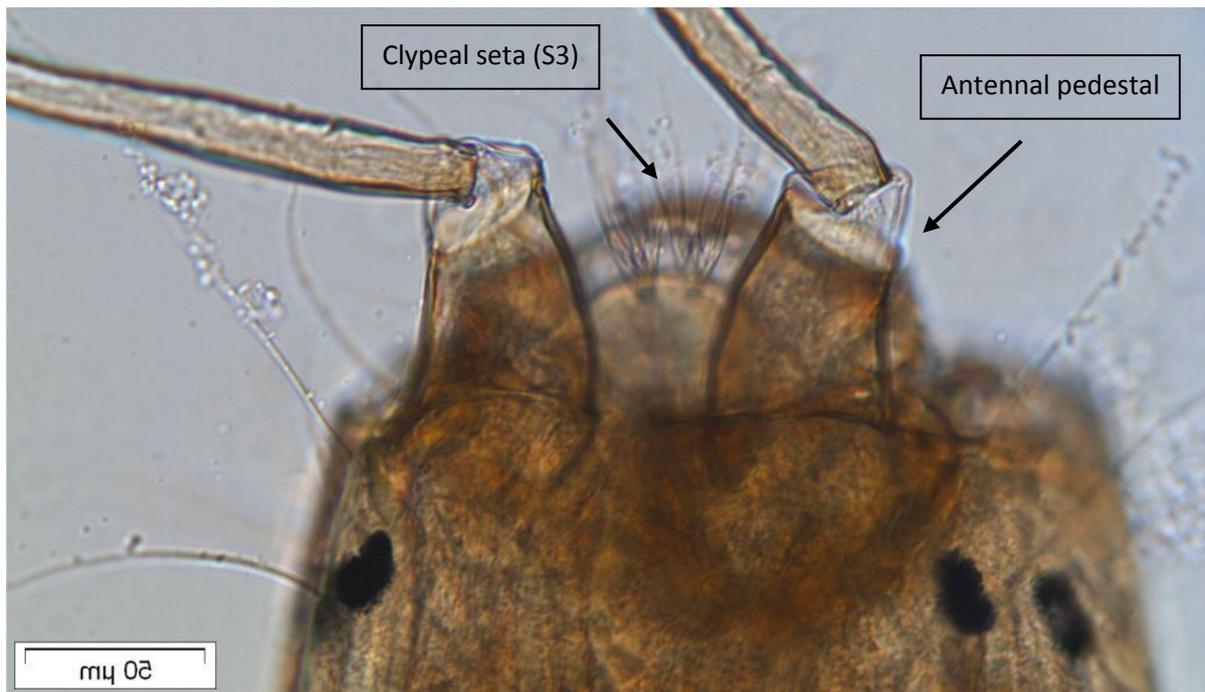


Figure 4 Antenna, antennal pedestal and clypeal setae III of *Tanytarsus* spec.

Mandible.

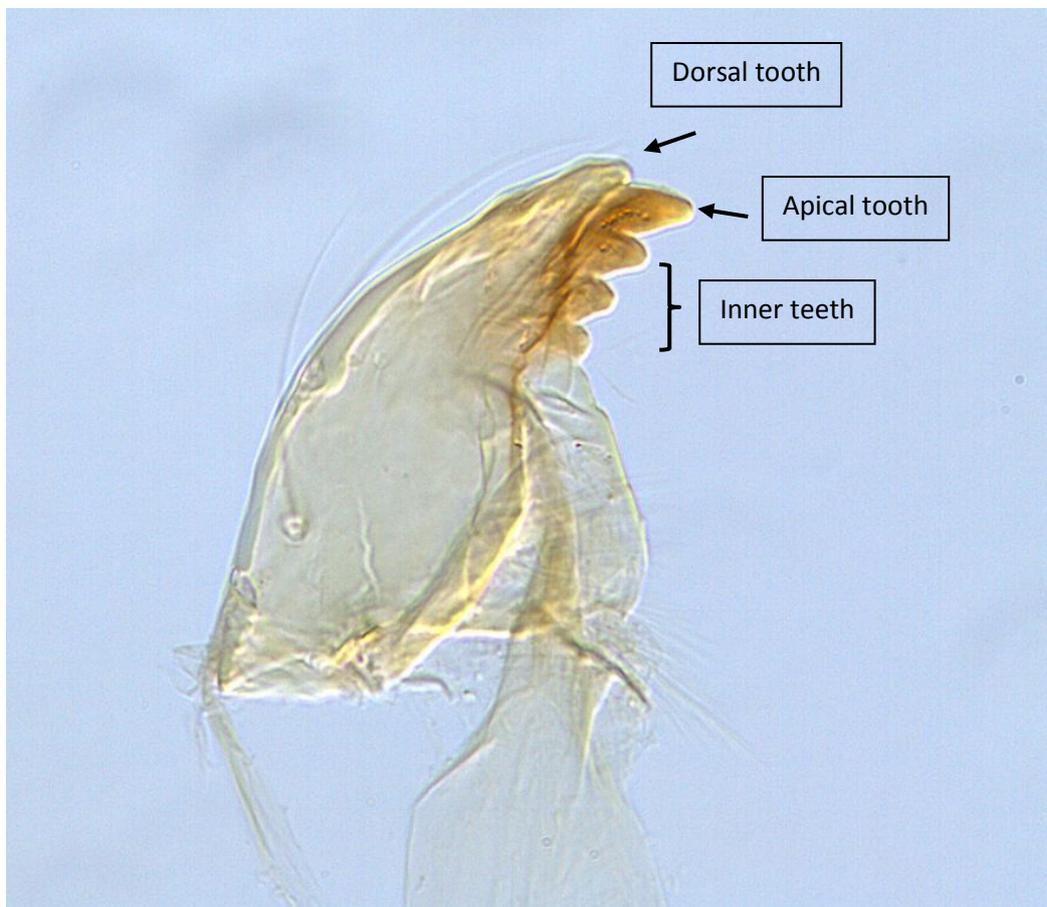


Figure 5. Mandible of *Tanytarsus* spec.

3. Photographic catalogue

Tanytarsus bathophilus Kieffer

Head capsule: pale brown/yellow; gula brown; postoccipital plate en occipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth, two yellow dorsal teeth and one small brown paramandibular plate

Labrum: seta SII with one minute tooth half length (Ekrem, 2004)

Clypeal seta S3: simple

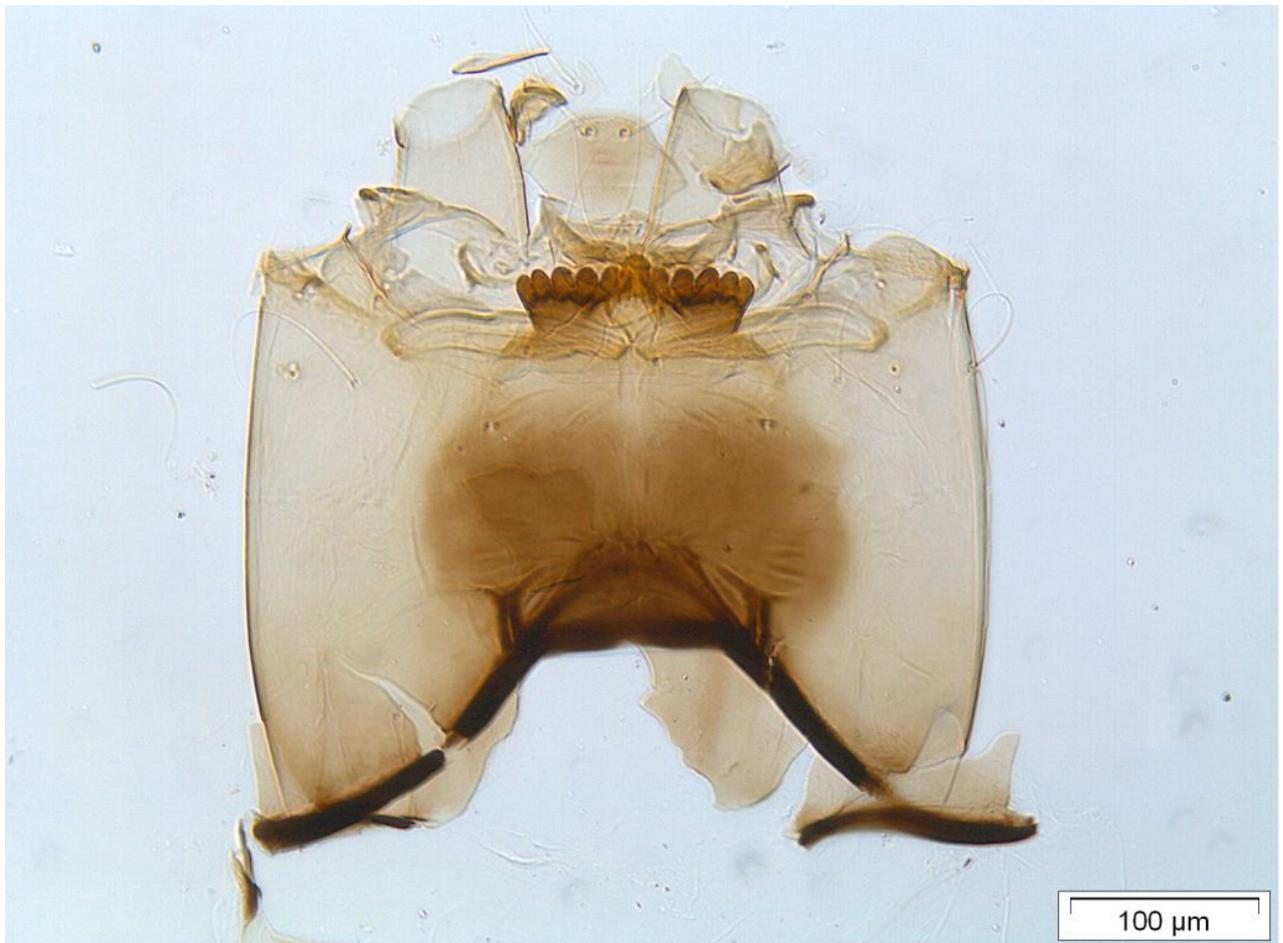


Figure 6 *Tanytarsus bathophilus*. Overview of ventral side of head capsule (Blankaart drinking water basin (B.), 21-12-1983, Collection Goddeeris).

Tanytarsus bathophilus (continued)



Figure 7: Mandible and premandible of *Tanytarsus bathophilus* (pigmentation of mandible slightly lost).



Figure 8: Antenna of *Tanytarsus bathophilus*.

Tanytarsus brundini/curticornis

Head capsule: pale ; gula pale; postoccipital plate en occipital margin pale or light brown

Antenna: antennal pedestal with long Sharp backward curving spur; sclerotisation 2^e segment 4/5

Mentum: median tooth dark brown

Mandible: Three brown inner teeth, one brown apical tooth and one brown dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 9 *Tanytarsus brundini* head lateral (Keersop near Westerhoven (NL), praepupa, 408913, 10-8-2011).

Tanytarsus brundini/curticornis (continued).

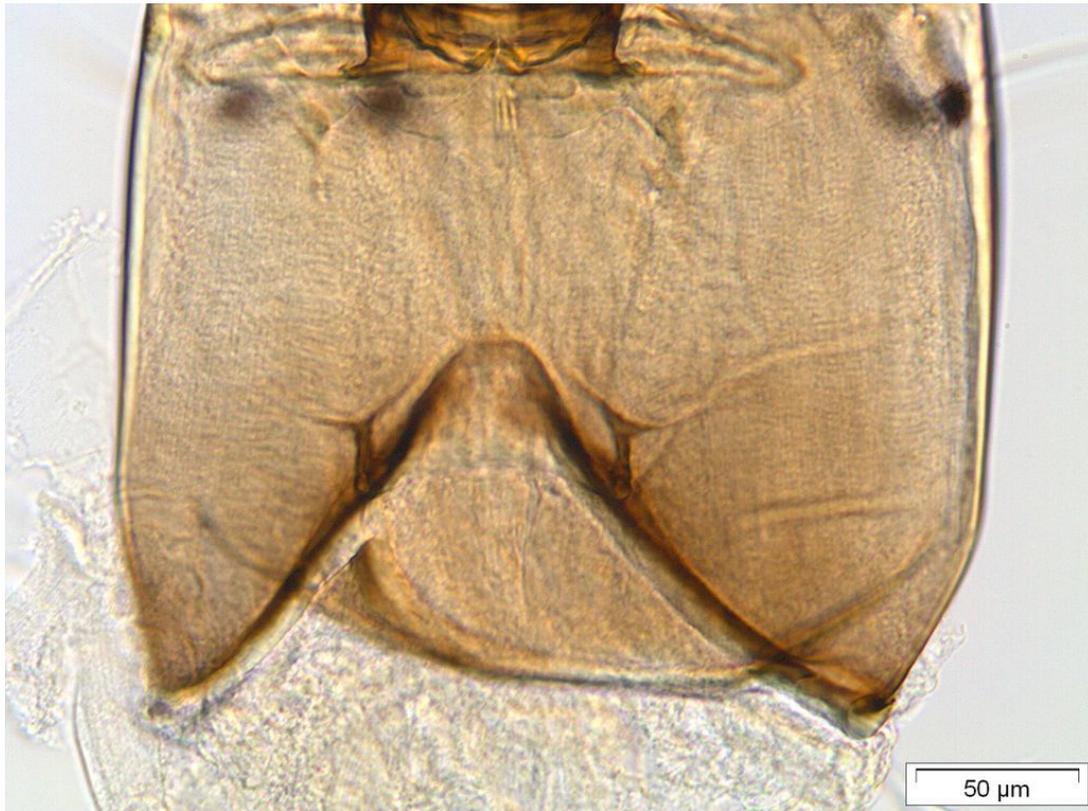


Figure 10 *Tanytarsus brundini/curticornis*: Postoccipital plate and margin (Bovendinkel near Glane, lowland river (NL), 4-5-2009, leg H. Cuppen).



Figure 11 *Tanytarsus brundini/curticornis*: Antennal pedestal with spur and clypeal seta (Bovendinkel near Glane, lowland river (NL), 4-5-2009, leg H. Cuppen).

Tanytarsus brundini/curticornis (continued).



Figure 12 *Tanytarsus brundini/curticornis*: Mentum and ventromental plate ((Bovendinkel near Glane, lowland river (NL), 4-5-2009, leg H. Cuppen).

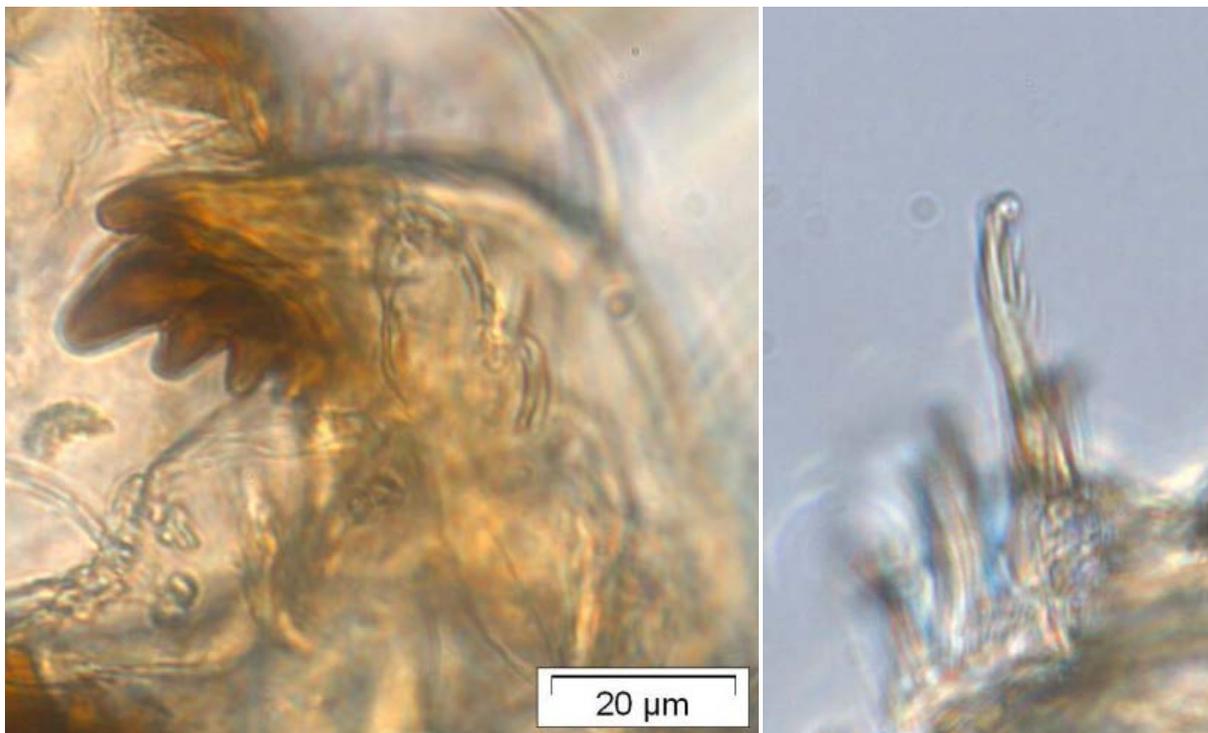


Figure 13 and Figure 14 *Tanytarsus brundini* Mandible and seta SII (Keersop near Westerhoven (NL), praepupa, 408913, 10-8-2011).

Tanytarsus brundini/curticornis (continued).



Figure 15 *Tanytarsus brundini* Antenna (Keersop near Westerhoven (NL), prae pupa, 408913, 10-8-2011).

Tanytarsus buchonius Reiss & Fittkau

Head capsule: pale; gula pale; postoccipital plate pale, postoccipital margin light brown

Antenna: antennal pedestal broadly extended but without spur; sclerotisation 2^e segment 4/5

Mentum: median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: branched



Figure 16 *Tanytarsus buchonius* head lateral (Stroothuizen (NL), moorland pool, 10-5-2005, leg H. Cuppen).

Tanytarsus buchonius (continued)



Figure 17 *Tanytarsus buchonius*: Postoccipital plate and margin (Stroothuizen (NL), moorland pool, 10-5-2005, leg H. Cuppen).



Figure 18 *Tanytarsus buchonius*: Antennal pedestal and clypeal seta (Stroothuizen, moorland pool, 10-5-2005, leg H. Cuppen).

Tanytarsus buchonius (continued)

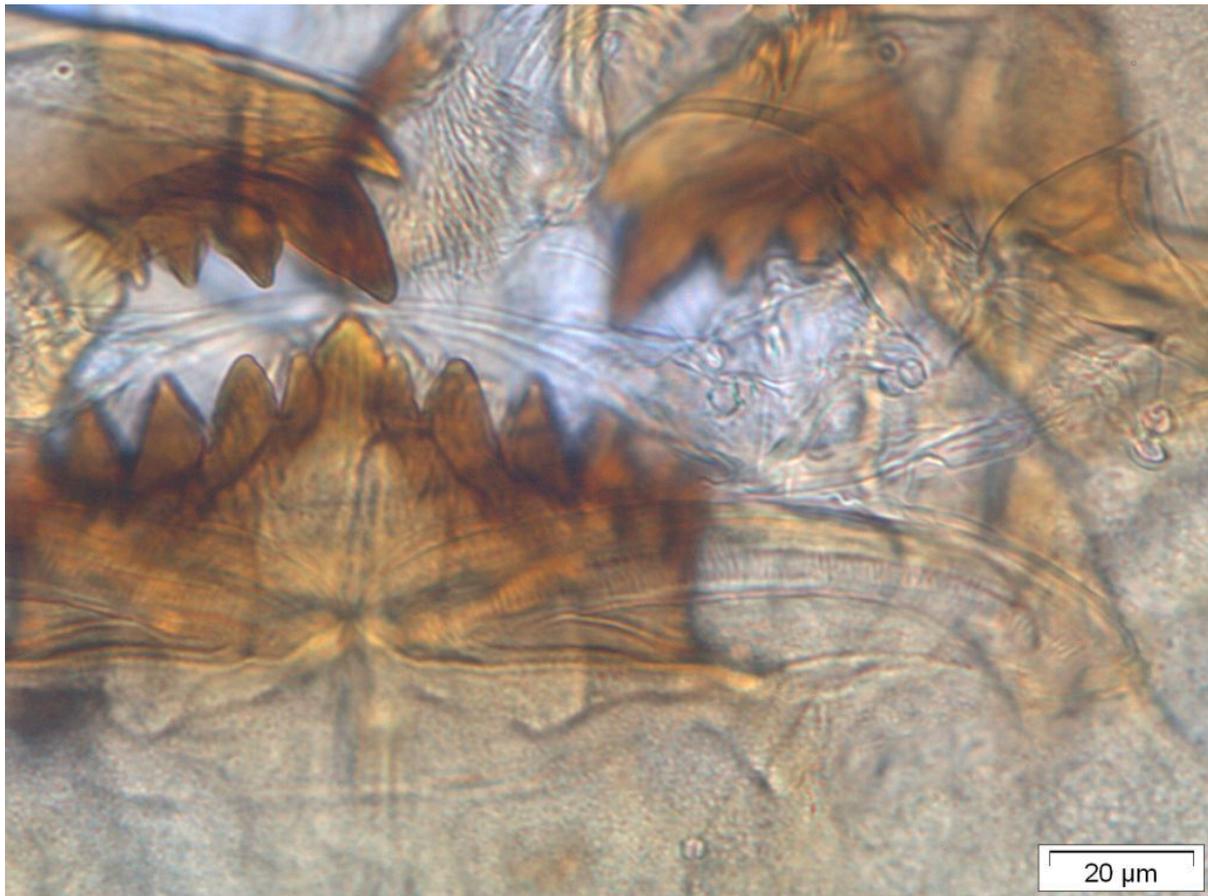


Figure 19 Mandible, mentum and ventromental plate (Stroothuizen, moorland pool (NL), 10-5-2005, leg H. Cuppen).

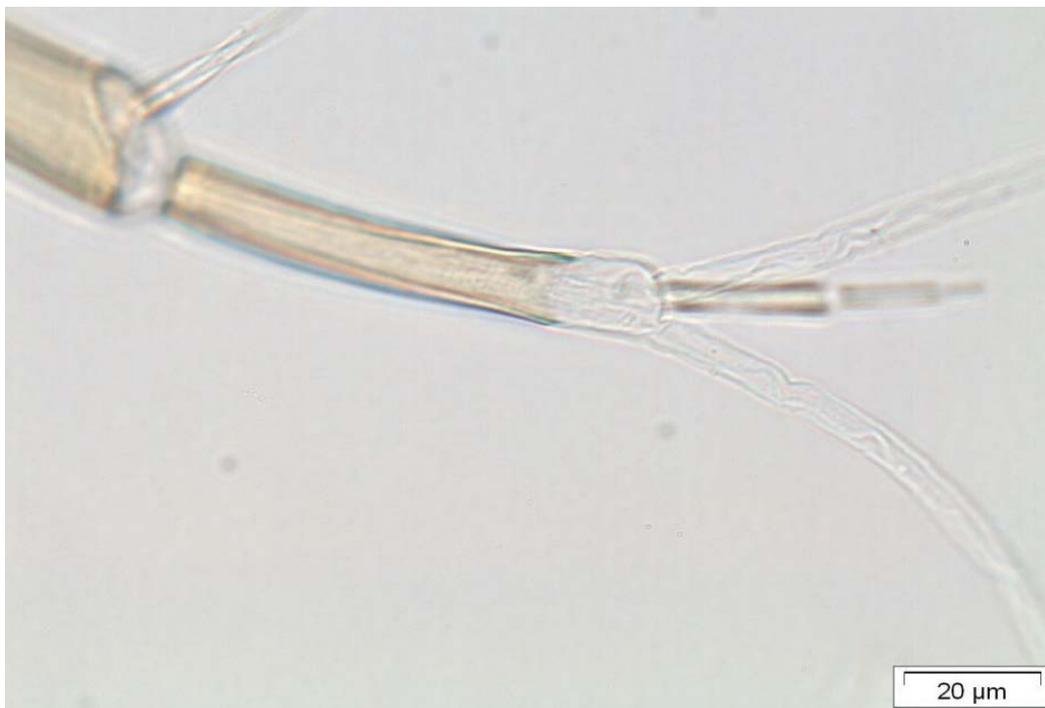


Figure 20 Antenna (Stroothuizen (NL), moorland pool, 10-5-2005, leg H. Cuppen).

Tanytarsus debilis (Meigen 1830)

Head capsule: pale ; gula brown; postoccipital plate brown. postoccipital margin black brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII falcate with some slender teeth against the concave rim

Clypeal seta S3: simple



Figure 21 *Tanytarsus debilis* head lateral (Wenum, pond in Hendrikpark (NL), 02-04-2010, leg H. Cuppen).

Tanytarsus debilis (continued)



Figure 22 *Tanytarsus debilis* mentum, postoccipital plate and margin (Mirwart (B.), pool, april 1981, leg B. Goddeeris) (pigmentation gula and occipital plate faded).

Tanytarsus debilis (continued)

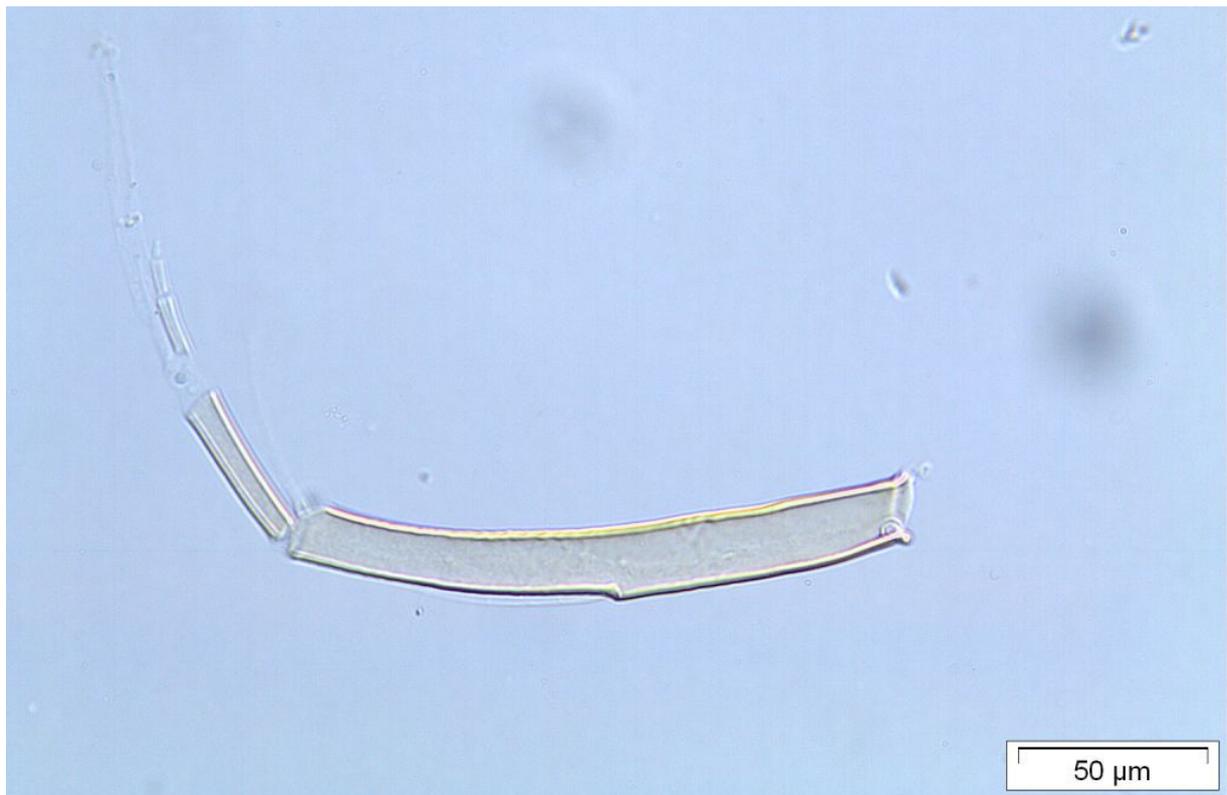


Figure 23 *Tanytarsus debilis*, antenna (Mirwart (B.), pool, august 1980, leg B. Goddeeris).



Figure 24 *Tanytarsus debilis* mandible (Mirwart (B.), pool, 22-04-1979, leg B. Goddeeris).

Tanytarsus dibranchius Kieffer 1926

Head capsule: pale but frontal apotome brown ; gula brown; postoccipital plate dark brown. postoccipital margin black brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: median tooth slightly trifold, light brown

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 25 *Tanytarsus dibranchius* head lateral (Ruiten Aa (NL), lowland stream, 24-09-2007 leg H. Cuppen).

Tanytarsus dibranchius (continued)



Figure 26 *Tanytarsus dibranchius* Abdomen with lateral tubules on seventh segment (Ruiten Aa (NL), 24-09-2007 leg H. Cuppen).



Figure 27 *Tanytarsus dibranchius*: Postoccipital plate and margin (Landweerven (NL), moorland pool, 28-5-2009, leg H. Cuppen).

Tanytarsus dibranchius (continued)



Figure 28 *Tanytarsus dibranchius*: Mentum (Landweerven (NL), moorland pool, 28-5-2009, leg H. Cuppen).



Figure 29 *Tanytarsus dibranchius*: SII labrum (Landweerven (NL), moorland pool, 28-5-2009, leg H. Cuppen).

Tanytarsus ejuncidus (Walker 1856)

Head capsule: pale but frontal apotome and genae brown ; gula darkbrown; postoccipital plate black brown. postoccipital margin black brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/2 - 2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: simple



Figure 30 *Tanytarsus ejuncidus*: head lateral (Hulshorst, Nodbeek stream (NL), 02-05-2008 leg H. Cuppen).

Tanytarsus ejuncidus (continued)

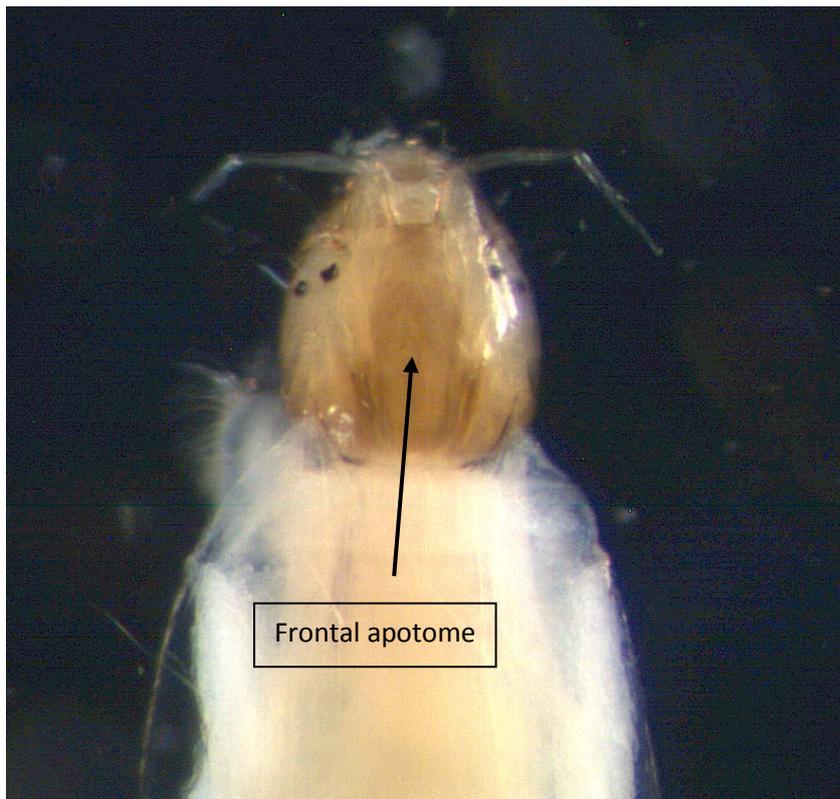


Figure 31 *Tanytarsus ejuncidus* head dorsal (Hulshorst, Nodbeek stream (NL) 02-05-2008 leg H. Cuppen).

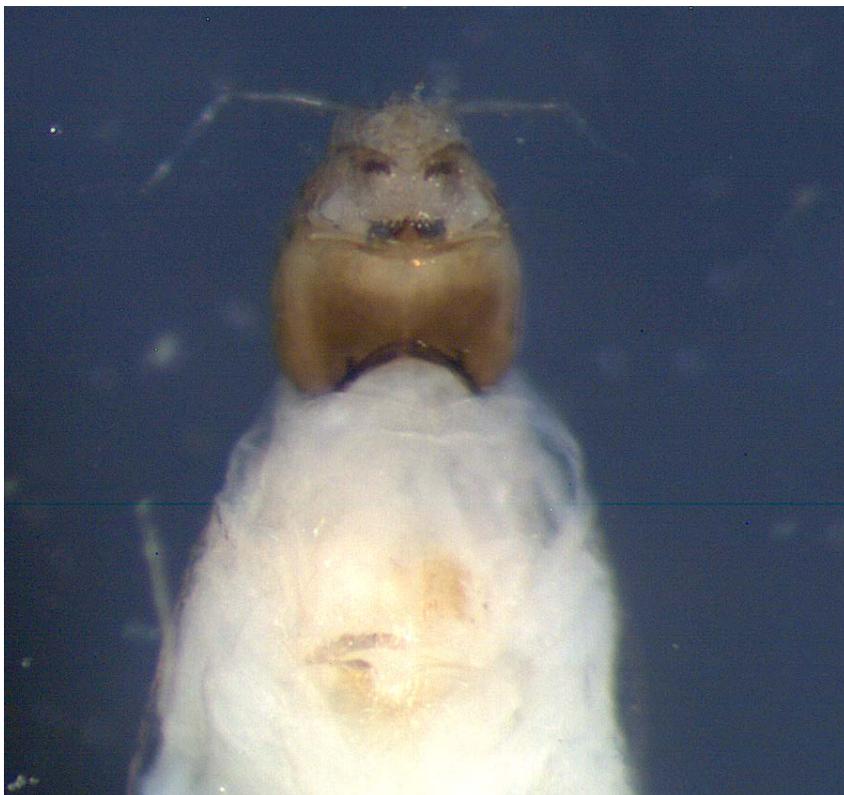


Figure 32 *Tanytarsus ejuncidus* head ventral (Hulshorst, Nodbeek stream (NL), 02-05-2008 leg H. Cuppen).

Tanytarsus ejuncidus (continued)



Figure 33 *Tanytarsus ejuncidus*: Postoccipital plate and margin (Hulshorst, Nodbeek stream (NL), 02-05-2008 leg H. Cuppen).



Figure 34 *Tanytarsus ejuncidus*: Mentum (Hulshorst, Nodbeek stream (NL), 02-05-2008 leg H. Cuppen).

Tanytarsus ejuncidus (continued)



Figure 35 *Tanytarsus ejuncidus*: Antenna (Hulshorst, Nodbeek stream (NL), 02-05-2008 leg H. Cuppen).

Tanytarsus eminulus (Walker 1856)

Head capsule: pale ; gula slightly brown at base; postoccipital plate pale, postoccipital margin brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/2 - 2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII pectinate

Clypeal seta S3: simple



Figure 36 *Tanytarsus eminulus*: head lateral (Hulshorst, Nodbeek stream (NL), 06-06-2006 leg H. Cuppen).

Tanytarsus eminulus (continued)

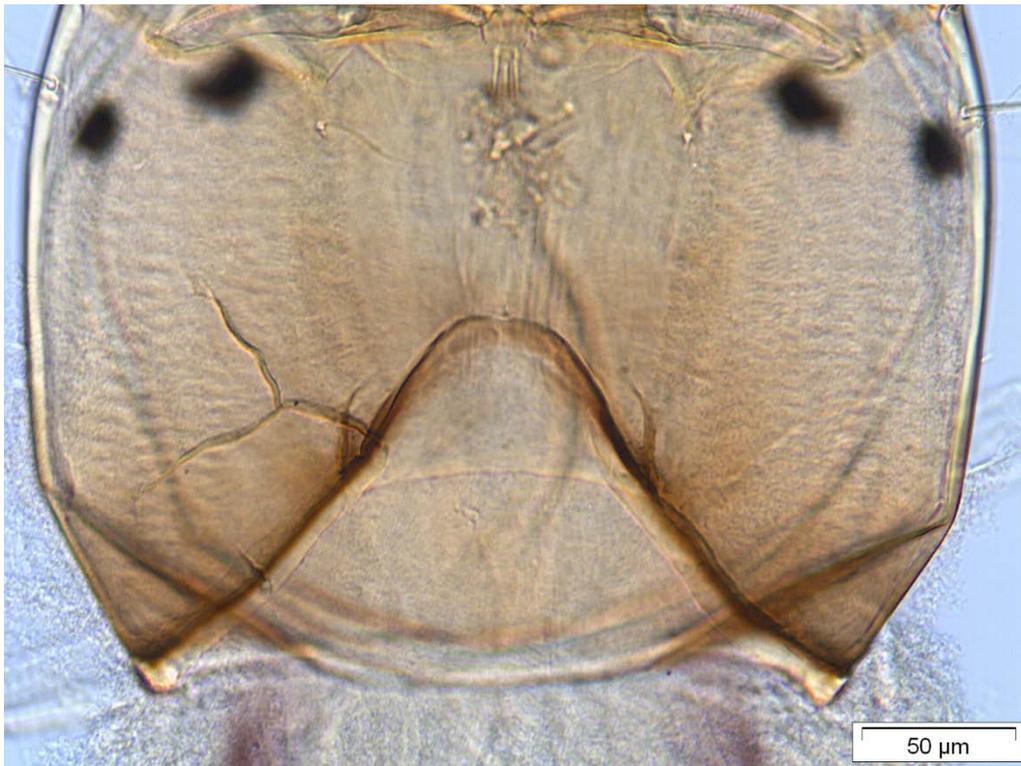


Figure 37 *Tanytarsus eminulus*: Postoccipital plate and margin (Hulshorst, Nodbeek stream (NL), 06-06-2006 leg H. Cuppen).



Figure 38 *Tanytarsus eminulus*: Mentum (Hulshorst, Nodbeek stream (NL), 06-06-2006 leg H. Cuppen).

Tanytarsus eminulus (continued)



Figure 39 *Tanytarsus eminulus*: S II and Chaetulae labrales (Hulshorst, Nodbeek stream (NL), 06-06-2006 leg H. Cuppen).



Figure 40 *Tanytarsus eminulus*: Claws of posterior parapods; some of the small claws with accessory teeth (Hulshorst, Nodbeek stream (NL), 06-06-2006 leg H. Cuppen).

Tanytarsus eminulus (continued)

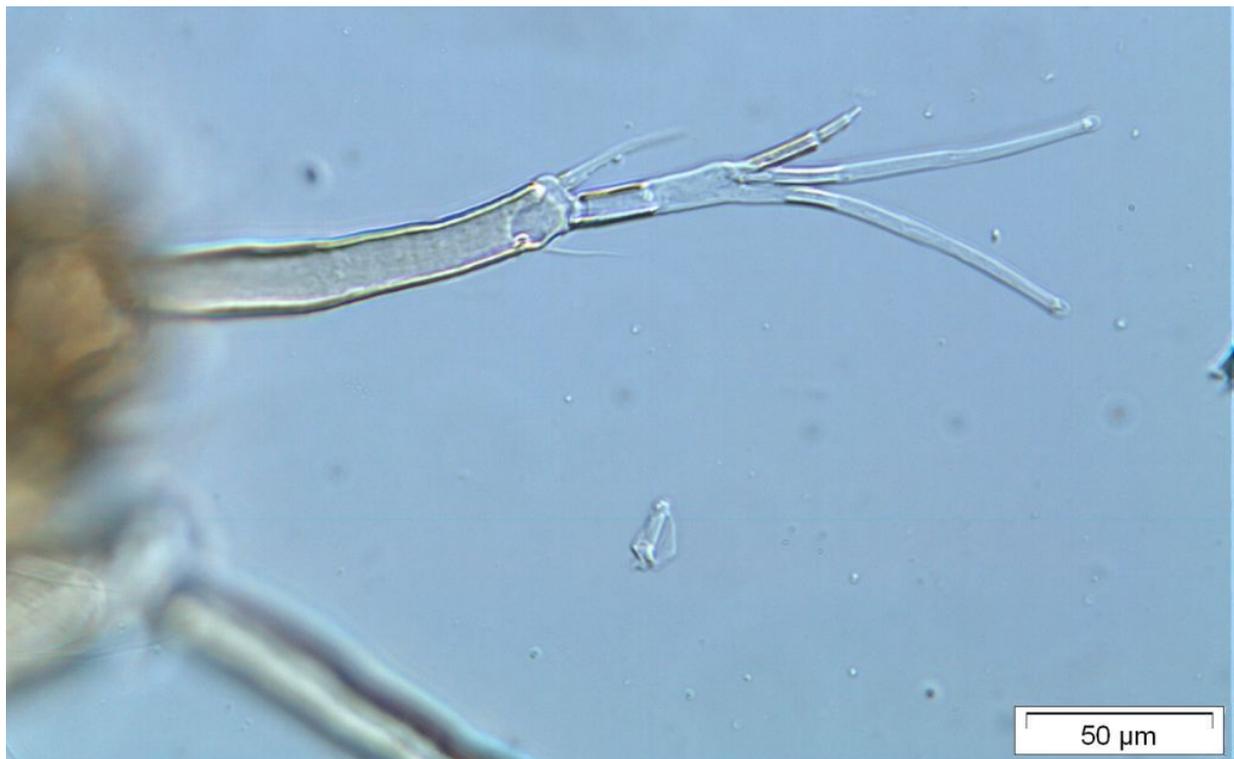


Figure 41 *Tanytarsus eminulus*: Antenna (Hommersum, Kendel lowland stream (NL), 20-6-2011, leg. J. van Mil & E. Binnendijk).

Tanytarsus excavatus Edwards 1929

Head capsule: pale ; gula brown; postoccipital plate dark brown, postoccipital margin dark brown

Antenna: antennal pedicel no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple

Note: in Cuppen *et al.* (2015), this species was keyed out as *Tanytarsus spec.* Vollenhove.



Figure 42 *Tanytarsus excavatus*: head lateral (Utrecht, Vijver Vollenhove, pond (NL), 23-08-2010 leg Grontmij).

Tanytarsus excavatus (continued)

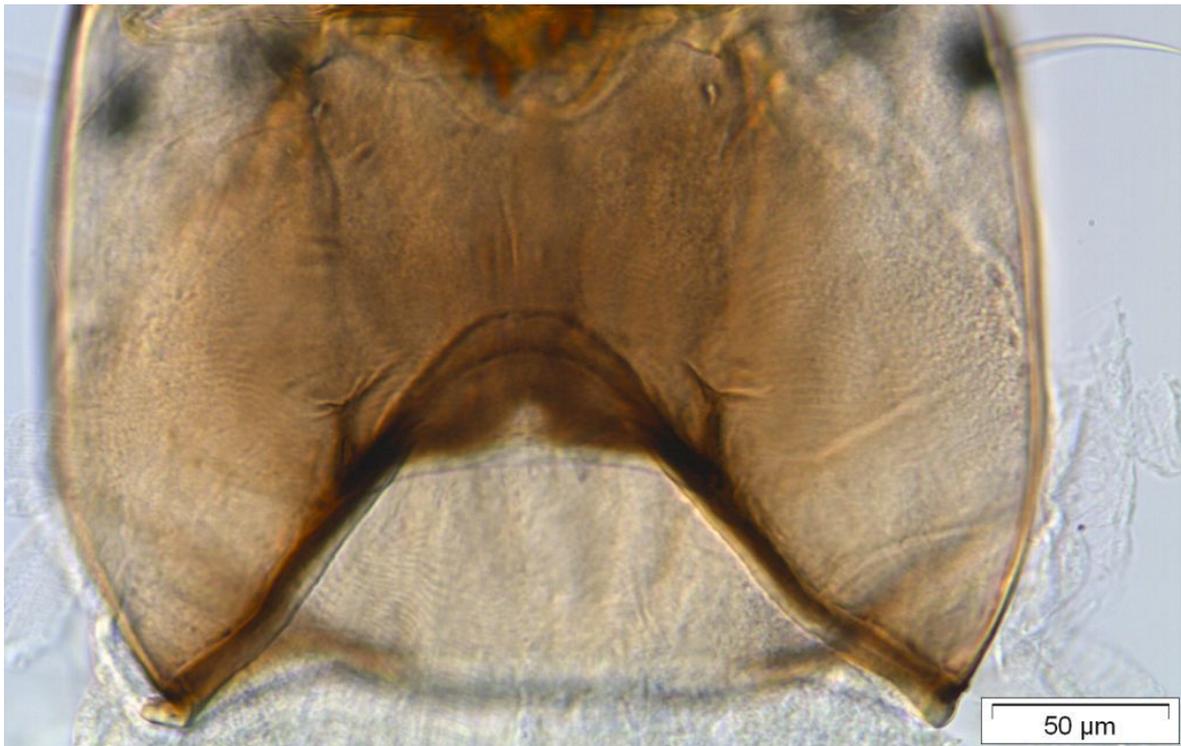


Figure 43 *Tanytarsus excavatus*: Postoccipital plate and margin (Utrecht, Vijver Vollenhove, pond (NL), 23-08-2010 leg Grontmij).

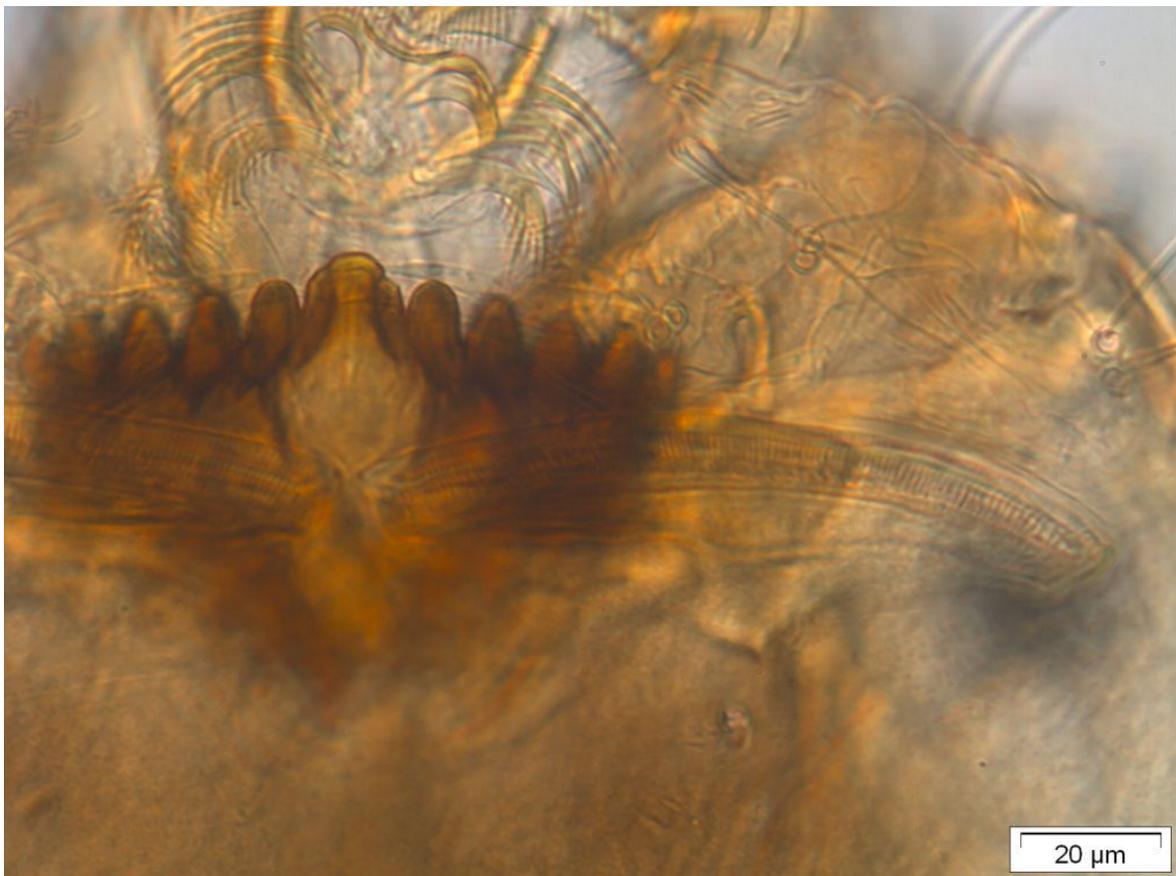


Figure 44 *Tanytarsus excavatus*: Mentum (Utrecht, Vijver Vollenhove, pond (NL), 23-08-2010 leg Grontmij).

Tanytarsus excavatus (continued)



Figure 45 *Tanytarsus excavatus*: Mandible (Utrecht, Vijver Vollenhove, pond (NL), 23-08-2010 leg Grontmij).



Figure 46 *Tanytarsus excavatus*: SII (Utrecht, Vijver Vollenhove, pond (NL), 23-08-2010 leg Grontmij).

Tanytarsus gibbosiceps Kieffer 1922

Head capsule: pale ; gula slightly brown at base; postoccipital plate pale, postoccipital margin brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII unknown

Clypeal seta S3: branched

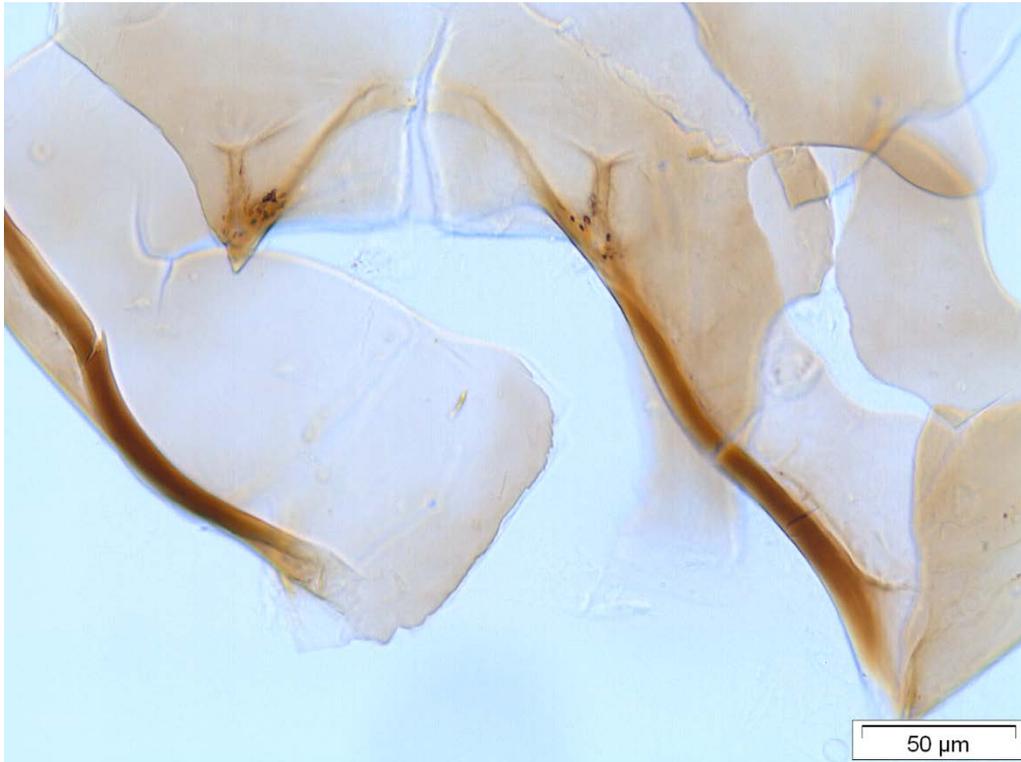


Figure 47 *Tanytarsus gibbosiceps*: Postoccipital plate and margin (Limnocythere Brunnssee (D.), Leg Schirmer, single reared larva, nov 1989 – jul 1990).

Tanytarsus gibbosiceps (continued)



Figure 48 *Tanytarsus gibbosiceps*: Mandible and mentum (Limnocrene Brunsee (D.), Leg Schirmer)

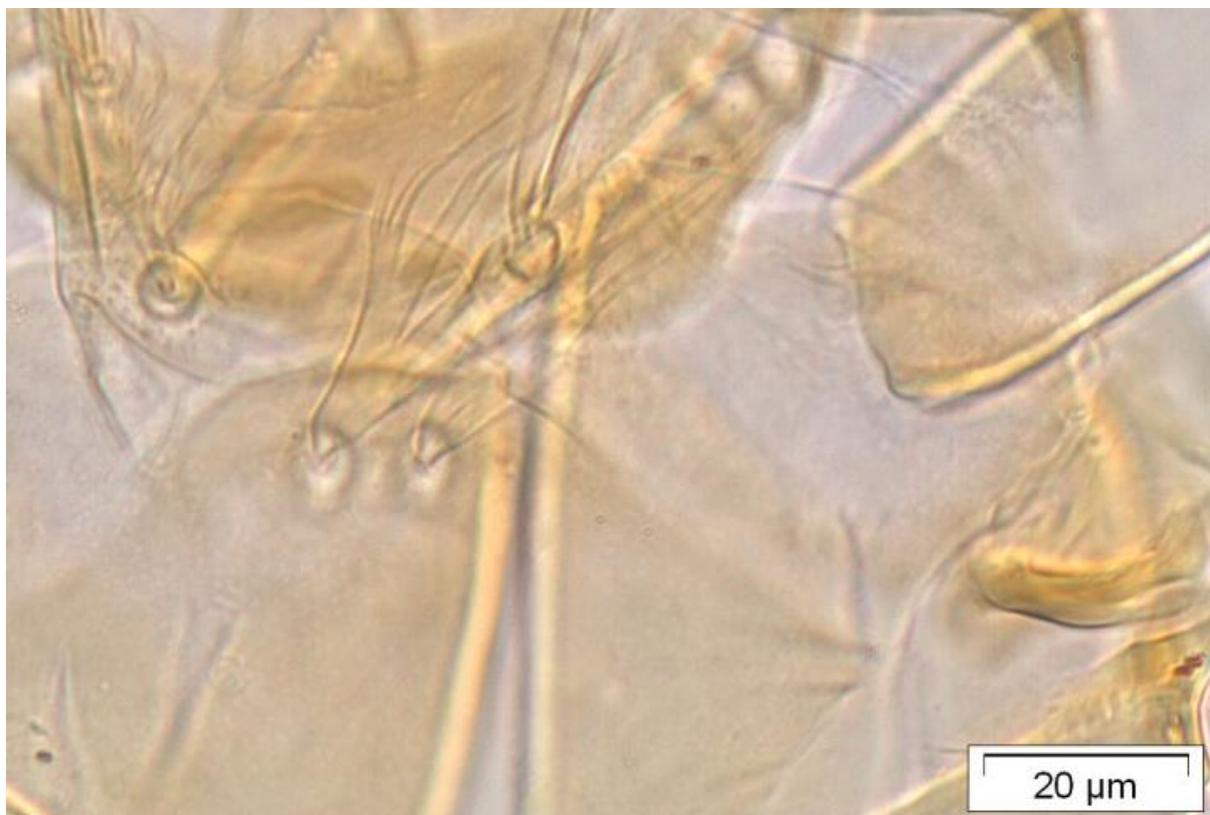


Figure 49 *Tanytarsus gibbosiceps*: Clypeal seta S3 (Limnocrene Brunsee (D.), Leg Schirmer)

Tanytarsus gibbosiceps (continued)

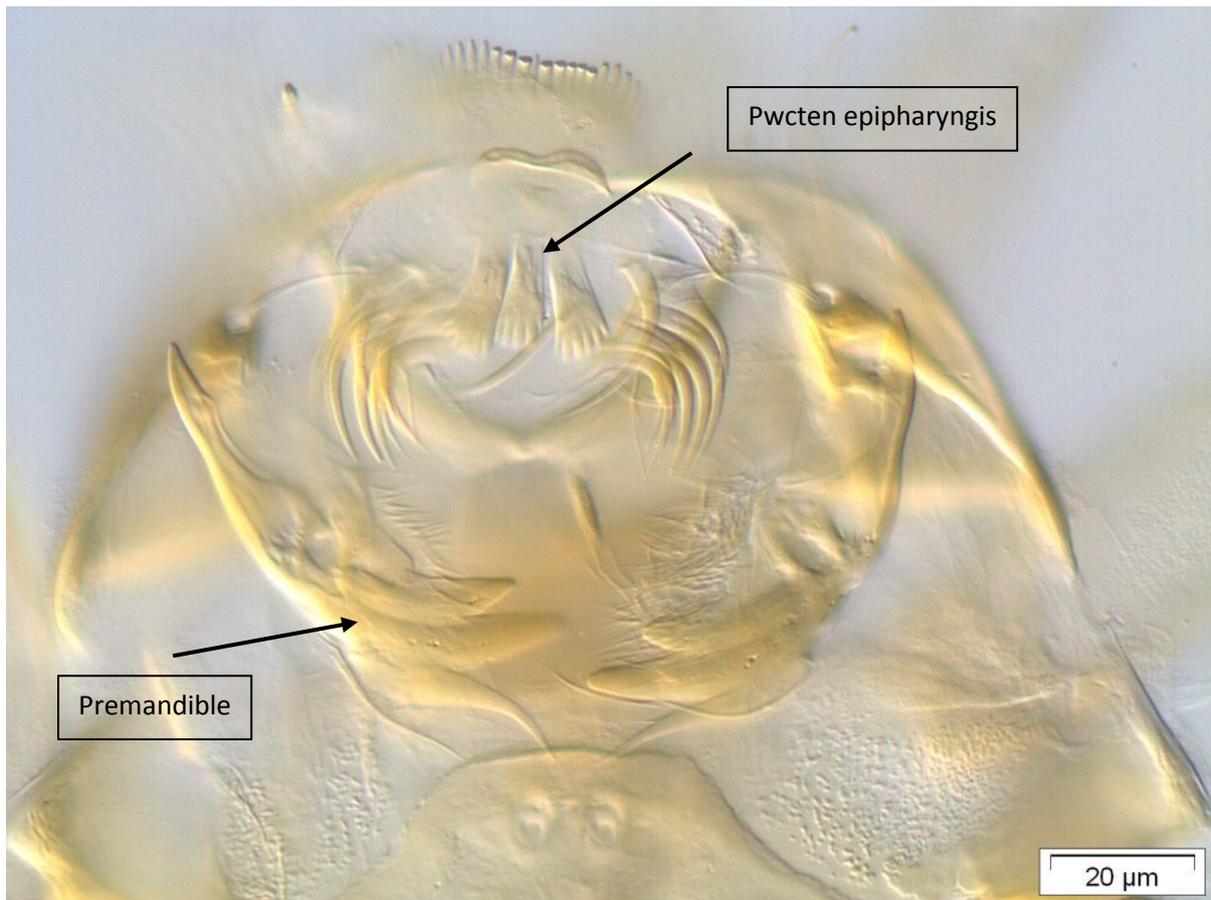


Figure 50 *Tanytarsus gibbosiceps*: Premandible and pecten epipharyngis (Limnocrene Brunsee (D.), Leg Schirmer).



Figure 51 *Tanytarsus gibbosiceps*: Antenna (Limnocrene Brunsee (D.), (Leg Schirmer).

Tanytarsus gracilentus (Holmgren 1883)

Head capsule: pale but frontal apotome brown ; gula brown; postoccipital plate dark brown, postoccipital margin dark brown

Antenna: antennal pedicel no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth, three dorsal teeth and a large lobed paramandibular plate

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 52 *Tanytarsus gracilentus*: head lateral (Apeldoorn, Woudhuis, pool (NL), 14-05-2001 leg H. Cuppen).

Tanytarsus gracilentus (continued)



Figure 53 *Tanytarsus gracilentus*: Head dorsal (Apeldoorn, Woudhuis, pool (NL), 14-05-2001 leg H. Cuppen).



Figure 54 *Tanytarsus gracilentus*: Head ventral (Apeldoorn, Woudhuis, pool (NL), 14-05-2001 leg H. Cuppen).

Tanytarsus gracilentus (continued)



Figure 55 *Tanytarsus gracilentus*: Head ventral (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).

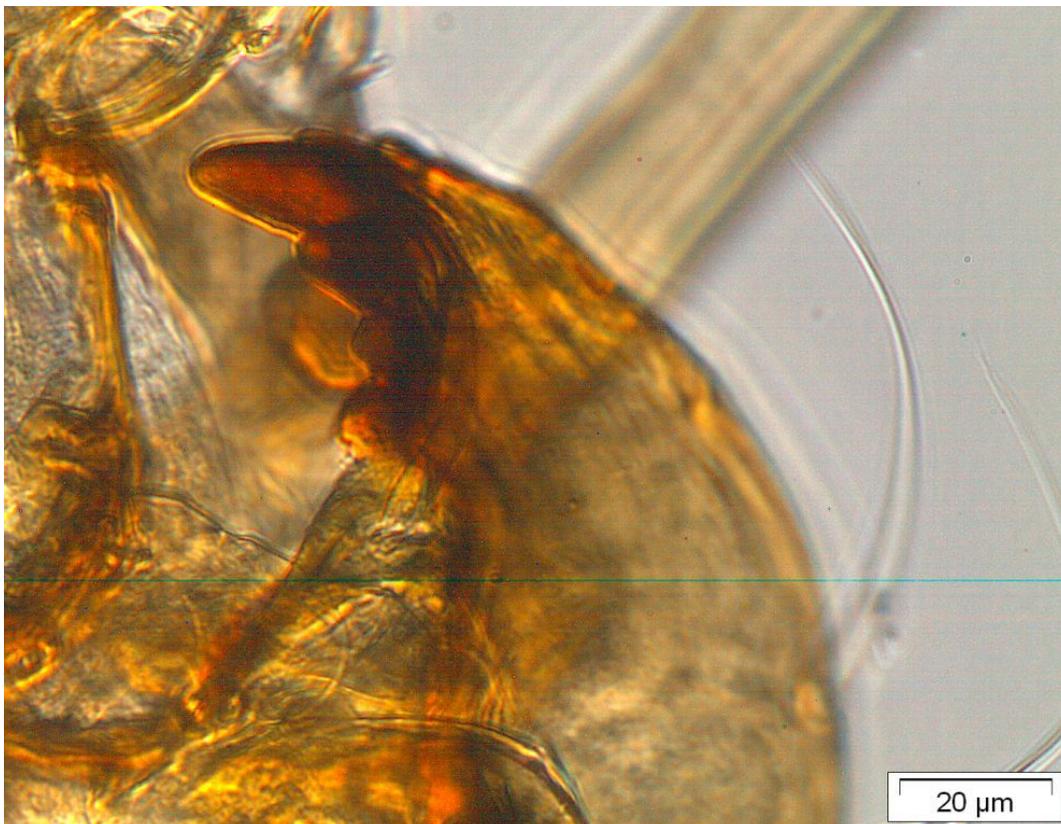


Figure 56 *Tanytarsus gracilentus*: Mandible (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).

Tanytarsus gracilentus (continued)



Figure 57 *Tanytarsus gracilentus*: Mentum (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).

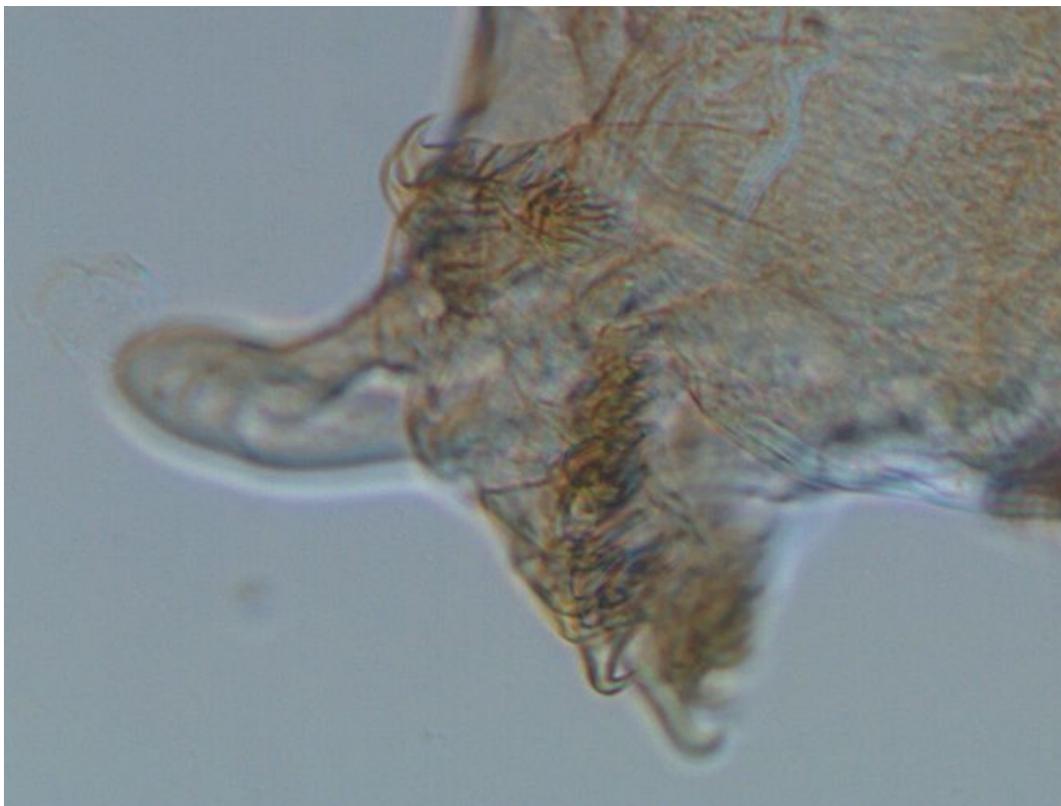


Figure 58 *Tanytarsus gracilentus*: Posterior parapods with 30 claws on each side (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).

Tanytarsus heusdensis Goetghebuer 1923

Head capsule: pale with brown frontal apotome ; gula brown; postoccipital plate brown, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: branched



Figure 59 *Tanytarsus heusdensis*: head lateral (Neede, Havinkbeek, lowland stream (NL), 11-04-2006 leg H. Cuppen).

Tanytarsus heusdensis (continued)



Figure 60 *Tanytarsus heusdensis*: Head dorsal (Neede, Havinkbeek, lowland stream (NL), 11-04-2006 leg H. Cuppen).

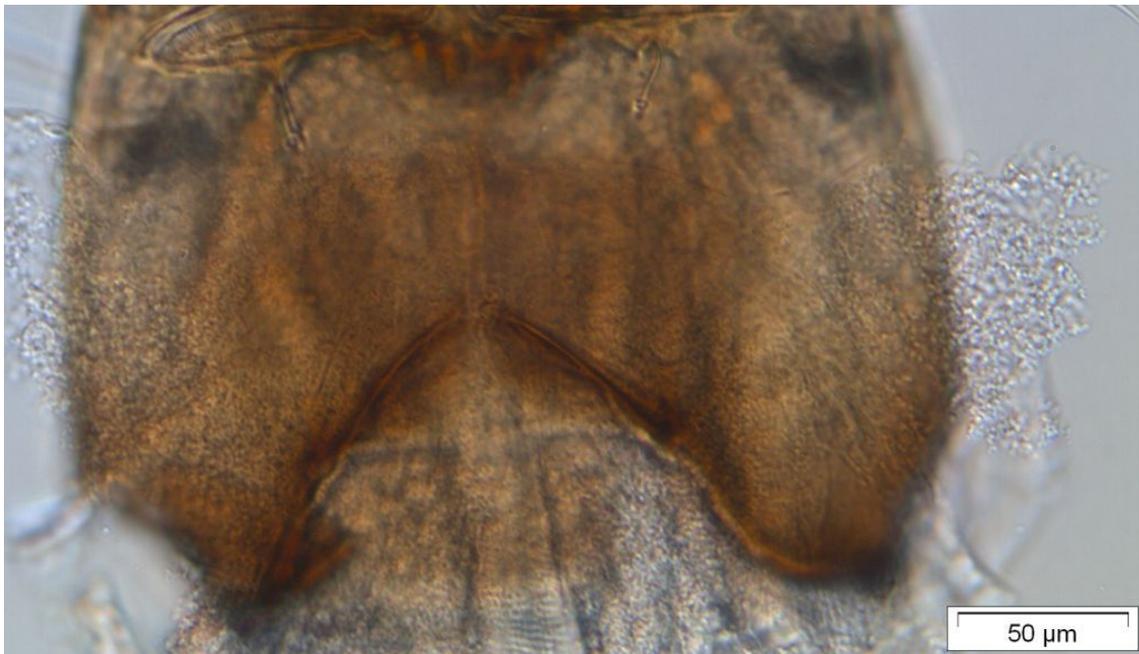


Figure 61 *Tanytarsus heusdensis*: Postoccipital plate and margin (Neede, Havinkbeek, lowland stream (NL), 11-04-2006 leg H. Cuppen).

Tanytarsus heusdensis (continued)

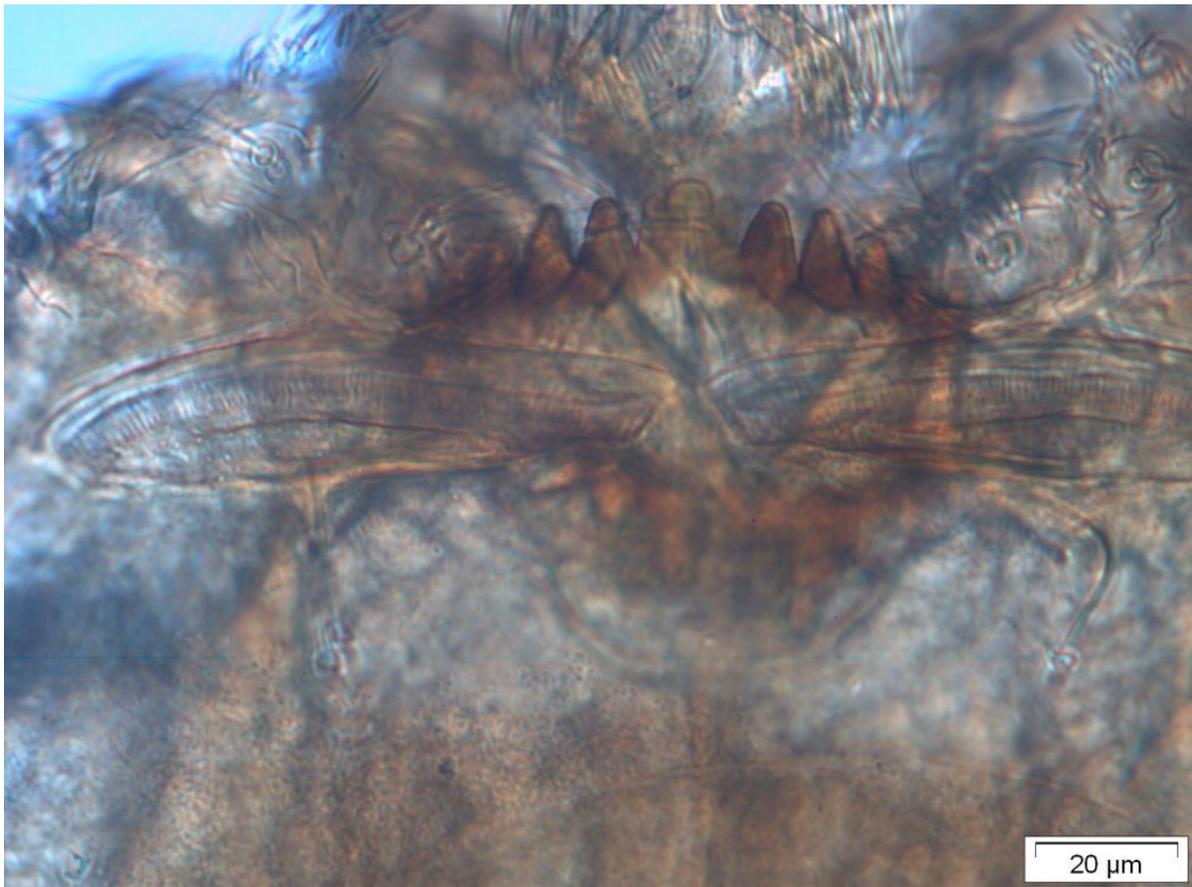


Figure 62 *Tanytarsus heusdensis*: Mentum (Neede, Havinkbeek, lowland stream (NL), 11-04-2006 leg H. Cuppen).



Figure 63 *Tanytarsus heusdensis*: Clypeal seta S3 (Neede, Havinkbeek, lowland stream (NL), 11-04-2006 leg H. Cuppen).

Tanytarsus heusdensis (continued)

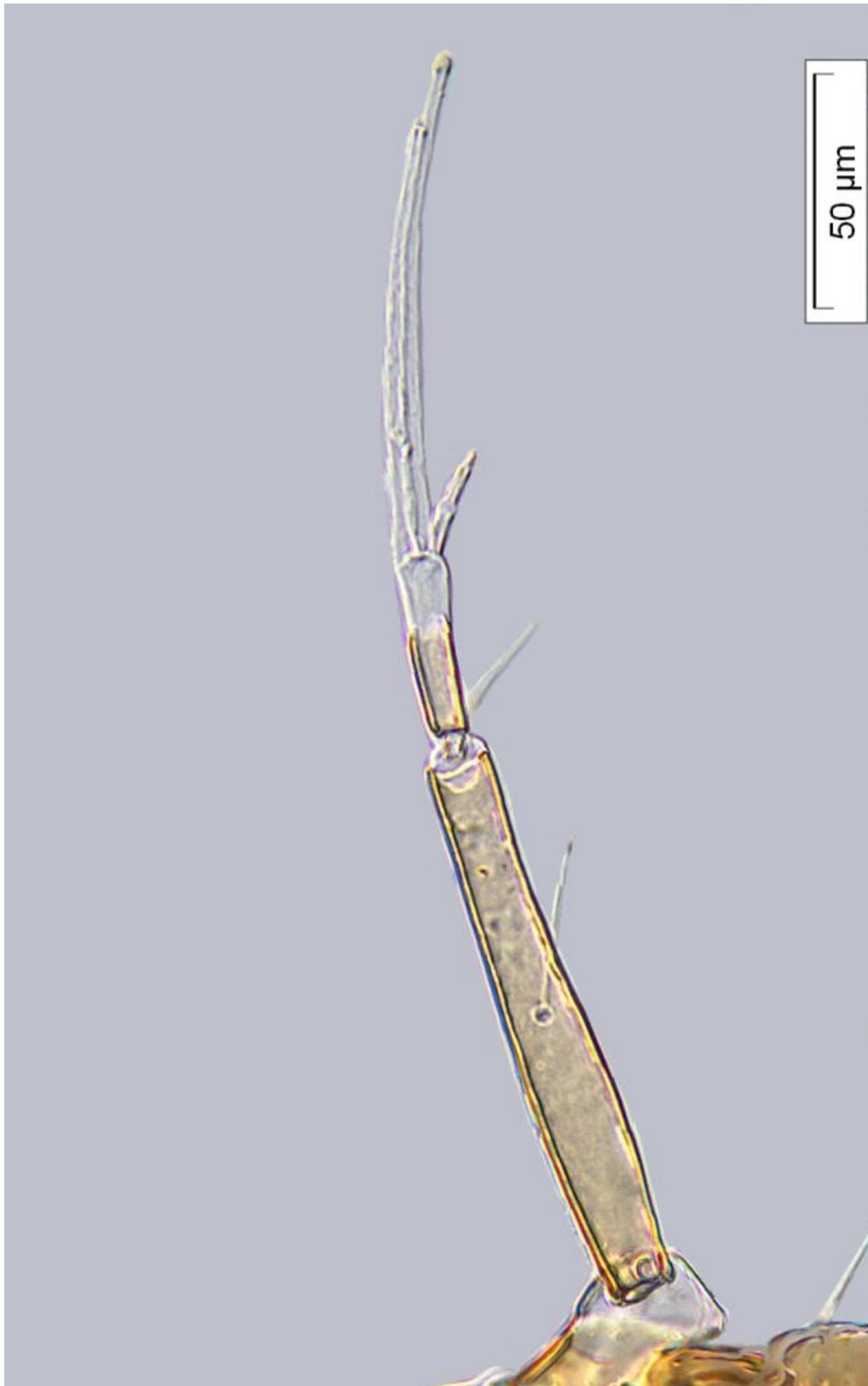


Figure 64 *Tanytarsus heusdensis*: Antenna (Hommersum, Kendel, lowland stream (NL), 408283, 20-6-2011, leg J. van Mil & E. Binnendijk).

Tanytarsus heusdensis (continued)



Figure 65 *Tanytarsus heusdensis*: Abdomen with anal papillae and anal setae (Neede, Havinkbeek, lowland stream (NL), 11-04-2006 leg H. Cuppen).

Tanytarsus lactescens Edwards 1929

Head capsule: pale ; gula pale; postoccipital plate pale, postoccipital margin pale

Antenna: antennal pedicel with short blunt spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Two brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: simple



Figure 66 *Tanytarsus lactescens*: head lateral (Steenveldeleiding, lowland stream (NL), 11-04-2006, leg H. Cuppen).

Tanytarsus lactescens (continued)



Figure 67 *Tanytarsus lactescens*: Head dorsal (Steenveldeleiding, lowland stream (NL), 11-04-2006, leg H. Cuppen).

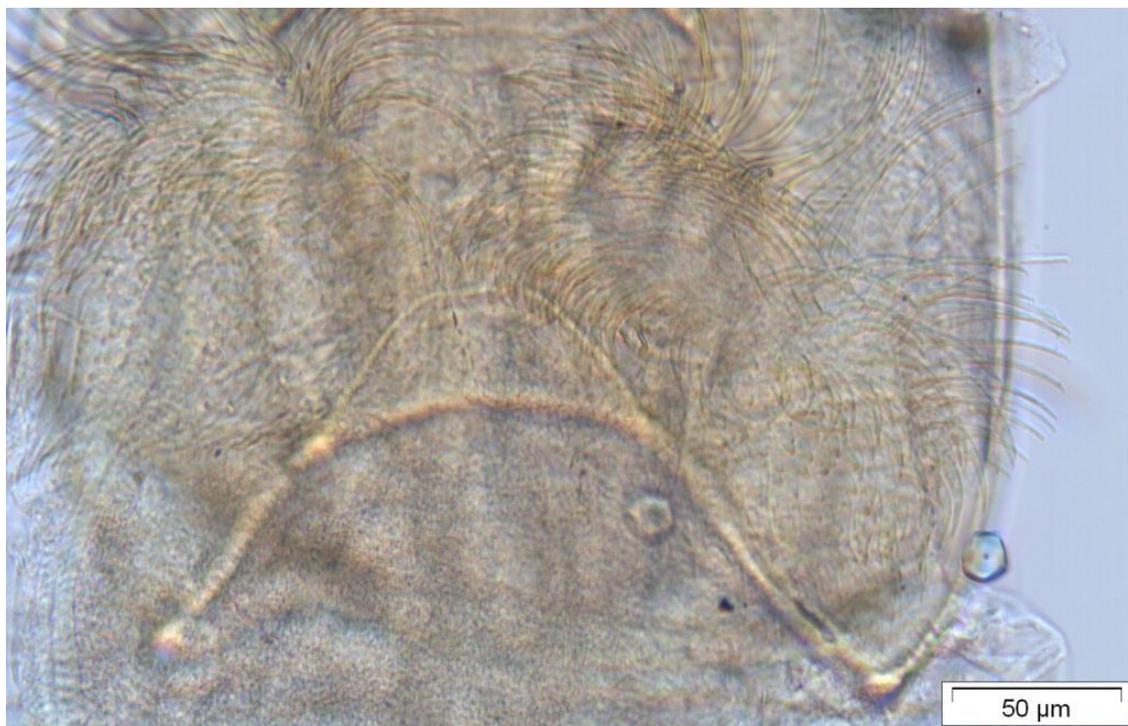


Figure 68 *Tanytarsus lactescens*: Postoccipital plate and margin (Steenveldeleiding, lowland stream (NL), 11-04-2006, leg H. Cuppen).

Tanytarsus lactescens (continued)

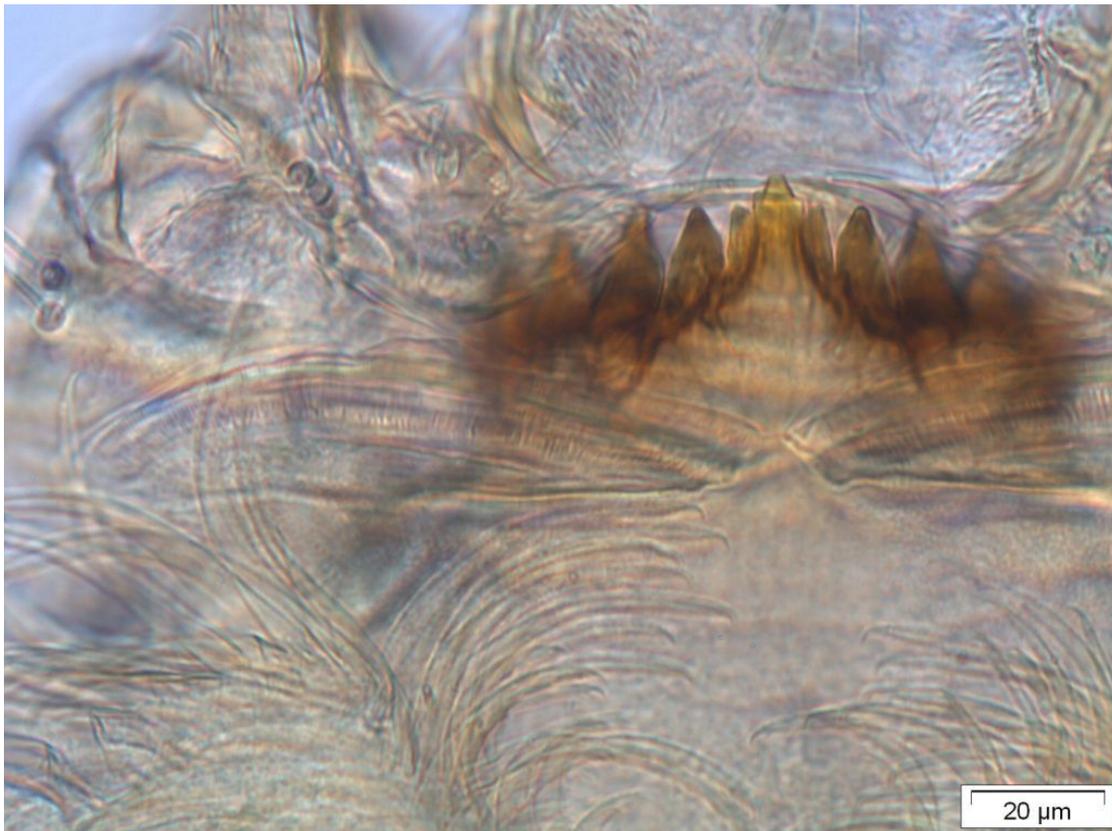


Figure 69 *Tanytarsus lactescens*: Postoccipital plate and margin (Steenveldeleiding, lowland stream (NL), 11-04-2006, leg H. Cuppen).



Figure 70 *Tanytarsus lactescens*: Mandible (Steenveldeleiding, lowland stream (NL), 11-04-2006, leg H. Cuppen).

Tanytarsus lestagei Goetghebuer 1922

Head capsule: pale ; gula dark brown; postoccipital plate black brown, postoccipital margin lateral reaches yellow and anterior margin black brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/2-2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: simple



Figure 71 *Tanytarsus lestagei*: head lateral (De Hilde, Hunze, Elzemaat oxbow lake (NL), 19-09-2007 leg H. Cuppen).

Tanytarsus lestagei (continued)

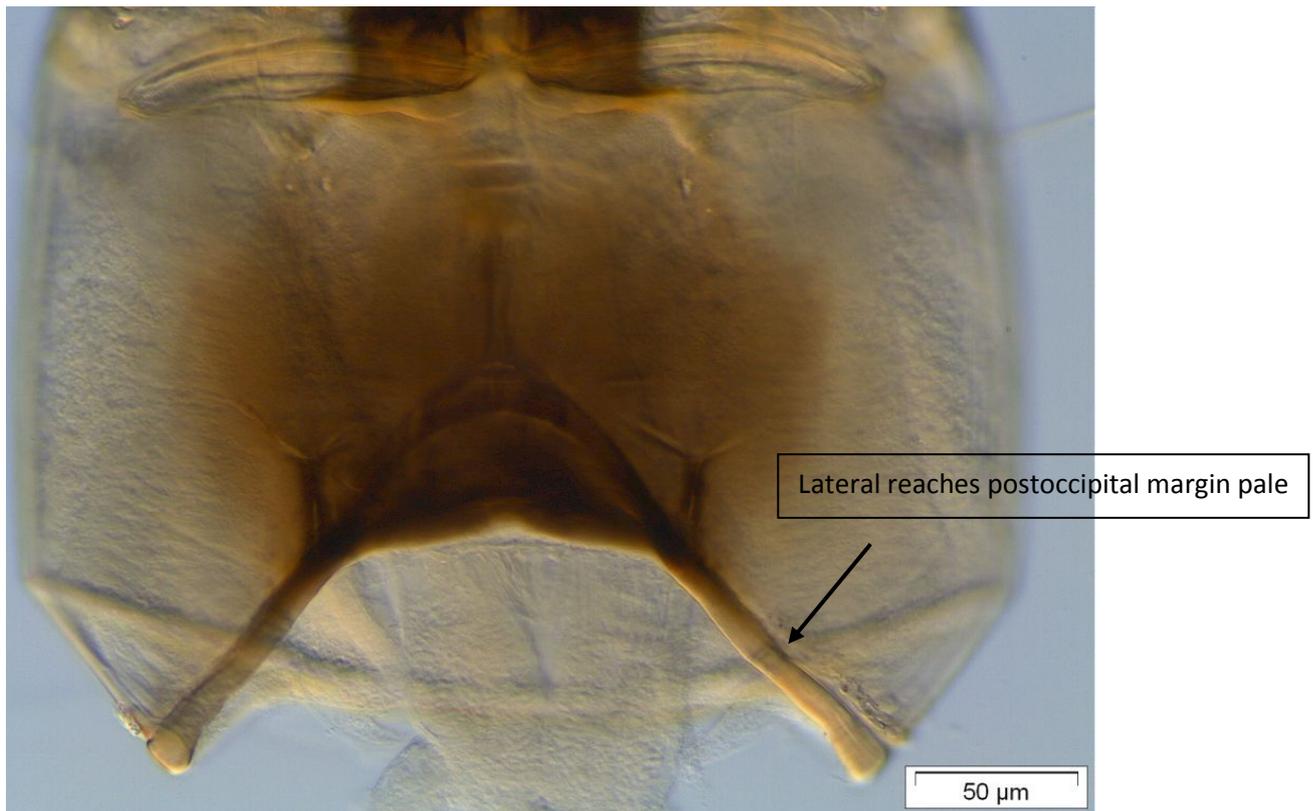


Figure 72 *Tanytarsus lestagei*: Postoccipital plate and margin (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).

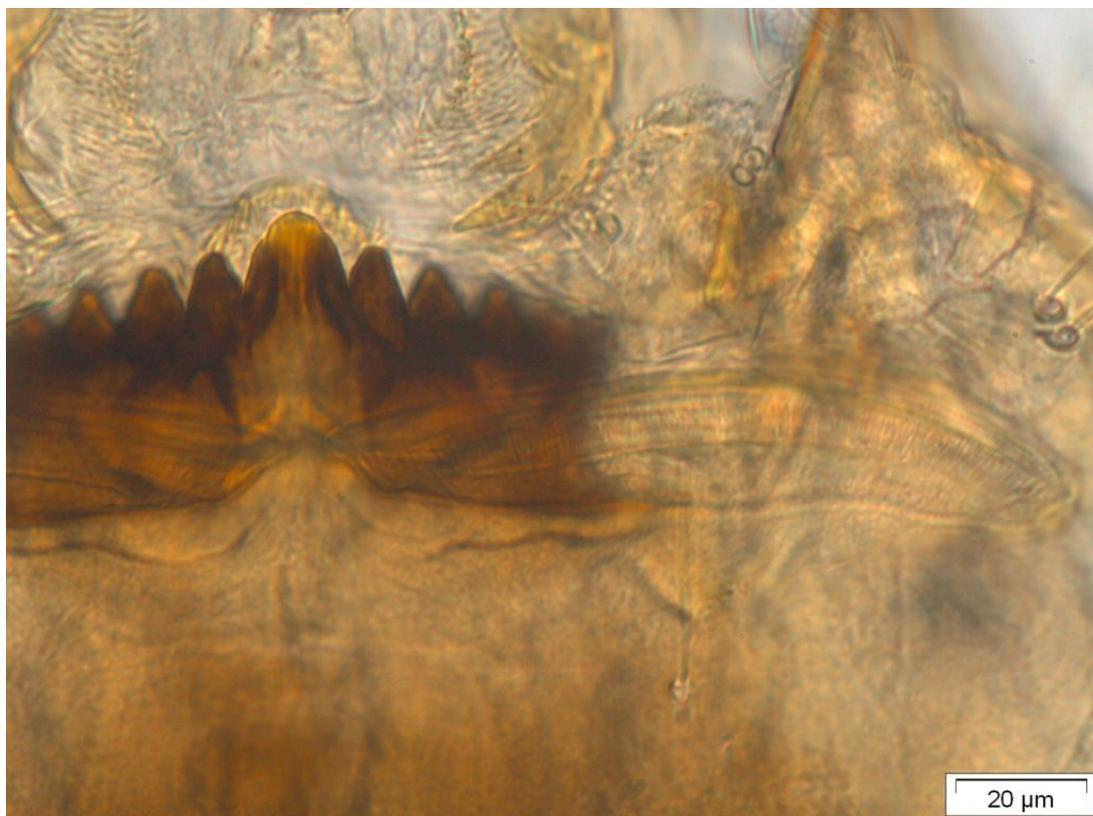


Figure 73 *Tanytarsus lestagei*: Mentum (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).

Tanytarsus lestagei (continued)

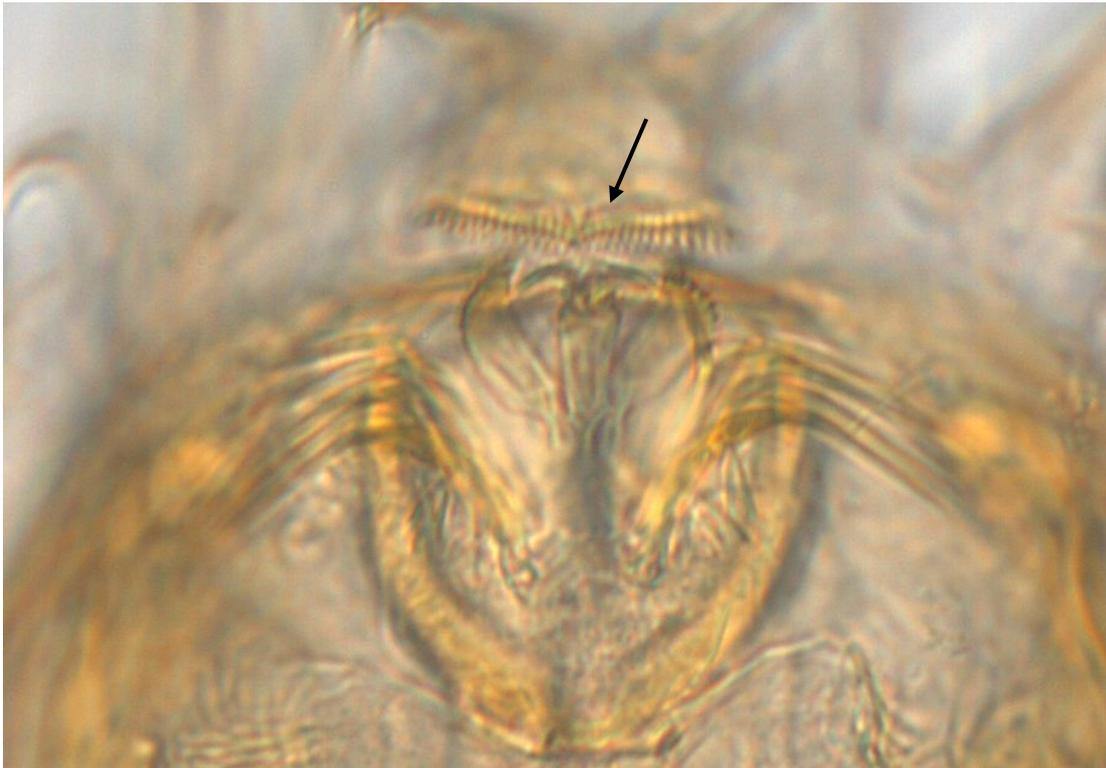


Figure 74 *Tanytarsus lestagei*: Labral lamella (Midwolda, Oldambtmeer, lake (NL), 07-05-2008 leg H. Cuppen).



Figure 75 *Tanytarsus lestagei*: Mandible (Harchies, lake (B.), 28-04-1982, leg B. Goddeeris).

Tanytarsus longitarsis Kieffer 1911

Head capsule: pale but genae and frontal apotome brown ; gula brown; postoccipital plate brown, postoccipital margin black brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/2-2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: simple



Figure 76 *Tanytarsus longitarsis*: head lateral (Gasterensche Diep, lowland stream (NL), 15-04-2009 leg H. Cuppen).

Tanytarsus longitarsis (continued)



Figure 77 *Tanytarsus longitarsis*: Head dorsal (Gasterensche Diep, lowland stream (NL), 15-04-2009 leg H. Cuppen).



Figure 78 *Tanytarsus longitarsis*: Head ventral (Gasterensche Diep, lowland stream (NL), 15-04-2009 leg H. Cuppen).

Tanytarsus longitarsis (continued)

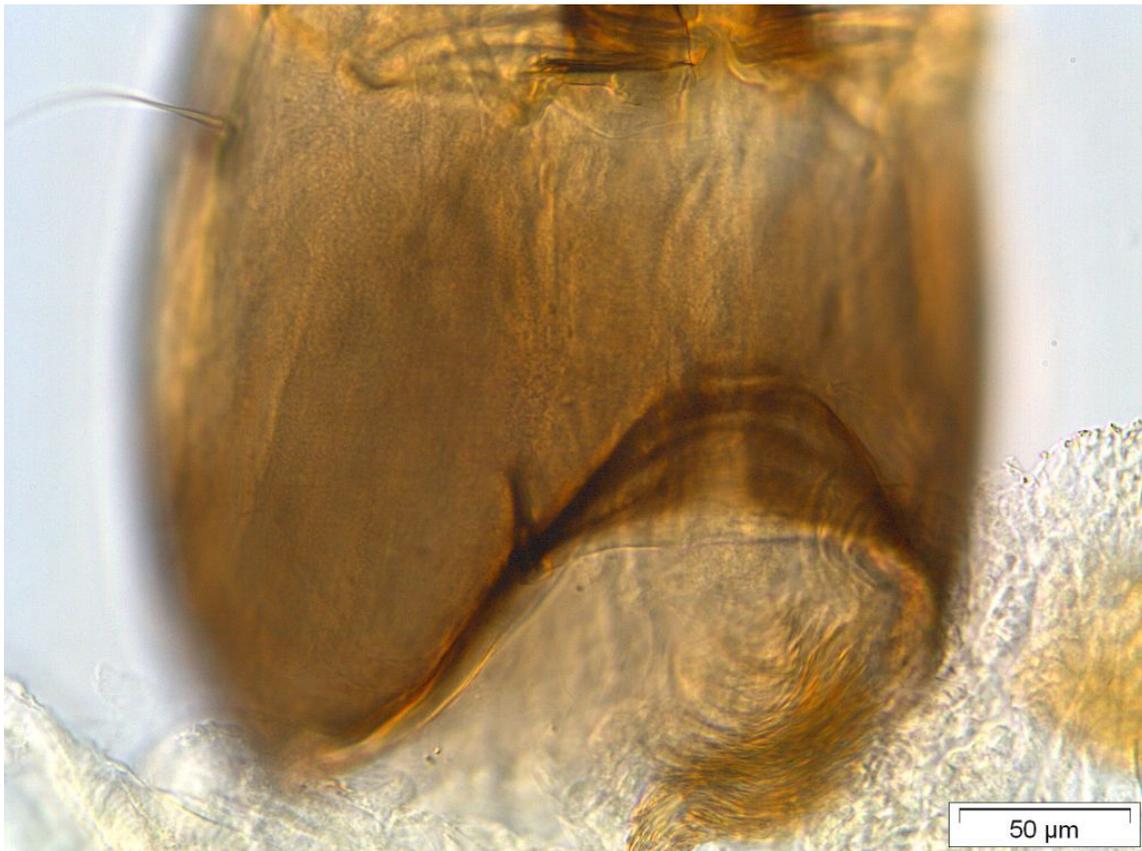


Figure 79 *Tanytarsus longitarsis*: Occipital plate and occipital margin (Gasterensche Diep, lowland stream (NL), 15-04-2009 leg H. Cuppen).



Figure 80 *Tanytarsus longitarsis*: Antenna (Gasterensche Diep, lowland stream (NL), 15-04-2009 leg H. Cuppen).

Tanytarsus medius Reiss & Fittkau 1971

Head capsule: pale; gula brown; postoccipital plate brown, postoccipital margin black brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/2-2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: simple



Figure 81 *Tanytarsus medius*: head lateral (Gasterensche Diep, lowland stream (NL), 15-04-2009 leg H. Cuppen).

Tanytarsus medius (continued)

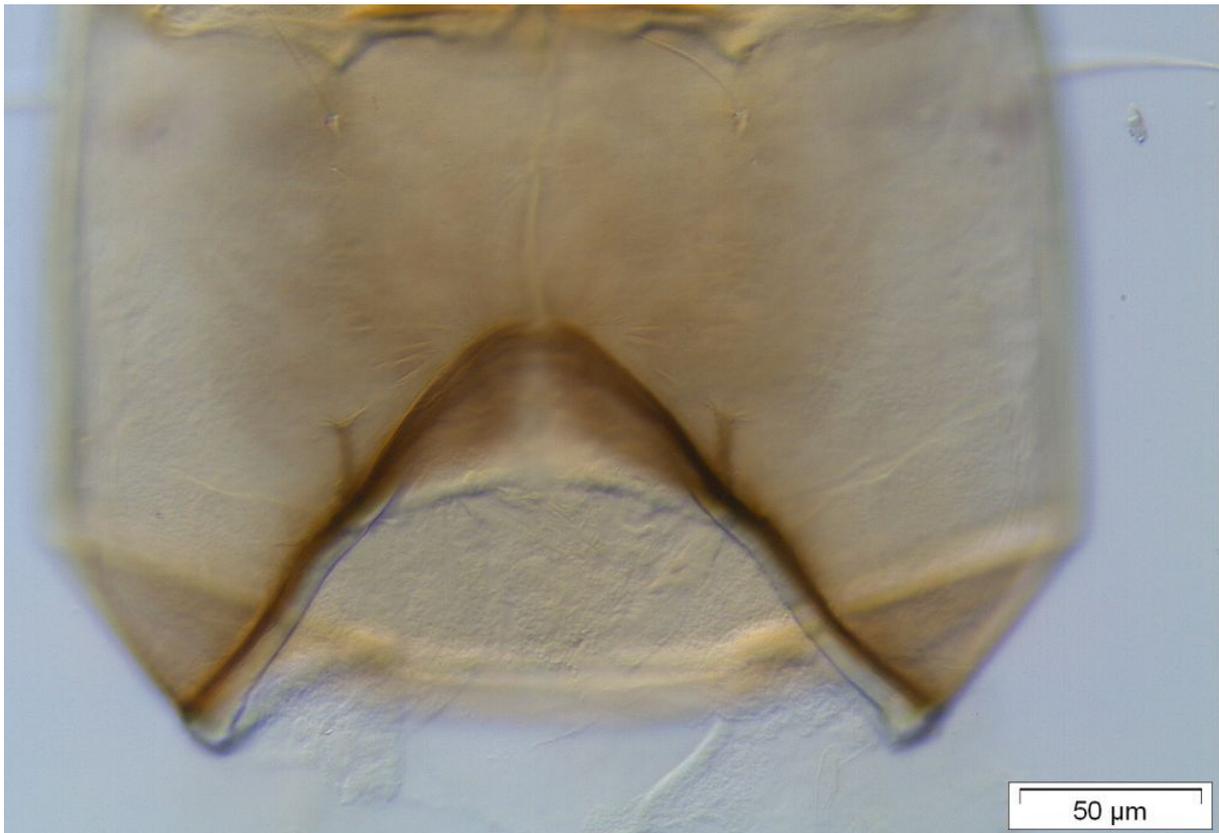


Figure 82 *Tanytarsus medius*: Postoccipital plate and margin (Hunze, oxbow lake Loonen (NL), 10-09-2009 leg H. Cuppen).

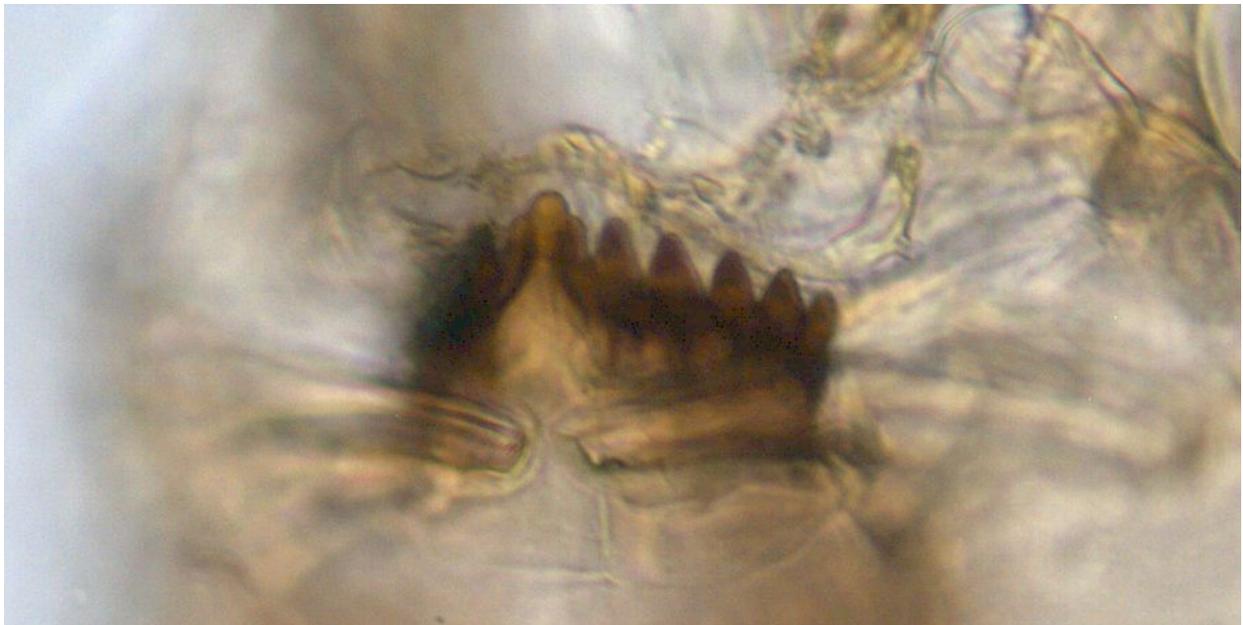


Figure 83 *Tanytarsus medius*: mentum (Nieuwe Vliet near Rosmalen (NL), 405135, lowland stream, 30-8-2010, leg Grontmij).

Tanytarsus medius (continued)



Figure 84 *Tanytarsus medius*: Posterior parapod (Meuse at Belfeld (NL), 405936, 12-10-2010, leg Rijkswaterstaat).



Figure 85 *Tanytarsus medius*: Labral lamella (Hunze, oxbow lake Loonen (NL), 10-09-2009 leg H. Cuppen).

Tanytarsus medius (continued)



Figure 86 *Tanytarsus medius*: Mandible (Mirwart, pond (B.), 08-05-1980. Leg B. Goddeeris).



Figure 87 *Tanytarsus medius*: Antennae and head in dorsolateral view (Meuse at Belfeld (NL), 405936, 12-10-2010, leg Rijkswaterstaat).

Tanytarsus mendax-occultus

Head capsule: pale; gula dark brown; postoccipital plate dark brown, postoccipital margin black

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: simple



Figure 88 *Tanytarsus mendax-occultus*: head lateral (Hulshorst, Killenbeek, oxbow lake (NL), 06-06-2006, leg H. Cuppen).

Tanytarsus mendax-occultus (continued)



Figure 89 *Tanytarsus mendax-occultus*: Head ventral (Ypelo, Boven Regge, canalized lowland stream (NL), 01-05-2007, leg H. Cuppen).

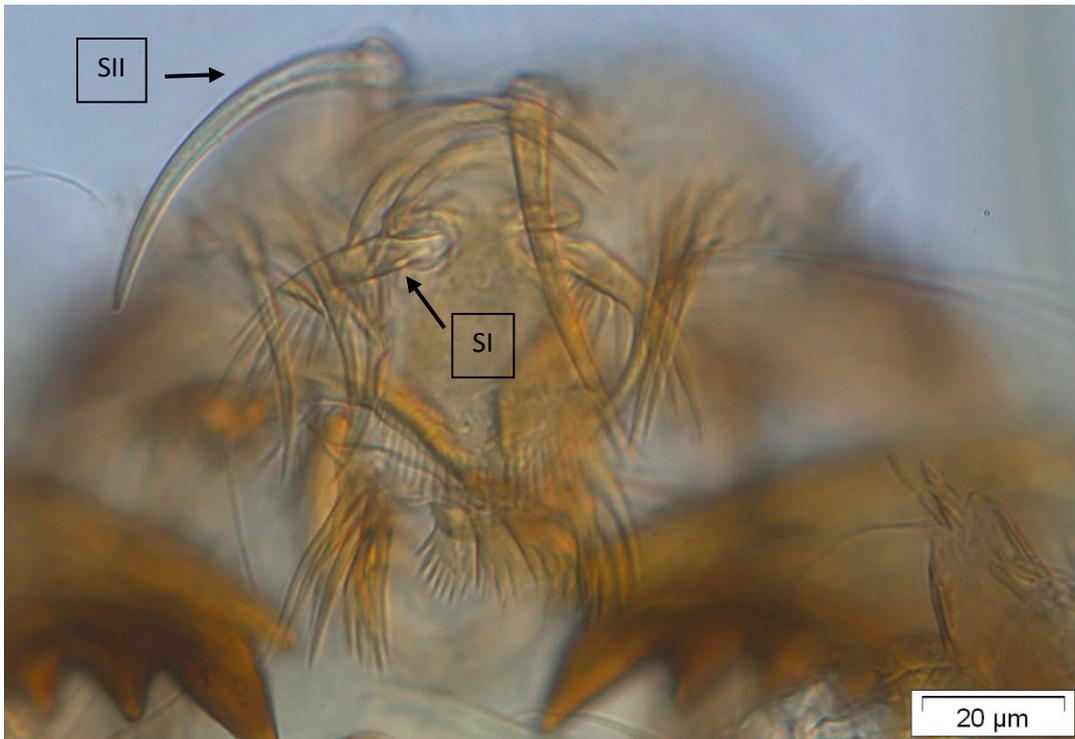


Figure 90 *Tanytarsus mendax-occultus*: Labrum; SI and SII (Ypelo, Boven Regge, canalized lowland stream (NL), 01-05-2007, leg H. Cuppen).

Tanytarsus mendax-occultus (continued)

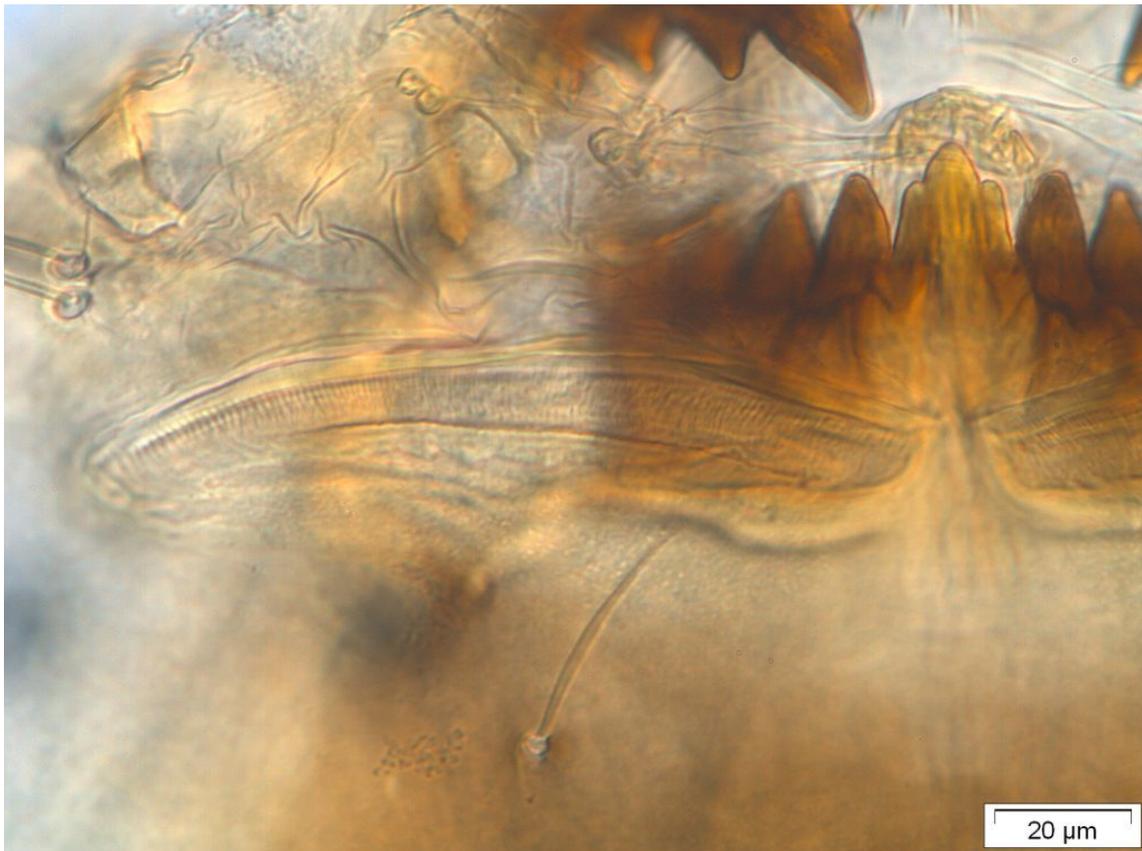


Figure 91 *Tanytarsus mendax-occultus*: Mentum (Ypelo, Boven Regge, canalized lowland stream (NL), 01-05-2007, leg H. Cuppen).



Figure 92 *Tanytarsus mendax-occultus*: Mandible (Mirwart, etang 3, pond (B.), 08-05-1980 leg B. Goddeeris).

Tanytarsus nemorosus Edwards 1929

Head capsule: pale; gula pale; postoccipital plate pale, postoccipital margin pale

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale

Mandible: Two brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 93 *Tanytarsus nemorosus*: head lateral (Ysselstein, Berkenhorst, moorland pool (NL), 03-07-2006, leg H. Cuppen).

Tanytarsus nemorosus (continued)



Figure 94 *Tanytarsus nemorosus*: Postoccipital plate and margin (Apeldoorn, Schol, mesotrophic pool (NL), 10-4-2007, leg H. Cuppen).



Figure 95 *Tanytarsus nemorosus*: Mentum (Apeldoorn, Schol, mesotrophic pool (NL), 10-04-2007, leg H. Cuppen).

Tanytarsus nemorosus (continued)



Figure 96 *Tanytarsus nemorosus*: Mentum and mandibles (Apeldoorn, Schol, mesotrophic pool (NL), 10-04-2007, leg H. Cuppen).

Tanytarsus palettaris Verneaux 1969

Head capsule: pale; gula pale; postoccipital plate pale, postoccipital margin pale

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/3

Mentum: : median tooth notched, pale

Mandible: Three brown inner teeth (third one very small), one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 97 *Tanytarsus palettaris*: head lateral (Middachten, Ruitersbeek, spring (NL), 21-05-2010, leg H. Cuppen).

Tanytarsus palettaris (continued)

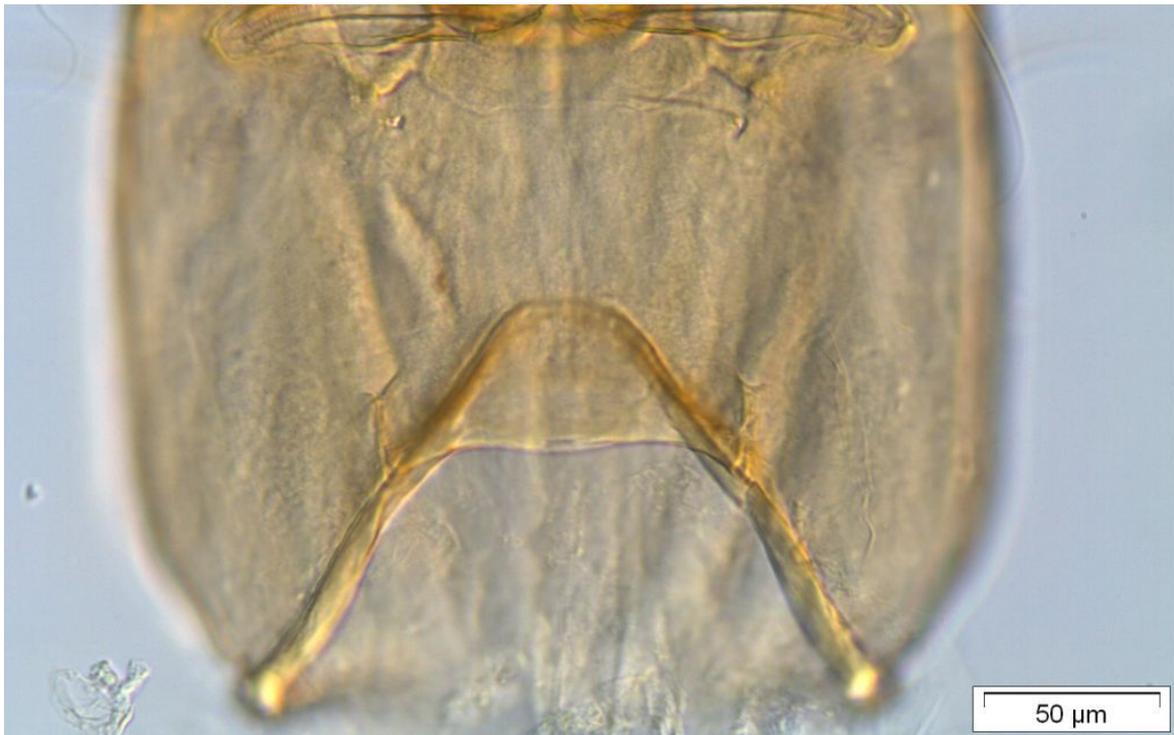


Figure 98 *Tanytarsus palettaris*: Postoccipital plate and margin (Obbicht, Kingbeek, springbrook (NL), 26-04-2001, leg H. Cuppen).

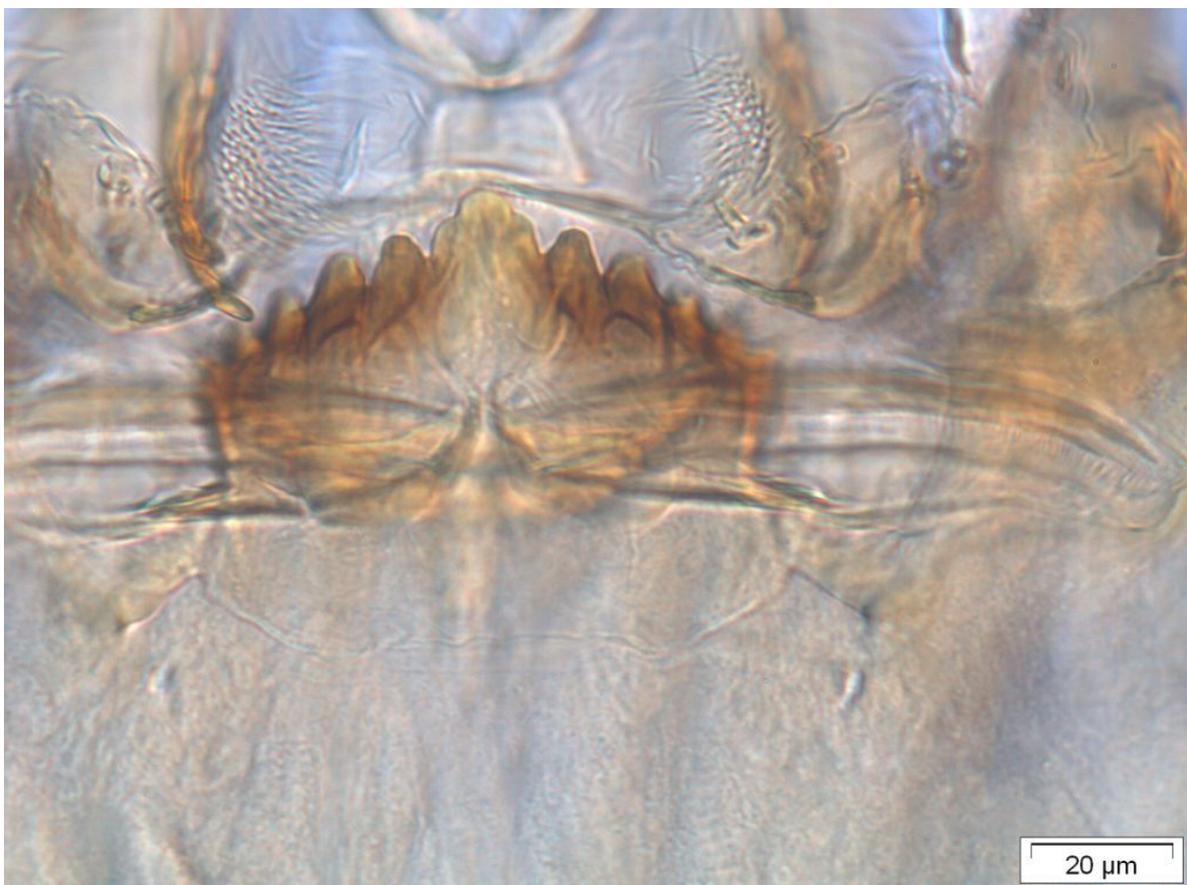


Figure 99 *Tanytarsus palettaris*: Mentum (Obbicht, Kingbeek, springbrook (NL), 26-04-2001, leg H. Cuppen).

Tanytarsus palettaris (continued)



Figure 100 *Tanytarsus palettaris*: Antenna (Tielebeek, spring (NL), 04-03-2009, leg J. van Mil & E. Binnendijk).

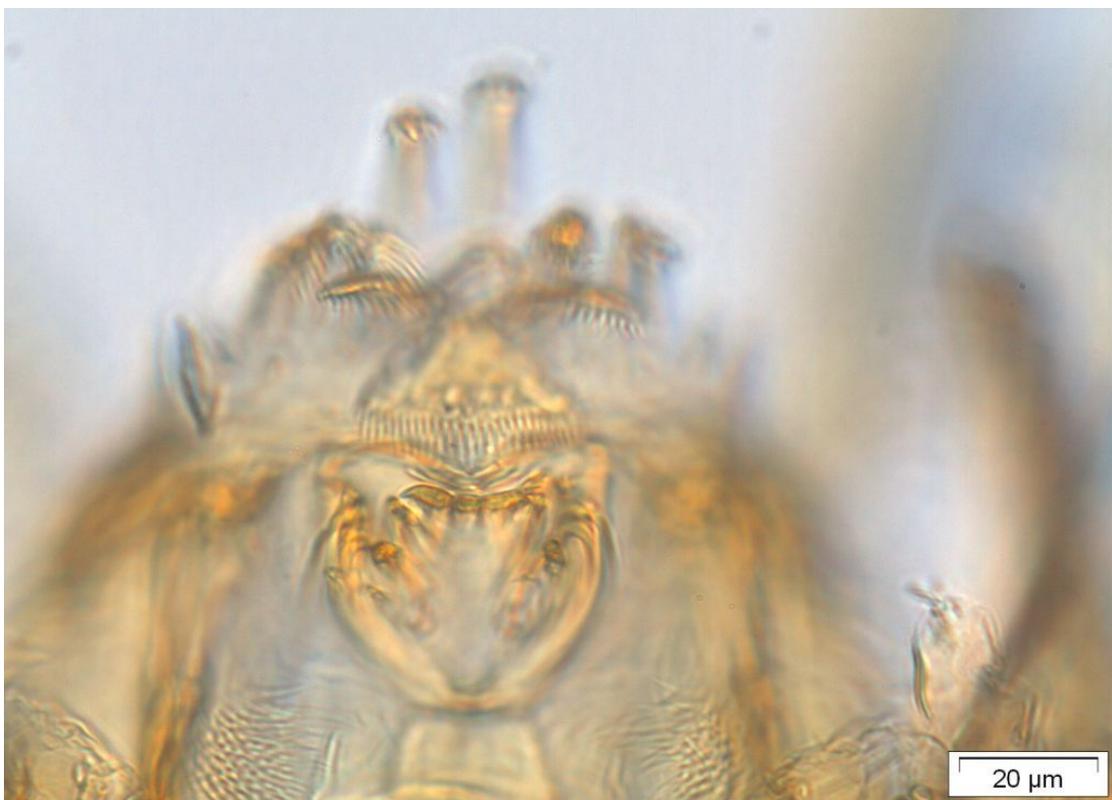


Figure 101 *Tanytarsus palettaris*: Labral lamella (Obbicht, Kingbeek, springbrook (NL), 26-04-2001, leg H. Cuppen).

Tanytarsus pallidicornis (Walker 1856)

Head capsule: pale but frontal apotome with light brown longitudinal band; gula brown; postoccipital plate dark brown, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: branched



Figure 102 *Tanytarsus pallidicornis*: head lateral (Borne, Azelerbeek, lowland stream (NL), 18-05-2009, leg H. Cuppen).

Tanytarsus pallidicornis (continued)



Figure 103 *Tanytarsus pallidicornis*: Head dorsal (Westerwoldsche Aa, lowland stream (NL), leg Grontmij).

Tanytarsus pallidicornis (continued)



Figure 104 *Tanytarsus pallidicornis*: Postoccipital plate and margin (Borne, Azelerbeek, lowland stream (NL), 18-05-2009, leg H. Cuppen).



Figure 105 *Tanytarsus pallidicornis*: Mentum and mandibles (Borne, Azelerbeek, lowland stream (NL), 18-05-2009, leg H. Cuppen).

Tanytarsus signatus (van der Wulp 1859)

Head capsule: pale; gula pale; postoccipital plate pale, postoccipital margin brown

Antenna: antennal pedestal with blunt spur; sclerotisation 2^e segment 2/3; part of the sclerotisation missing from the basal part of the second segment

Mentum: : median tooth slightly trifid, pale

Mandible: Two brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII branched

Clypeal seta S3: branched



Figure 106 *Tanytarsus signatus*: head lateral (Heerde, Molenbeek, sprengbeek, acidic springbrook (NL), 25-04-2004, leg H. Cuppen).

Tanytarsus signatus (continued)



Figure 107 *Tanytarsus signatus*: Postoccipital plate and margin (Heerde, acidic springbrook (NL), 25-04-2004, leg H. Cuppen).

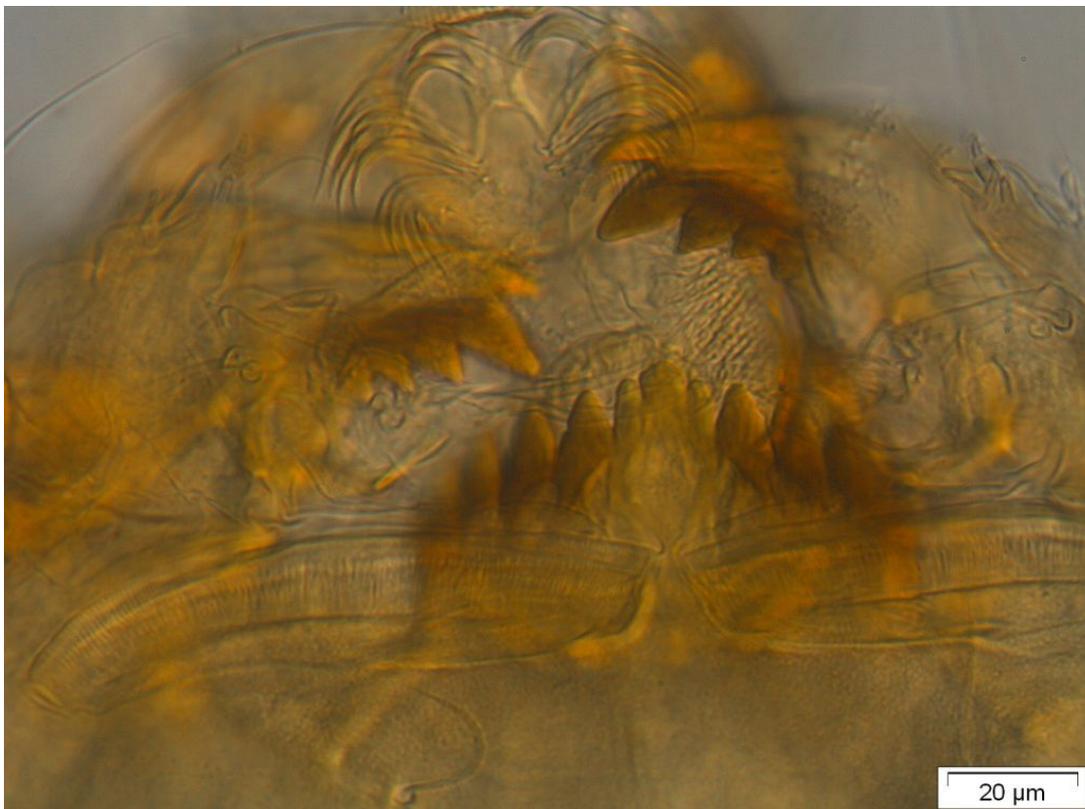


Figure 108 *Tanytarsus signatus*: Mentum and mandibles (Heerde, Molenbeek, acidic springbrook (NL), 25-04-2004, leg H. Cuppen).

Tanytarsus signatus (continued)

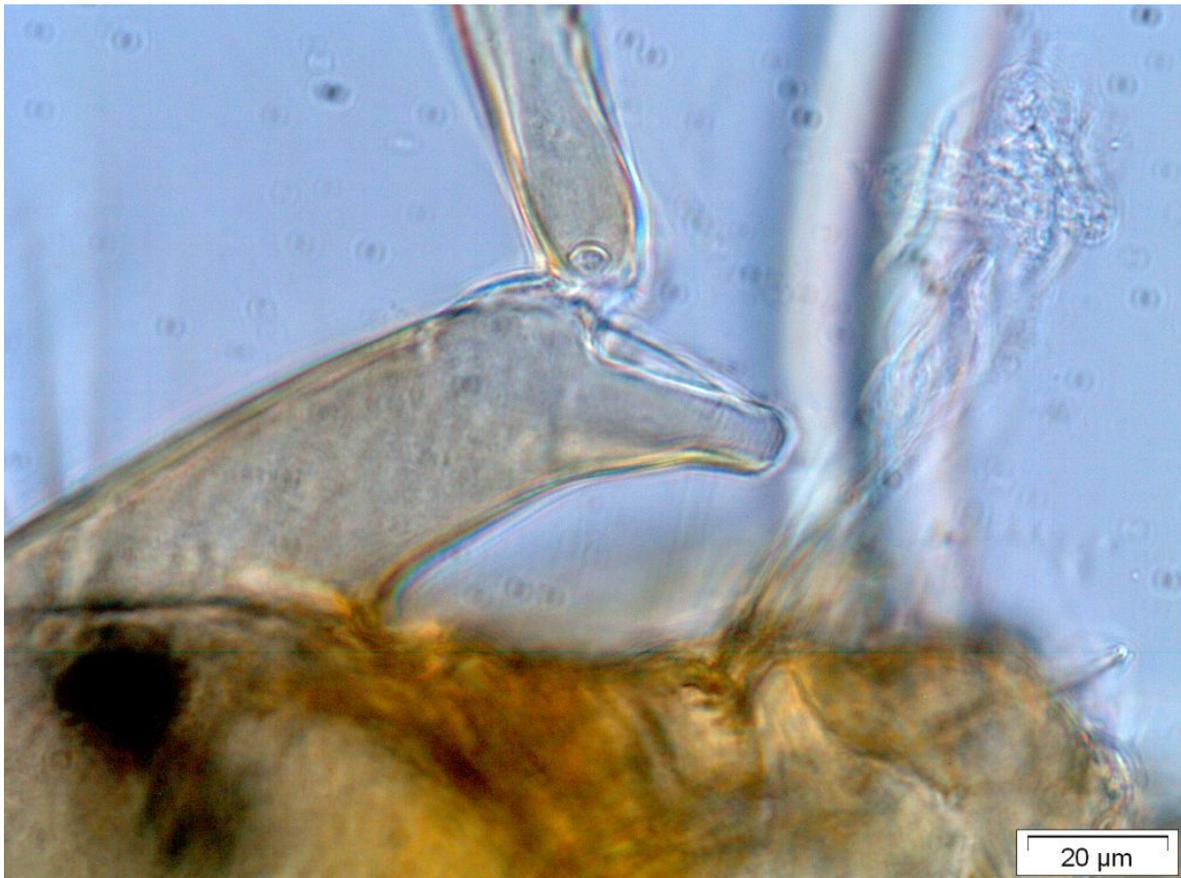


Figure 109 *Tanytarsus signatus*: Antennal pedestal (Bergen op Zoom, Zanderij, lake, 351778 (NL), 6-5-2008, leg. D. Tempelman).



Figure 110 *Tanytarsus signatus*: Antenna, basal part of segment 2 lacks small part of sclerotisation (Bergen op Zoom, Zanderij, lake, 351778 (NL), 6-5-2008, leg. D. Tempelman).

Tanytarsus striatulus Lindeberg 1976

Head capsule: pale; gula pale; postoccipital plate pale, postoccipital margin pale

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 1/2-2/3

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 111 *Tanytarsus striatulus*: head lateral (Tubbergen, Hondenvan, moorland pool (NL), 21-05-2008, leg H. Cuppen).

Tanytarsus striatulus (continued)

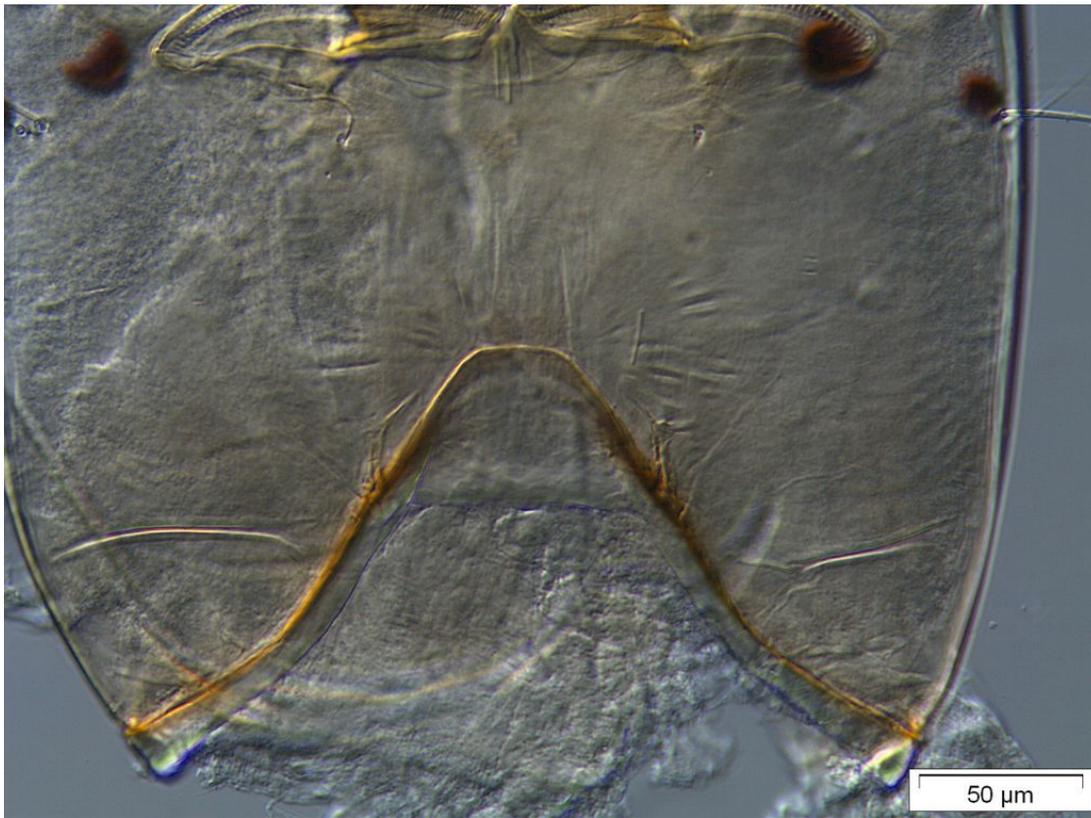


Figure 112 *Tanytarsus striatulus*: Postoccipital plate and margin (Hondenven, moorland pool (NL), 21-05-2008, leg H. Cuppen).



Figure 113 *Tanytarsus striatulus*: Mentum (Hondenven, moorland pool (NL), 21-05-2008, leg H. Cuppen).

Tanytarsus striatulus (continued)



Figure 114 *Tanytarsus striatulus*: SII and chaetae laterales (Hondenven, moorland pool (NL), 21-05-2008, leg H. Cuppen).



Figure 115 *Tanytarsus striatulus*: Posterior parapod with claws; some small claws carry accessory teeth (Hondenven, moorland pool (NL), 21-05-2008, leg H. Cuppen).

Tanytarsus sylvaticus (van der Wulp 1859)

Head capsule: pale; gula brown; postoccipital plate brown, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and two yellow dorsal teeth

Labrum: seta SII simple

Clypeal seta S3: simple

Notes: mainly found as 3rd stage larva



Figure 116 *Tanytarsus sylvaticus*: larva III head lateral (Kromme Rijn near Utrecht, canalised river, 337652, 20 June 2006 (NL), leg Grontmij).

Tanytarsus sylvaticus (continued)



Figure 117 *Tanytarsus sylvaticus*: Larva III Last abdominal segment with globular anal papillae (Ijsselmonde near Rotterdam, wide ditch, Yop0228, 1-6-2010 (NL), leg Grontmij).

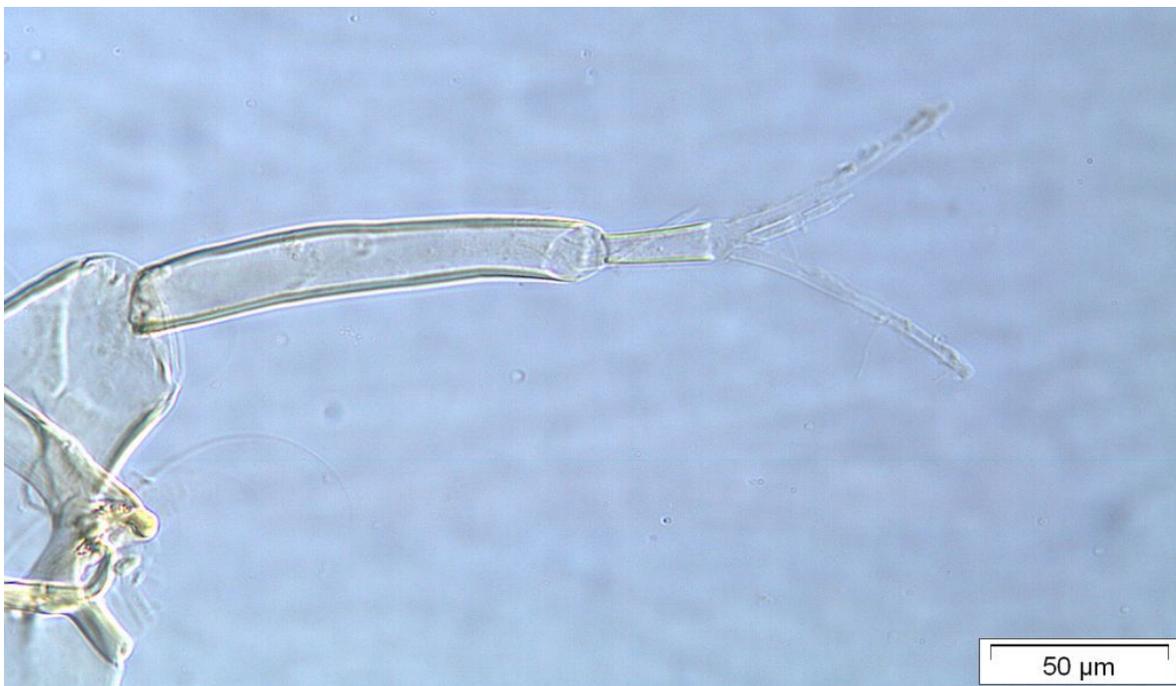


Figure 118 *Tanytarsus sylvaticus*: Larva IV Antenna (Mirwart, pond (B.), 06-04-1978, Leg B. Goddeeris).

Tanytarsus sylvaticus (continued)



Figure 119 *Tanytarsus sylvaticus*: Larva IV Mandible (pigmentation slightly lost only the two dorsal teeth yellow); (Mirwart, pond (B.), 06-04-1978, Leg B. Goddeeris).

Tanytarsus usmaensis Pagast 1931

Head capsule: pale ; gula pale; postoccipital plate light brown, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII simple

Clypeal seta S3: branched



Figure 120 *Tanytarsus usmaensis*: head lateral (Beuningen, Puntbeek, lowland stream (NL), 13-05-2009, leg H. Cuppen).

Tanytarsus usmaensis (continued)

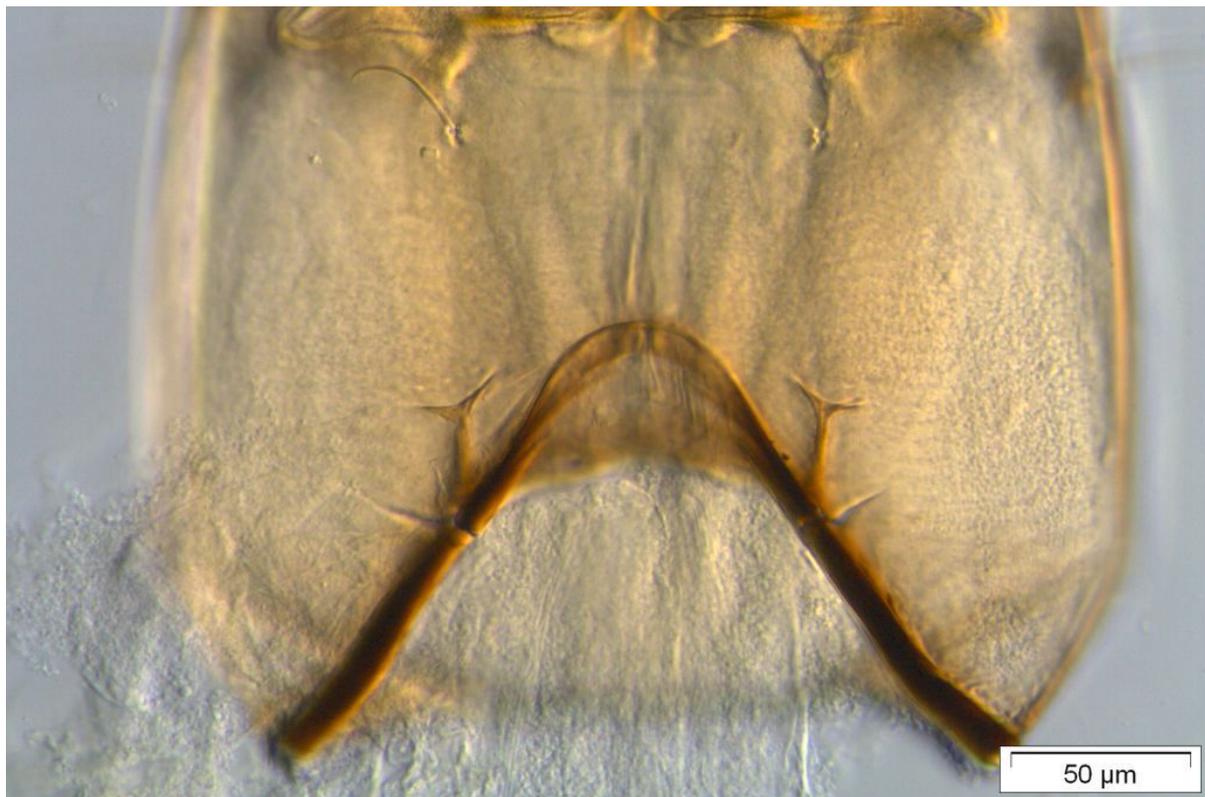


Figure 121 *Tanytarsus usmaensis*: Postoccipital plate and margin (Bunnik, forest pond Nienhof 403893, 2-9-2010 (NL) leg Grontmij).

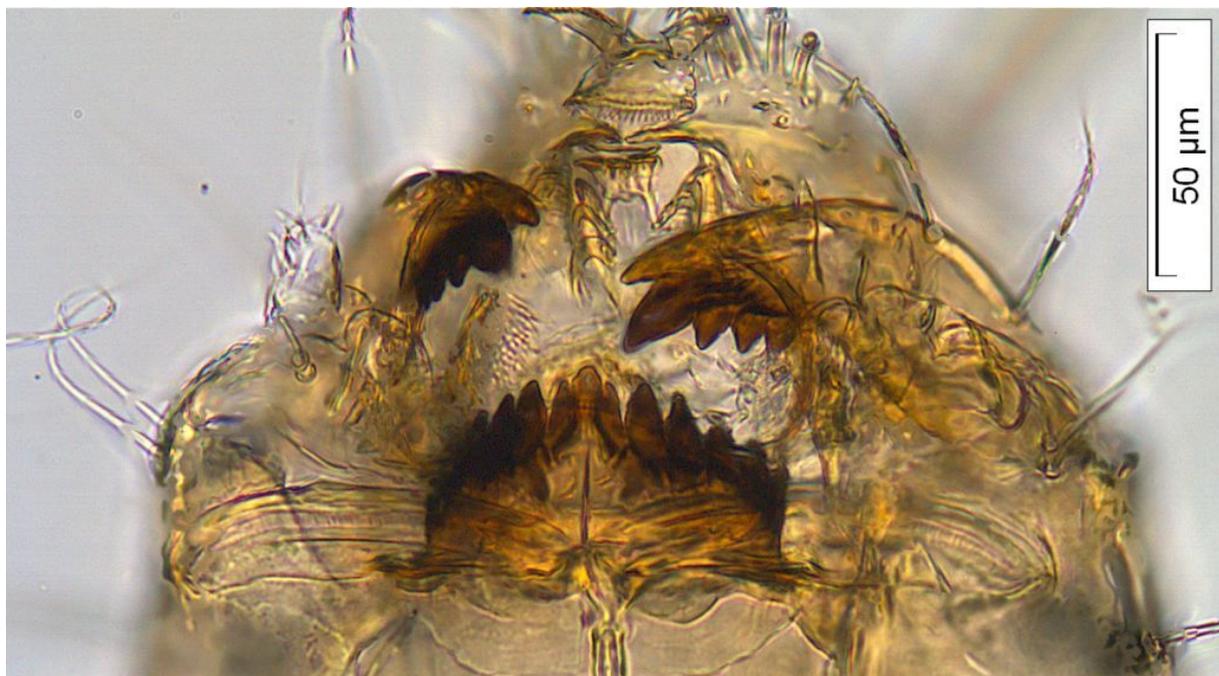


Figure 122 *Tanytarsus usmaensis*: Mentum and mandibles (Kleine Beerze near Middelbeers, lowland stream, 409019, 15-6-2011 (NL) leg Grontmij).

Tanytarsus usmaensis (continued)



Figure 123 *Tanytarsus usmaensis*: Head lateral (Vinkelse Loop near 's-Hertogenbosch, 406102, 23-8-2010 (NL) leg Grontmij).

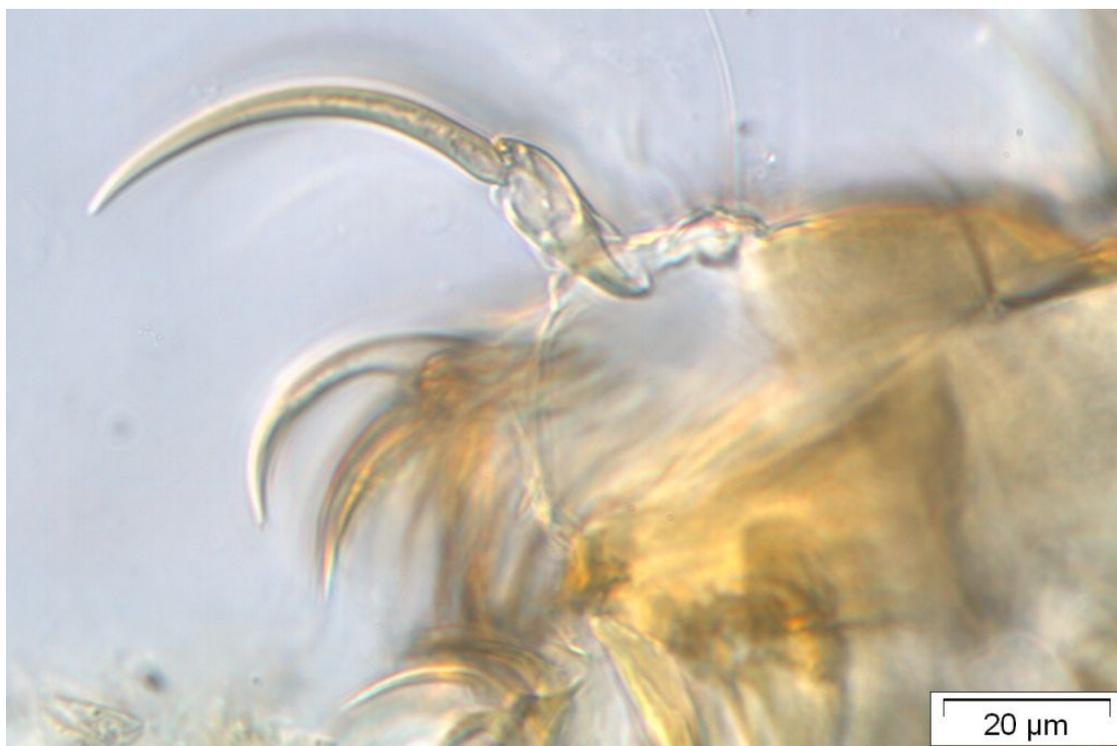


Figure 124 *Tanytarsus usmaensis*: SII lateral (Vinkelse Loop near 's-Hertogenbosch, 406102, 23-8-2010 (NL) leg Grontmij).

Tanytarsus usmaensis (continued)

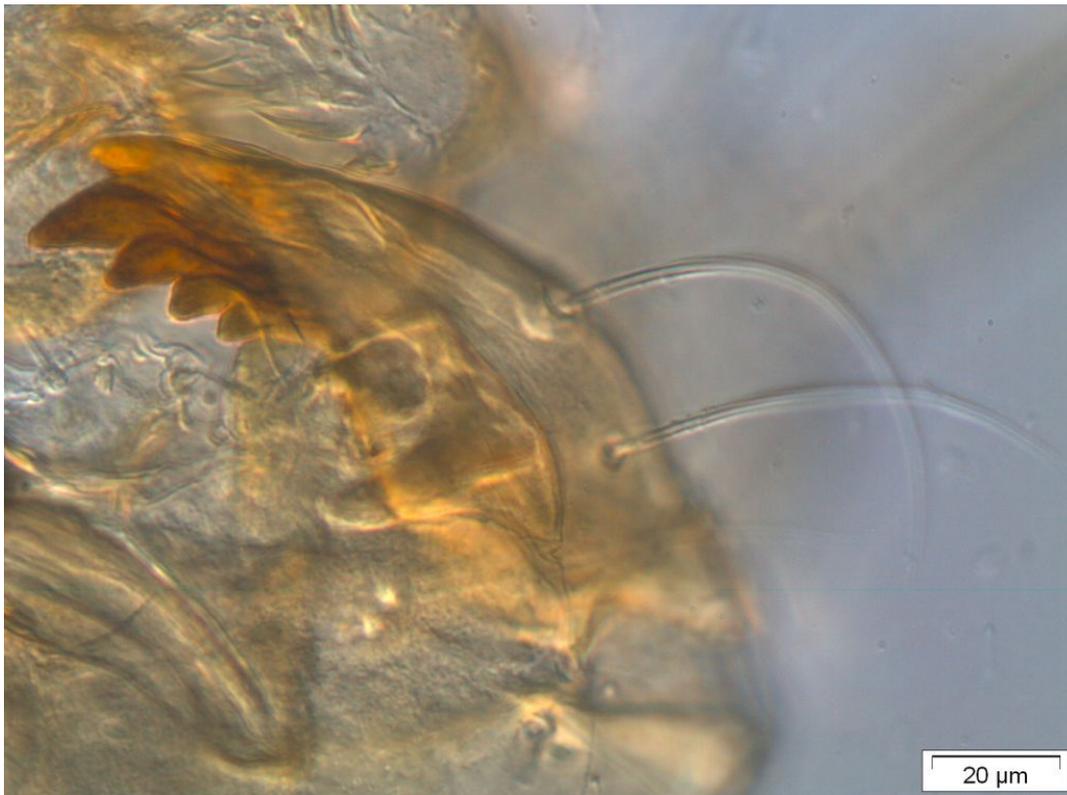


Figure 125 *Tanytarsus usmaensis*: Mandible (Bunnik, forest pond Nienhof 403893, 2-9-2010 (NL) leg Grontmij).



Figure 126 *Tanytarsus usmaensis*: Clypeal seta (S3) (Vechten 403890 (NL), leg Grontmij).

Tanytarsus verralli Goetghebuer 1928

Head capsule: pale ; gula light brown at base; postoccipital plate light brown, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, pale medially, brown laterally

Mandible: Three brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 127 *Tanytarsus verralli*: head lateral (Houten, sloot Polder de Hoon, ditch (NL), 08-04-2010, leg H. Cuppen).

Tanytarsus verralli (continued)



Figure 128 *Tanytarsus verralli*: Postoccipital plate and margin (Wassenaar, Klip D (NL), leg H. Vallenduuk).

Tanytarsus verralli (continued)



Figure 129 *Tanytarsus verralli*: Antenna (Wassenaar, Klip D (NL), leg H. Vallenduuk).

Tanytarsus spec. Landweerven

Head capsule: pale ; gula pale; postoccipital plate pale, postoccipital margin pale

Antenna: antennal pedestal with blunt spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth brown

Mandible: Two brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple

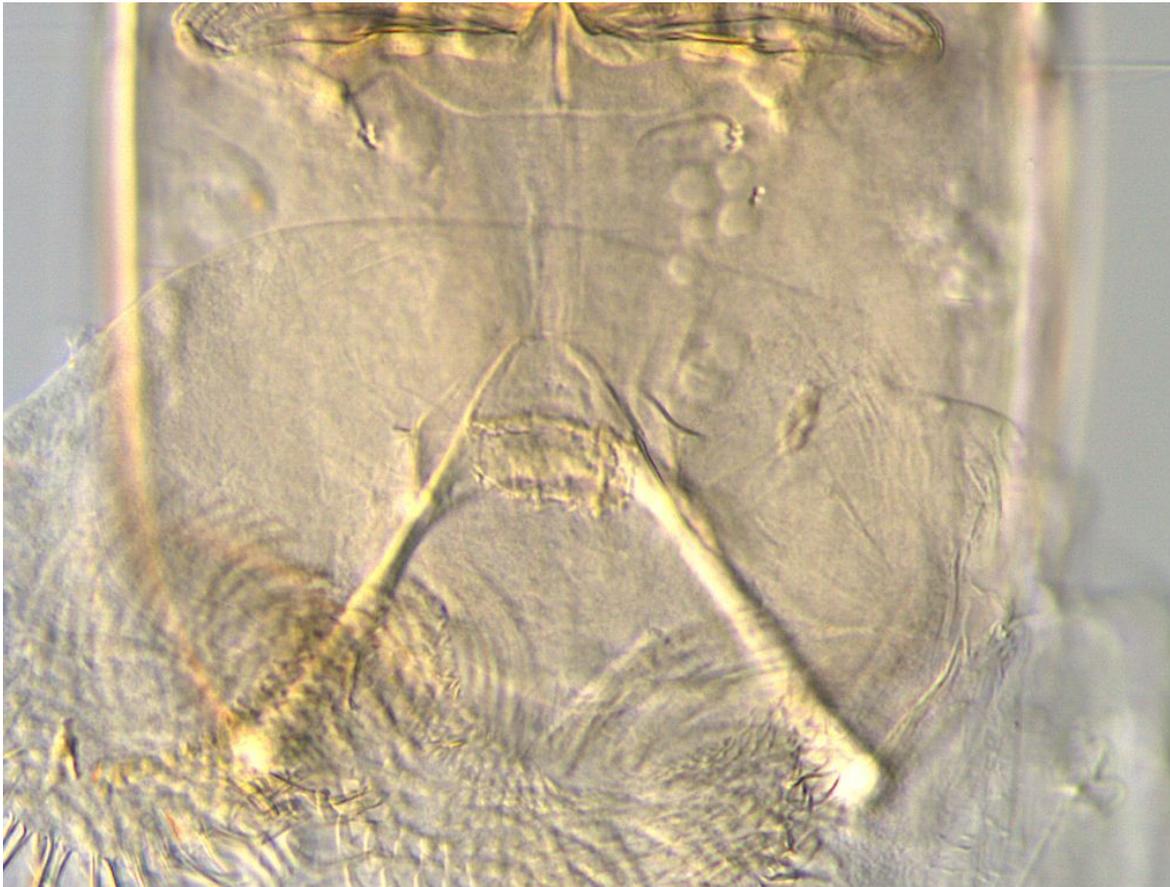


Figure 130 *Tanytarsus* spec. Landweerven: Postoccipital plate and margin (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).

Tanytarsus spec. Landweerven (continued)

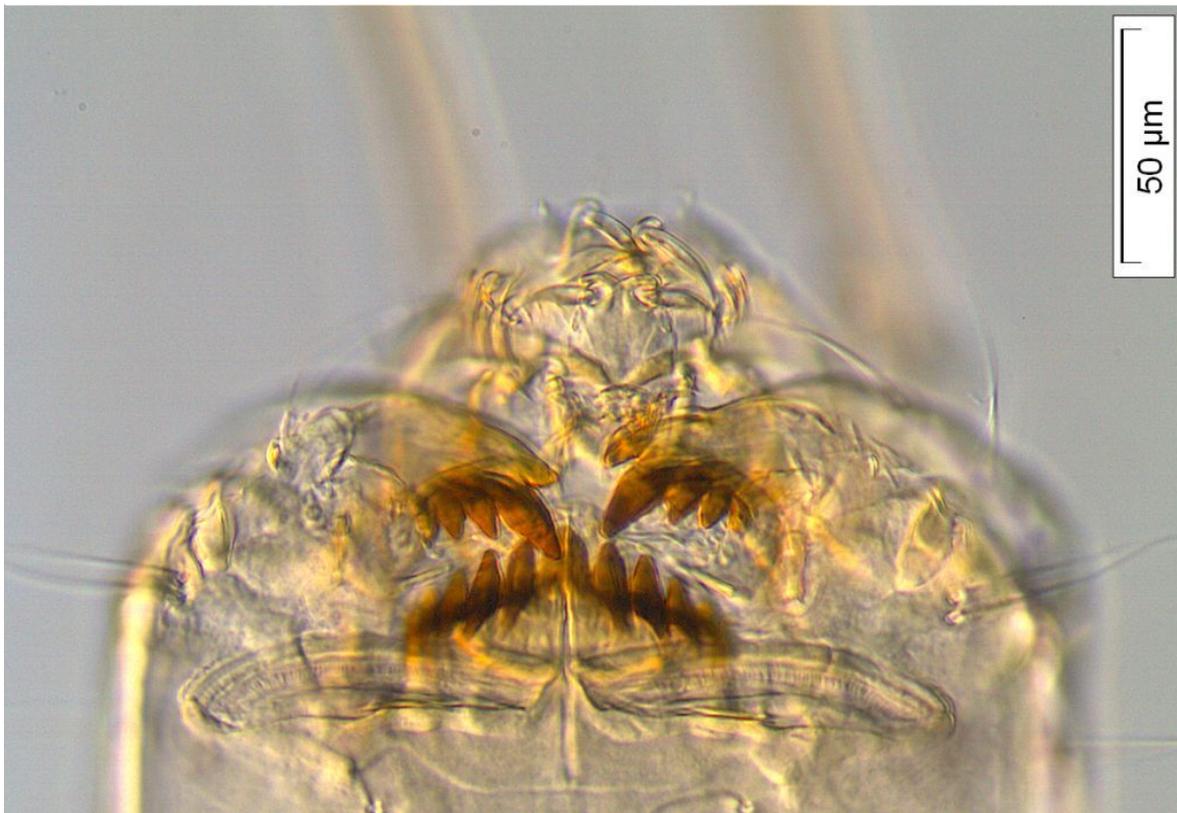


Figure 131 *Tanytarsus* spec. Landweerven: Mentum and mandibles (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).



Figure 132 *Tanytarsus* spec. Landweerven: Paralaial plate (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).

Tanytarsus spec. Landweerven (continued)

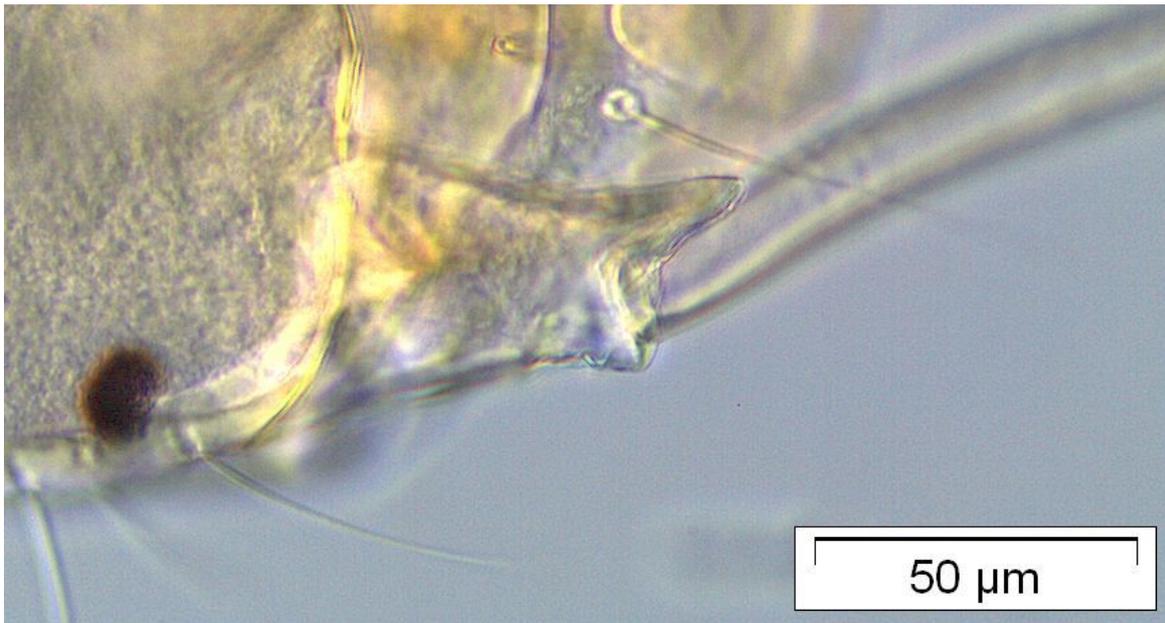


Figure 133 *Tanytarsus* spec. Landweerven: Antennal base (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).



Figure 134 *Tanytarsus* spec. Landweerven: Labral bridge and antennal base (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).

Tanytarsus spec. Landweerven (continued)



Figure 135 *Tanytarsus* spec. Landweerven: Antenna (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).



Figure 136 *Tanytarsus* spec. Landweerven: Supra anal seta (Landweerven, mesotrophic moorland pool (NL), 28-05-2009, leg H. Cuppen).

Tanytarsus spec. Albaplas

Head capsule: pale but frontal apotome light brown ; gula light brown at base; postoccipital plate light brown, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth pale notched

Mandible: Two brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 137 *Tanytarsus* spec. Albaplas: head lateral (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

Tanytarsus spec. Albaplas (continued)



Figure 138 *Tanytarsus* spec. Albaplas: Postoccipital plate and margin (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

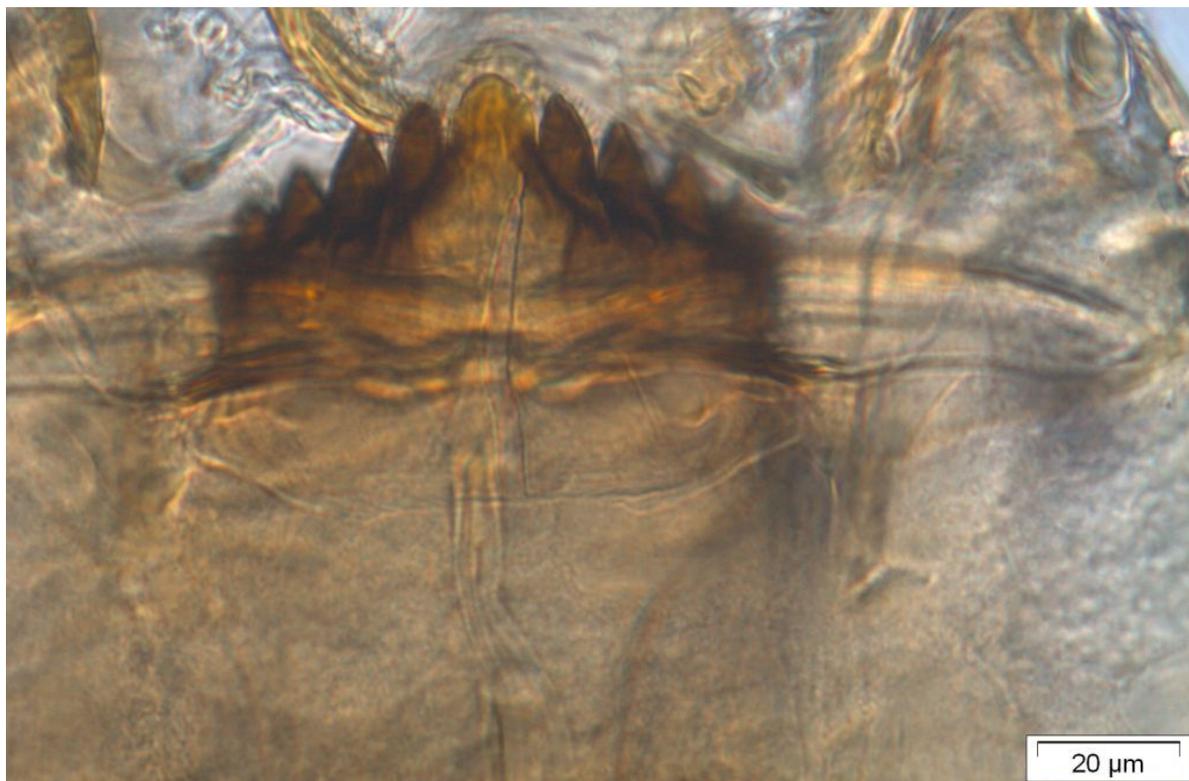


Figure 139 *Tanytarsus* spec. Albaplas: Mentum (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

Tanytarsus spec. Albaplas (continued)



Figure 140 *Tanytarsus* spec. Albaplas: Head dorsal (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

Tanytarsus spec. Albaplas (continued)

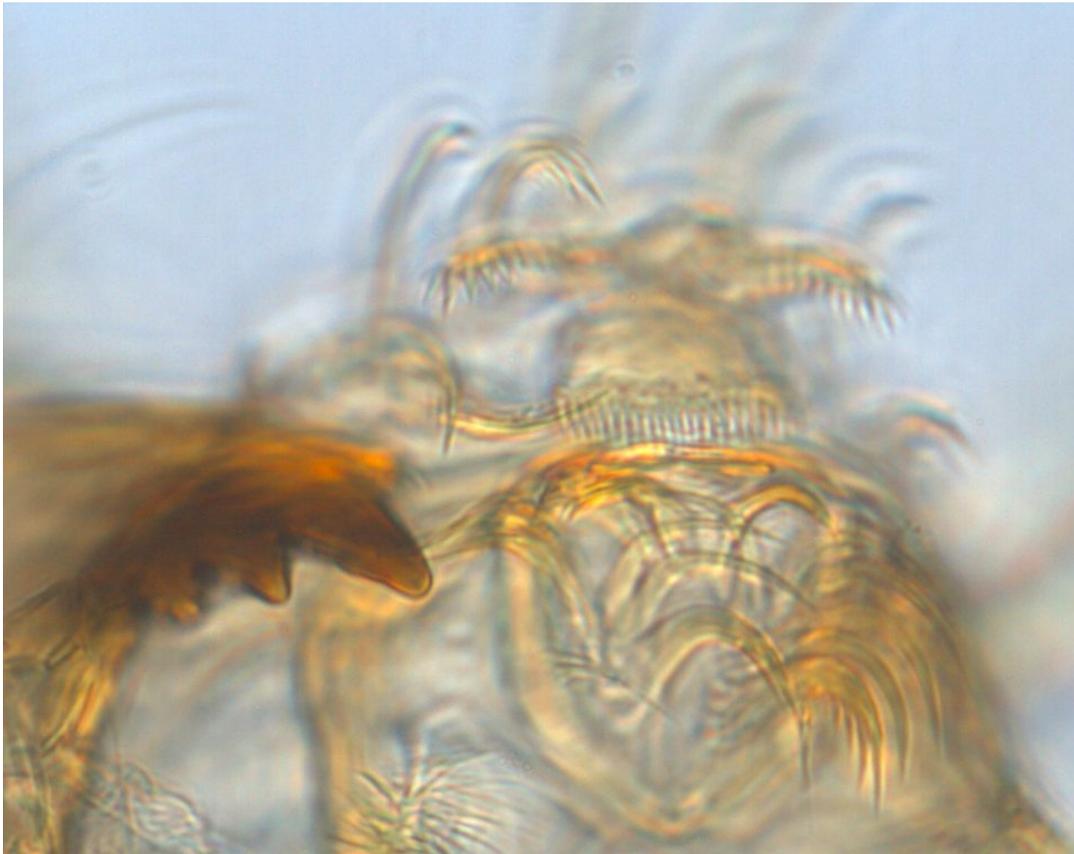


Figure 141 *Tanytarsus* spec. Albaplas: Labral lamella (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

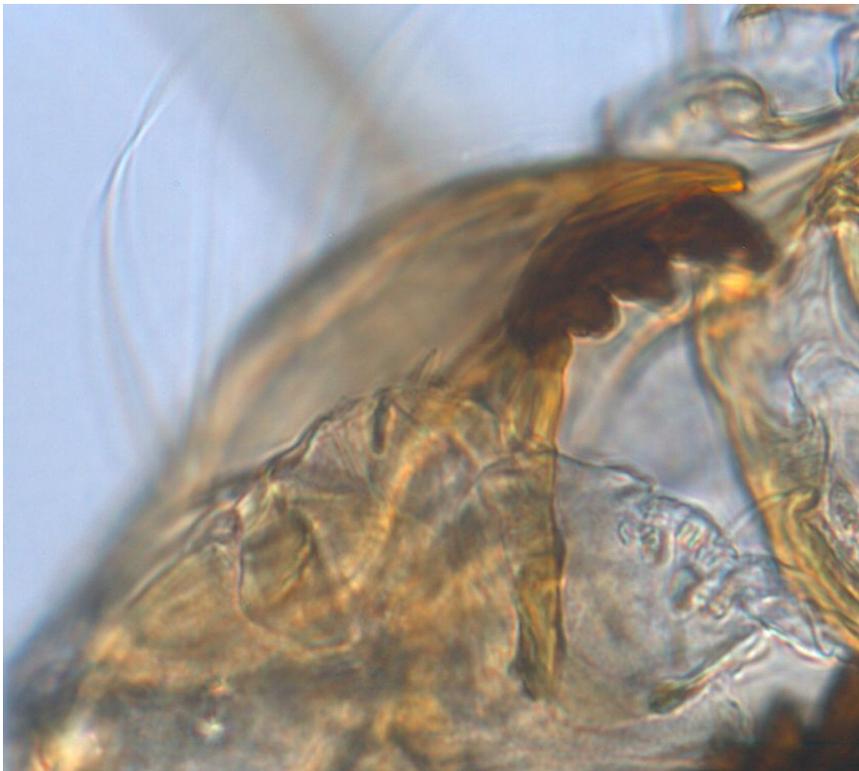


Figure 142 *Tanytarsus* spec. Albaplas: Mandible (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

Tanytarsus spec. Albaplas (continued)



Figure 143 *Tanytarsus* spec. Albaplas: SII (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

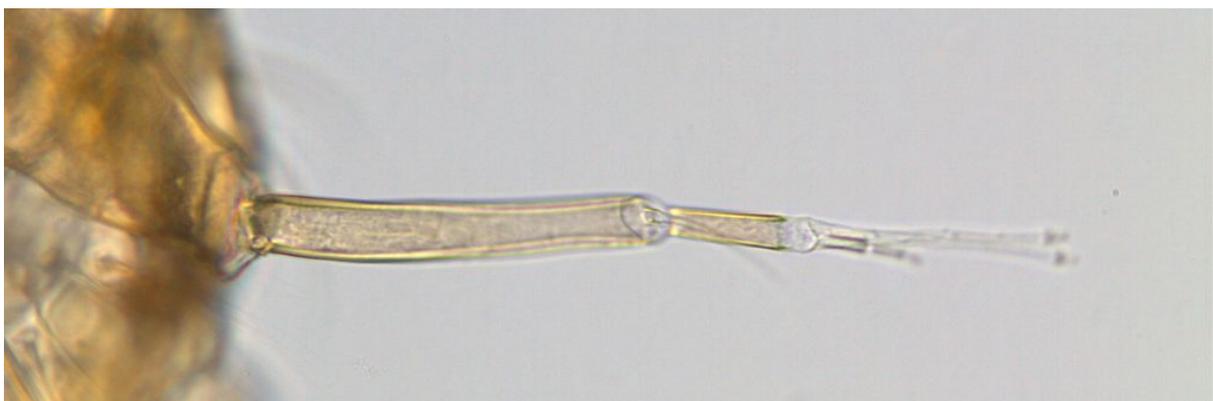


Figure 144 *Tanytarsus* spec. Albaplas: Antenna (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

Tanytarsus spec. Albaplas (continued)



Figure 145 *Tanytarsus* spec. Albaplas: Ventromental plate (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

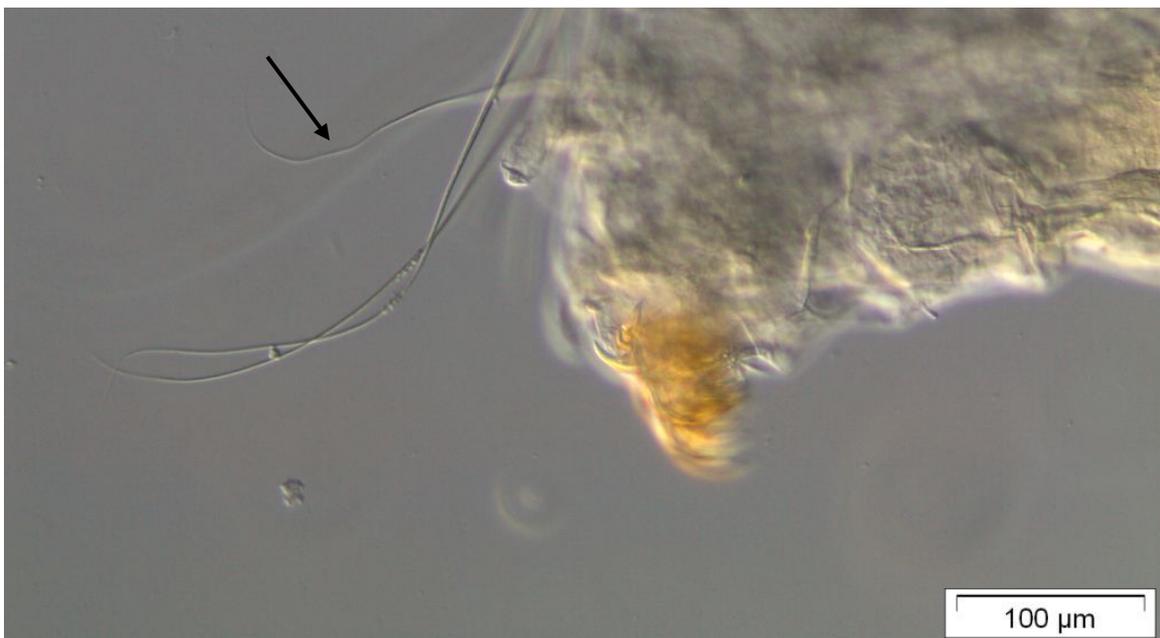


Figure 146 *Tanytarsus* spec. Albaplas: Supraanal seta (Utrecht, lake Vechten, 403890 (NL), 02-09-2010, leg Grontmij).

Tanytarsus spec. Lonnekermeer

Head capsule: pale ; gula pale; postoccipital plate pale, postoccipital margin light brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth pale notched

Mandible: Two brown inner teeth, one brown apical tooth and one yellow dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 147 *Tanytarsus* spec. Lonnekermeer: head lateral (Deurningen, Lonnekermeer, lake (NL), 06-11-2006, leg H. Cuppen).

Tanytarsus spec. Lonnekermeer (continued)

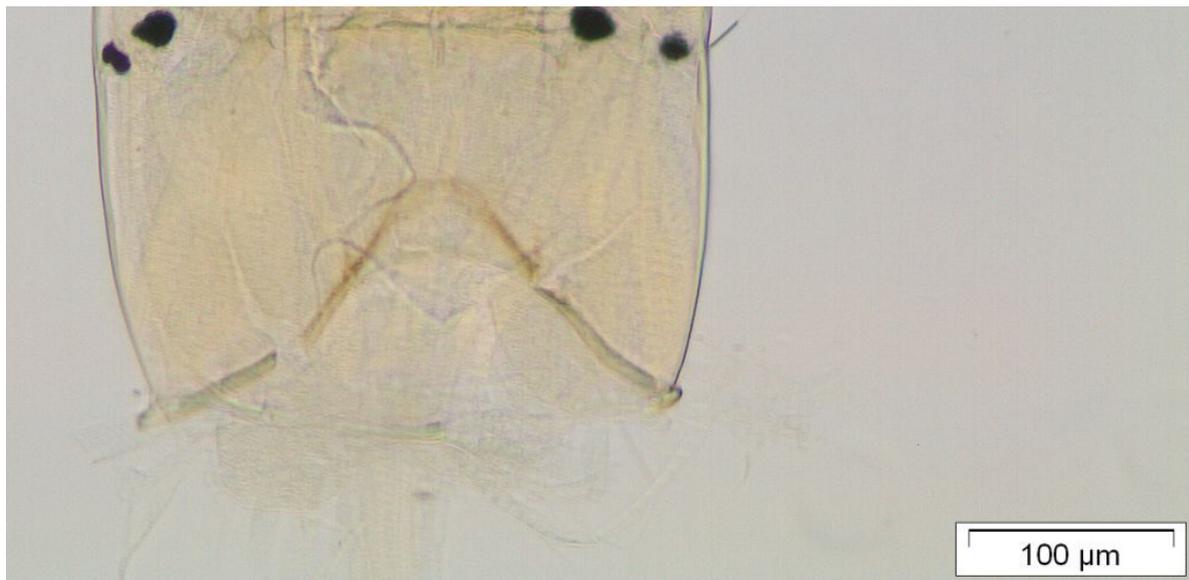


Figure 148 *Tanytarsus* spec. Lonnekermeer: Postoccipital plate and margin (Deurningen, Lonnekermeer, lake (NL), 06-11-2006, leg H. Cuppen).



Figure 149 *Tanytarsus* spec. Lonnekermeer: Mentum (Deurningen, Lonnekermeer, lake (NL), 06-11-2006, leg H. Cuppen).

Tanytarsus spec. Lonnekermeer (continued)

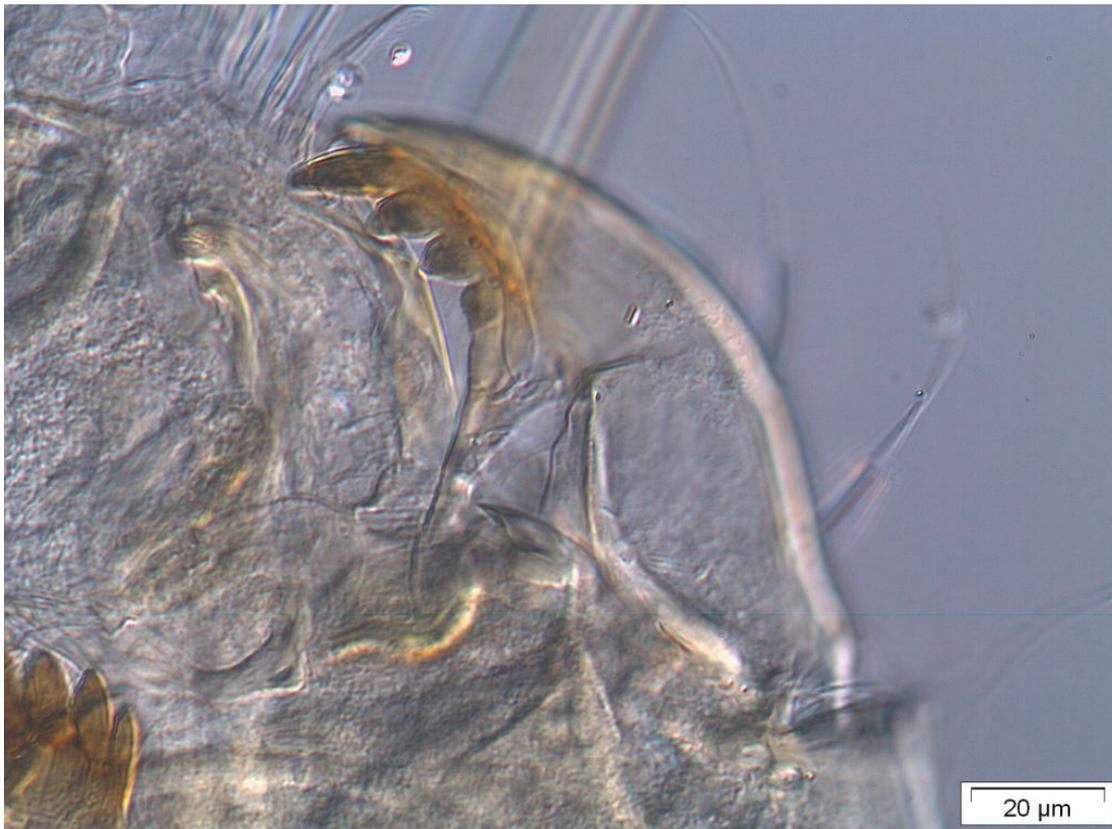


Figure 150 *Tanytarsus* spec. Lonnekermeer: Mandible (Deurningen, Lonnekermeer, lake (NL), 06-11-2006, leg H. Cuppen).



Figure 151 *Tanytarsus* spec. Lonnekermeer: SII (Deurningen, Lonnekermeer, lake (NL), 06-11-2006, leg H. Cuppen).

Tanytarsus spec. Lonnekermeer (continued)



Figure 152 *Tanytarsus* spec. Lonnekermeer: Globular anal papillae (Deurningen, Lonnekermeer, lake (NL), 06-11-2006, leg H. Cuppen).

Virgatanytarsus spec.

Head capsule: pale ; gula pale; postoccipital plate brown basal part pale, postoccipital margin dark brown

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth brown

Mandible: Three brown inner teeth, one brown apical tooth and one brown dorsal tooth

Labrum: seta SII plumose

Clypeal seta S3: simple



Figure 153 *Virgatanytarsus* spec.: head lateral (Glane, Boven Dinkel, small river, 14-04-2016, leg and picture E. Stegeman – Broos).

Virgatanytarsus spec. (continued)



Figure 154 *Virgatanytarsus* spec.: head ventral (Glane, Boven Dinkel, small river, 14-04-2016, leg and picture E. Stegeman – Broos).



Figure 155 *Virgatanytarsus* spec.: Posterior parapod with claws (France, Lorraine, River Meuse, 14-09-1992 leg A. Klink).

Virgatanytarsus spec. (continued)



Figure 156 *Virgatanytarsus* spec.: head ventral (France, Lorraine, River Meuse, 14-09-1992 leg A. Klink) (pigmentation slightly lost; in fresh material the occipital margin is dark brown).

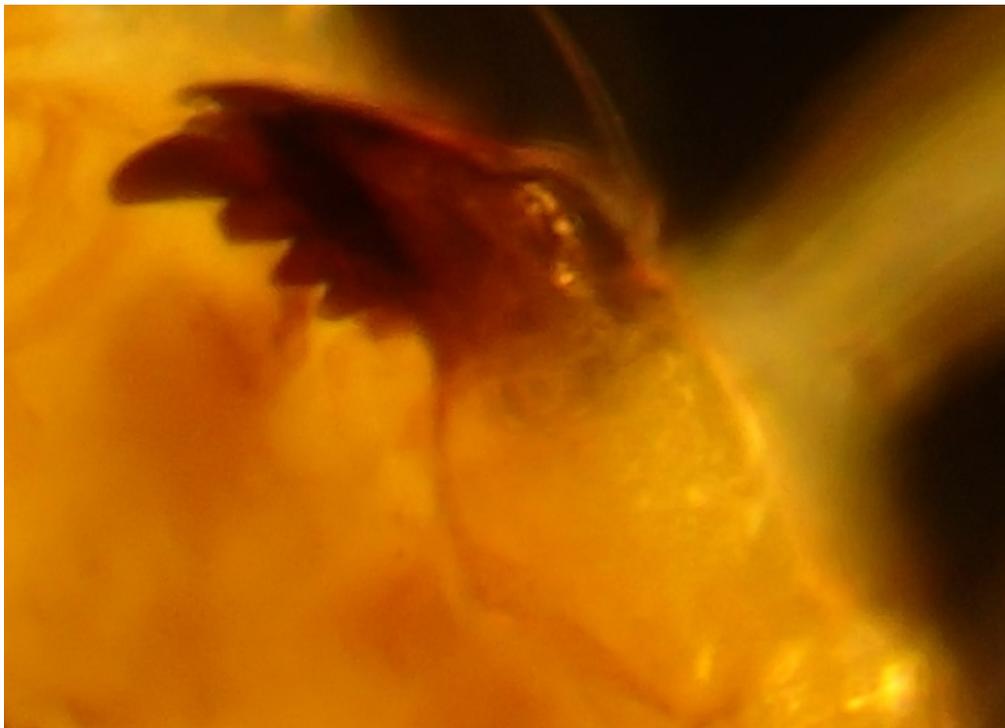


Figure 157 *Virgatanytarsus* spec.: mandible (Glane, Boven Dinkel, small river, 14-04-2016, leg and picture E. Stegeman – Broos).

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The authors wish to thank Dr B. Goddeeris for the loan of his slides of several species and are also indebted to ms. E. Stegeman – Broos for additional pictures of *Virgatanytarsus*.

5. Literature

Cuppen, H., D. Tempelman & T. van Haaren 2015. Key for the identification of 4th instar larvae of *Tanytarsus* Van der Wulp, 1874 of north western Europe (Diptera: Chironomidae: Tanytarsini). *Lauterbornia* 79: 1-21.

Ekrem, T. 2004. Immature stages of selected European *Tanytarsus* species I. The *eminulus*, *gregarius*, *lugens* and *mendax* species groups (Diptera: Chironomidae). *Mitt. Mus. Nat. Kd. Berl. Dtsch. Entomol. Z.* 51: 97-146.

Sæther, O.A. 1980a. Glossary of chironomid morphology terminology (Diptera: Chironomidae). *Ent. scand. Suppl.* 14:1-51.

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6. Appendix *Tanytarsus recurvatus*

Tanytarsus recurvatus Brundin 1947

Head capsule: pale; gula pale; postoccipital plate pale, postoccipital margin pale

Antenna: antennal pedestal no spur; sclerotisation 2^e segment 4/5

Mentum: : median tooth notched, dark

Mandible: Three brown inner teeth, one brown apical tooth and four dorsal teeth (one brown and three yellow teeth)

Labrum: seta SII ?

Clypeal seta S3: simple



Fig 158 *Tanytarsus recurvatus*: Head ventral (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

Tanytarsus recurvatus (continued)

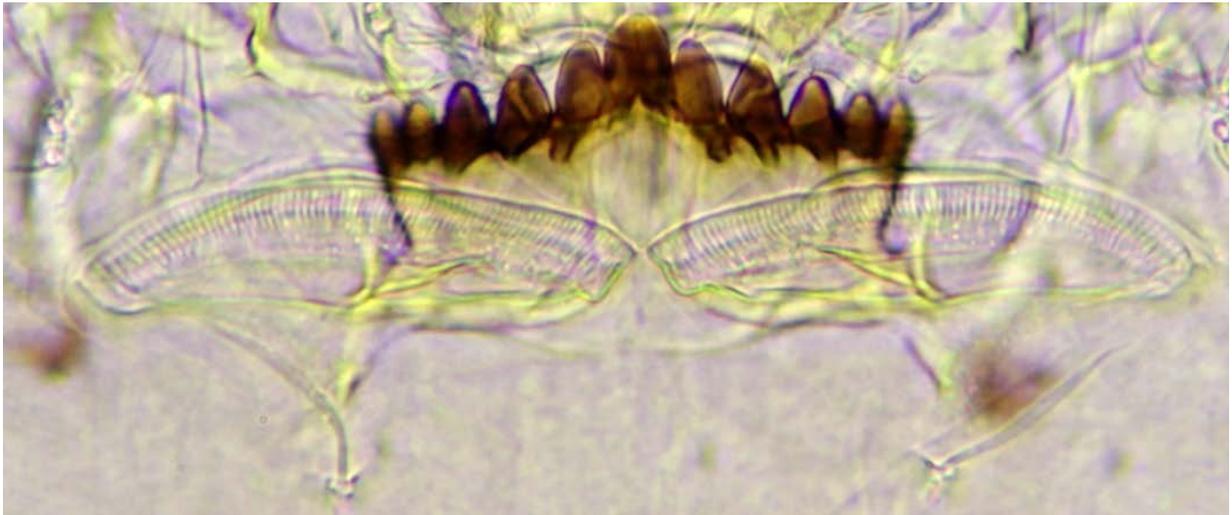


Fig 159 *Tanytarsus recurvatus*: Mentum (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

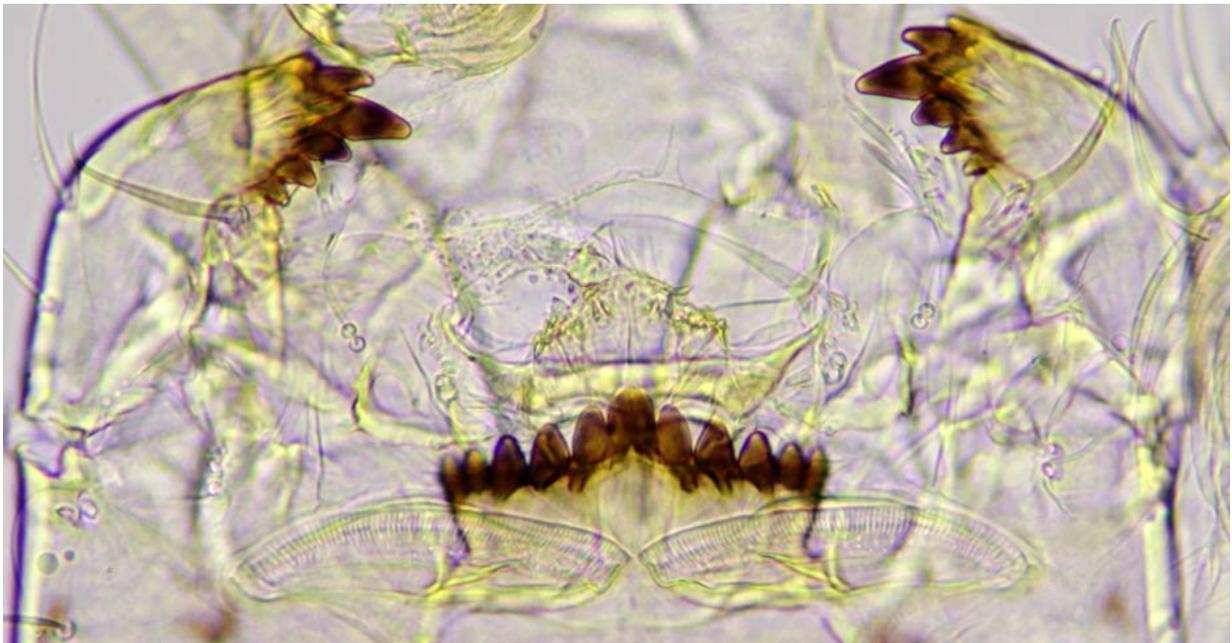


Fig 160 *Tanytarsus recurvatus*: Mentum and mandibulae (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

Tanytarsus recurvatus (continued)



Fig 161 *Tanytarsus recurvatus*: Left and right mandibula (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

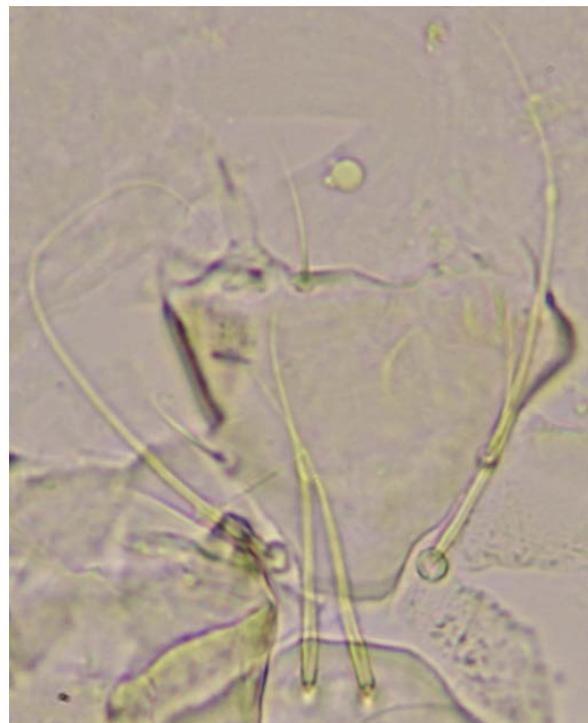
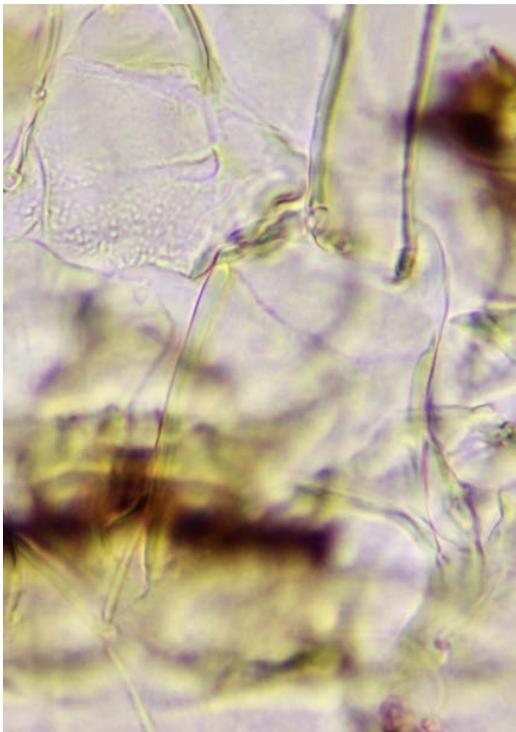


Fig 162 *Tanytarsus recurvatus*: Antennal pedestal and clypeal setae (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

Tanytarsus recurvatus (continued)



Fig 163 *Tanytarsus recurvatus*: Premandibula, S1 and labral lamella (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

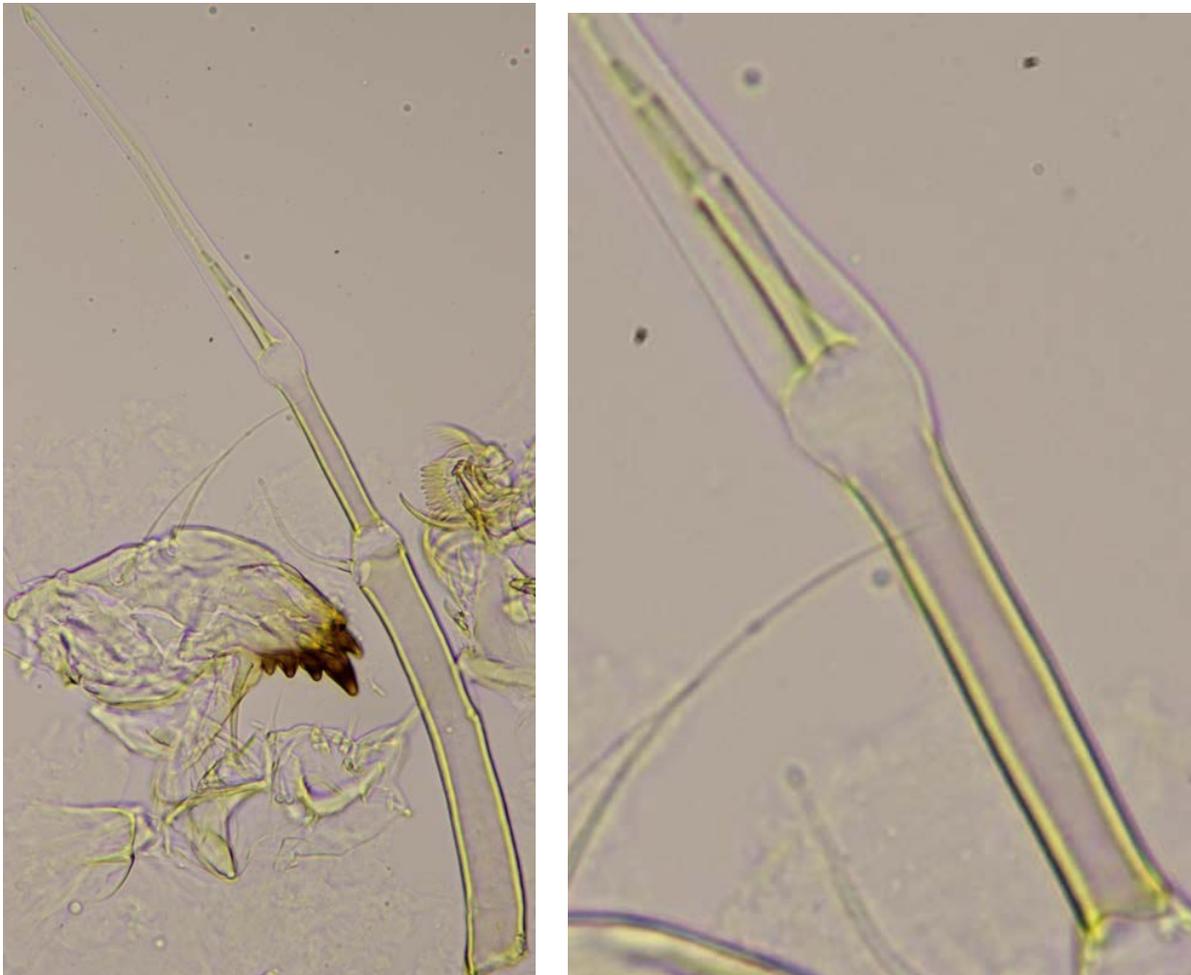


Fig 164 *Tanytarsus recurvatus*: Antenna (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

Tanytarsus recurvatus (continued)



Fig 165 *Tanytarsus recurvatus*: Anal papillae and supraanal setae (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

Tanytarsus recurvatus (continued)

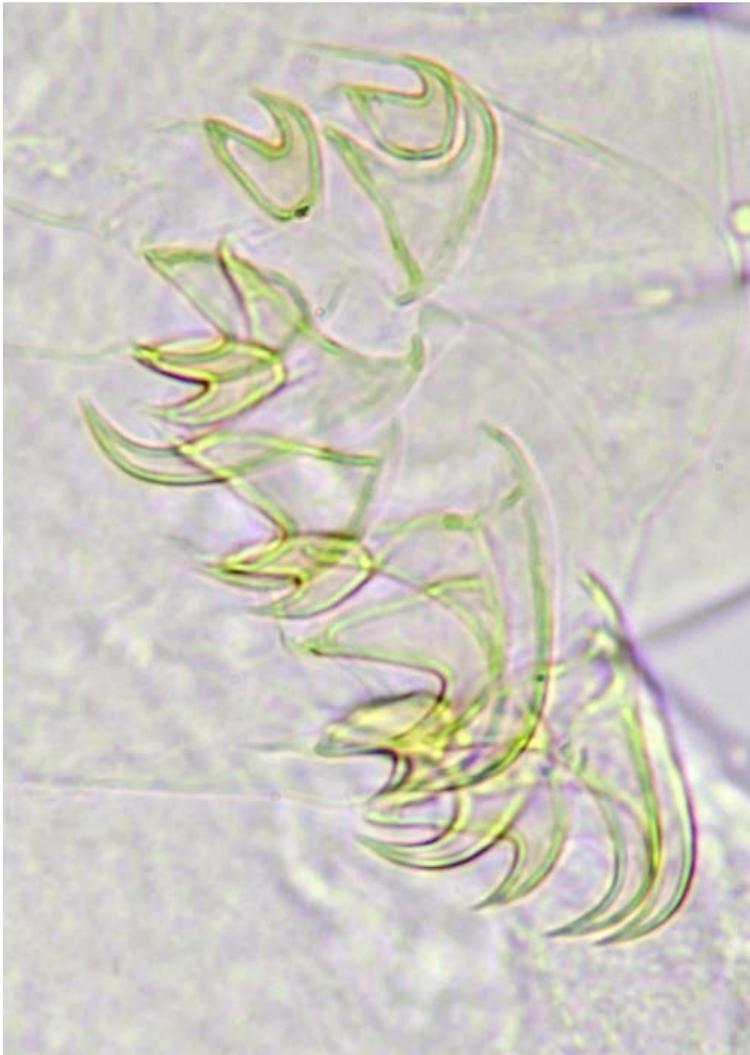


Fig 166 *Tanytarsus recurvatus*: Claws of posterior parapod (Belfeld, Maas-Dünen-Teiche (NL), 13-09-2017, leg and picture T. Bendt).

