



When details matter: Integrative revision of Holarctic *Coelophthinia* Edwards (Diptera, Mycetophilidae), including mapping of its mitogenome, leads to the description of four new pseudocryptic species

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Academic editor: Vladimir Blagoderov

Received: 12 Dec 2022 | Accepted: 27 Jan 2023 | Published: 14 Feb 2023

Citation: Kjærandsen J, Kerr PH, Lindemann JP, Kurina O (2023) When details matter: Integrative revision of Holarctic *Coelophthinia* Edwards (Diptera, Mycetophilidae), including mapping of its mitogenome, leads to the description of four new pseudocryptic species. Biodiversity Data Journal 11: e98741.

<https://doi.org/10.3897/BDJ.11.e98741>

ZooBank: [urn:lsid:zoobank.org:pub:6B384810-91A7-4DCA-AFA6-3D30779DCF12](https://www.zoobank.org/pub/6B384810-91A7-4DCA-AFA6-3D30779DCF12)

Abstract

Background

The small genus *Coelophthinia* Edwards, 1941 of the subfamily Gnoristinae (Diptera, Mycetophilidae) is so far known to harbour four species from the Palaearctic, Nearctic and Neotropical Regions. Extensive DNA barcoding of fungus gnats of the family Mycetophilidae through the International Barcode of Life project (iBOL) have initiated integrative studies resulting in taxonomic upgrades and a better understanding of many species and their delimitation. The opportunity was also taken to describe the mitogenome of a member of *Coelophthinia* for the first time.

New information

The integrative studies give evidence for splitting the European species *C. thoracica* Edwards, 1941 into three different species. Four new species are described from the USA, Japan and the Nordic Region in Europe, *Coelophthinia cirra* Kerr **sp. n.**, *Coelophthinia itoae* Kurina **sp. n.**, *Coelophthinia lata* Kjaerandsen **sp. n.** and *Coelophthinia loraasi* Kjaerandsen **sp. n.**, raising the number of Holarctic species from two to six. The mitogenome of *Coelophthinia loraasi* sp. n. is described and analysed.

Keywords

Coelophthinia, morphology, DNA barcoding, integrative taxonomy, new species, new mitogenome

Introduction

The small genus *Coelophthinia* Edwards, 1941 of the subfamily Gnoristinae (Diptera, Mycetophilidae) is so far known to harbour four species, viz. *C. thoracica* (Winnertz, 1964) from the Palaearctic Region, *C. curta* (Johannsen, 1912) from the eastern Nearctic Region and *C. accita* (Plassmann & Vogel, 1990) and *C. flavithorax* (Freeman, 1951) from the temperate zone of the Neotropical Region (Oliveira and Amorim 2014). Søli (1997) further transferred a Brazilian species, *Coelosia neotropica* Lane, 1959, to *Coelophthinia*, but the original status of the species in *Coelosia* Winnertz, 1864 was reinstated by Oliveira and Amorim (2014).

Due to their slender appearance (Fig. 1), species of the genus *Coelophthinia* were placed together with *Phthinia* Winnertz, 1864, until Edwards (1925) moved the type species *C. thoracica* to *Coelosia* Winnertz, 1864. Edwards, however, later realised that this species was distinct enough to warrant separate generic status and, with a summary note, erected the genus *Coelophthinia* Edwards, 1941. Similar to what is found in several other species and genera of the family Mycetophilidae, *Coelophthinia* has developed a large, special sensory organ in their mid-tibia (Fig. 1), consisting of a long groove filled with sensory hairs. In *Coelophthinia*, both sexes have this structure developed, while in most of the other genera, a similar structure is only found in the males. Its possible function remains unclear, pending further histological examination (Kallweit 2013).

Extensive DNA barcoding of fungus gnats of the family Mycetophilidae through the International Barcode of Life project (iBOL, see Hebert et al. (2016) and Kjærandsen (2022)) and local initiatives like the Norwegian Barcode of Life project (NorBOL, see Kjærandsen and Søli (2020)) and the Finish Barcode of Life (FinBOL, see Roslin et al. (2021)) have contributed to taxonomic upgrades and a better understanding of many species and their delimitation. With support from the Barcode Index Number (BIN) system on BOLD, new evidence for splitting old species interpretations into two or multiple species emerges for many taxa. This kind of evidence must, however, be used with care (see,

Ahrens et al. (2021)) and combined with morphological analyses in integrative studies. Using such an integrative approach here, we argue for splitting the European species *C. thoracica* into three different species, the North American species *C. curta* into two species and we describe one further, new species from Japan. This raises the number of Holarctic *Coelophthinia* from two to six species. We have also sequenced the mitogenome of one of the new species through genomic skimming and present its organisation and gene order as a representative for the genus.



Figure 1. [doi](#)

Live photo of the type species for the genus, a *Coelophthinia thoracica* (Winnertz, 1864) male resting on a window in a barn in western Norway. The photographed specimen was subsequently collected, DNA barcoded and assigned to Barcode Index Number (BIN) BOLD:ACJ0721 (Specimen ID TSZD-JKJ-111214). The mid-tibial organ is visible and marked with a red arrow. The 180 deg. torsion of the male terminalia is also visible.

Materials and methods

Specimen preparation and storage

The studied material has accumulated over the last 50 years, the majority during the last decade and is deposited in the insect collections of Tromsø University Museum, Norway (TMU), Estonian University of Life Sciences, Tartu, Estonia (IZBE) and California State Collection of Arthropods, Sacramento, California, USA (CSCA). Additionally, DNA barcoded material was borrowed from the Centre for Biodiversity Genomics, University of Guelph, Canada (BOLD). Being initially stored in 70-95% ethanol, the majority of the fresh specimens were dried through baths of hexamethyldisilazane (HMDS, Brown (1993)) and pinned during the study. A few specimens are mounted in Canada balsam on slides.

Terminalia were detached from the abdomen and treated by standard methods (macerated either in warm lactic acid or in a solution of potassium hydroxide (KOH), cleaned in distilled water or neutralised in acetic acid) and transferred to glycerol. Images of specimens and their terminalia were captured with different microscopes. Z-stacked image series were processed into extended focus images by the Helicon Focus software enabling some manual editing of layers for increased visibility of specific characters. Extended focus images were further processed with Adobe Photoshop to adjust levels and contrast, reduce shadows, remove dust particles and clean up the background. Individual images were then processed by the Topaz Sharpen AI software to remove blur and suppress noise for enhanced sharpness. Finally, individual images were arranged into species plates, with identical angles of view for each species to ease comparison among the species. After detailed study and imaging, the terminalia were placed into micro-vials with glycerine and pinned together with the rest of the specimen.

DNA barcoding

The 658 bp fragment of the mitochondrial protein-encoding cytochrome c oxidase subunit I (COI) has been sequenced from a total of 46 *Coelophthiria* specimens on BOLD, 25 of them submitted by us during this study. One leg from each fresh specimen was sent to the Canadian Centre for DNA barcoding, BIO (Guelph, Ontario, Canada), for DNA extraction and bi-directional Sanger sequencing as a part of the Norwegian Barcode of Life (NorBOL) and Finnish Barcode of Life (FinBOL) initiatives, both branches of the International Barcode of Life project (iBOL). The new sequences are publicly available from The Barcode of Life Data System (BOLD) and referred to below with external links to their Barcode Index Numbers (BINs) on BOLD for each of the barcoded species.

Mitogenomic analysis

DNA extraction, library preparation and DNA sequencing

One specimen of *C. loraasi* sp. n. (TSZD-JKJ-105417) was selected for further DNA sequencing. DNA was extracted from the whole individual, except its terminalia, using the E.Z.N.A. Insect DNA Kit (Omega bio-tek), following the manufacturer's protocol. The terminalia was dissected and preserved in glycerine as voucher. DNA library preparation and sequencing were carried out at The Norwegian Sequencing Centre (NSC). The DNA sample was fragmented to a target of 350 bp average size. Library preparation was performed using the Kapa Hyper library prep kit (Roche), with cycles of PCR with the Kapa Library amplification mix (Roche) and two rounds of bead clean-up (both on PE Sciclone). The average fragment length after library preparation was measured to 538 bp. The samples were sequenced on the HiSeq 4000 system (Illumina inc.) with 150 bp paired-end sequencing following the manufacturer's recommendations.

Assembly and gene annotation

Filtering of raw reads was carried out in Trimmomatic 0.39 (Bolger et al. 2014) with parameters MINLEN: 110 and SLIDINGWINDOW: 5:20. Filtered reads were error corrected

using BayesHammer (Nikolenko et al. 2013) implemented in SPAdes v.3.15.0, before assembled in MEGAHIT v.1.1.4 (Li et al. 2015). A reference for the mitochondrial genome of *Acnemia nitidicollis* (accession: NC_050318.1) was downloaded from GenBank. The assembly was searched against the reference using the *BLASTn* function from BLAST+ v. 2.8.1 (Camacho et al. 2009). The mitochondrial region was obtained from the assembly as a single fragment and annotated using MITOS2 (Donath et al. 2019) on the MITOS web server. The tRNA trnH was annotated using tRNAscan-SE v.2.0.7 (Chan and Lowe 2019). The control region (CR) was identified as the longest sequence of intergeneric nucleotides. A map of the circular mitochondrial genome was created in OGDRAW (Greiner et al. 2019) on the OGDRAW server (<https://chlorobox.mpimp-golm.mpg.de/OGDraw.html>). The annotated genome of *C. loraasi* sp. n. is available in GenBank under the accession MZ853147.

Taxon treatments

Coelophthinia Edwards, 1941

Type species

Coelophthinia thoracica (Winnertz, 1864)

Description

A Gnoristinae genus with slender and medium-sized (2.8–4.3, 3.8 mm) species (Figs 1, 2a). Coloration quite uniformly brown, darker on head and preterminal, abdominal segments, three brown thoracic stripes distinctly contrasted against yellow humeral areas (Fig. 2b), abdominal tergites II–IV sometimes apically paler, legs and terminalia mostly yellow. Head (Fig. 2b, c) round, eyes slightly kidney-shaped, but without tendency of dorsal eye-bridge expansion, inter-ommatidia pubescent. Antenna moderately slender, with 16 segments, medium-sized, semi-globular scape and pedicel and flagellar segments 3–4 times as long as wide. Frons with greatly reduced, incomplete frontal furrow and relatively broad frontal tubercle (Fig. 2c). Mouthparts average, with five, gradually longer palpal segments, no clear sensory pit discernible in third segment (without slide mounting). Clypeus horseshoe-shaped, with scattered, long setae. Three ocelli in a near straight line, middle ocellus half the size of the lateral ocellus, lateral ocellus less than its diameter from eye. Thorax (Fig. 2a, b, e). Anteprepronotum with pair of medium-sized anteprepronotal setae. Mesonotum scattered with short setae, only moderately defined into rows, but rich in larger setae laterally. Mesopleurites without setae, mediotergite with row of strong setae basally. Wings (Fig. 2d) unpatterned hyaline with a slight brown tinge, with wing interference colours (Fig. 1, see Shevtsova et al. (2011)) in first order Newton colour scale, indicating very thin (less than 200 nanometres thickness) and even membrane beyond the wing base, wing membrane with irregularly arranged microtrichia. Costa produced slightly beyond to 1/4 between **R**₄₊₅ and **M**₁, subcosta long, ending in **C** proximal to crossvein **Rs**, midway with crossvein **sc-r**. Radial sector with oblique crossvein **Rs**, without **R**₂₊₃. Anterior fork

long, with short stem subequal to **r-m**. Posterior fork short, widely divergent. Radial sector and both forks with setae on dorsal surface beyond base. Legs (Fig. 2a, e) with irregularly arranged setulae. Fore tarsus subequal in length to fore tibia, tarsal ratios can be extracted from Fig. 2e. A distinct sense organ present dorsally on the basal part of mid-tibia (Fig. 2e, f), of variable length between species.

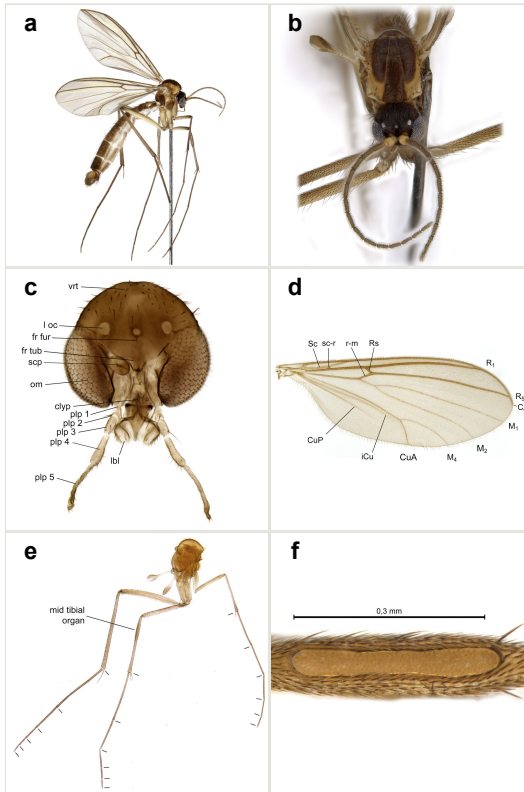


Figure 2.

Habitus of *Coelophthinia lata* sp. n. Abbreviations: **C_{ext}** = Extension of costa beyond R₅; **clyp** = clypeus; **CuA** = anterior branch of cubital vein; **CuP** = posterior branch of cubital vein; **fr fur** = frontal furrow; **fr tub** = frontal tubercle; **h** = humeral vein; **iCu** = intercubital fold (not a vein); **lbl** = labrium; **loc** = lateral ocellus; **M** = medial veins (numbered); **om** = ommatid; plp (numbered) = palpal segment; **R** = radial veins (numbered); **r-m** = radial-medial crossvein; **Rs** = radial sector; **Sc** = subcostal vein; **scp** = scapus; **sc-r** = crossvein between subcosta and radius; **vrt** = vertex;

a: Habitus of HMDS-dried and pinned holotype [doi](#)

b: Head and thorax of holotype in dorsal view [doi](#)

c: Slide mounted head of paratype (TSZD-JKJ-207664), frontal view [doi](#)

d: Slide-mounted wing of paratype (TSZD-JKJ-207664) [doi](#)

e: Slide mounted thorax with legs of paratype (TSZD-JKJ-207664). The start and end of each tarsal segment is marked with black pointers for clarity [doi](#)

f: Mid-tibial organ of pinned holotype enlarged and scaled. [doi](#)

Male terminalia (Fig. 3) apparently always positioned with a 180 degrees torsion in relation to abdomen (Fig. 1). Tergite 9 (Fig. 3a, c, d) short, wide rectangular, strongly setose, medially slightly constricted, with basal margin concave. Tergite 10 unusually well developed (Fig. 3c, d), with medial, densely setose, dorsally protrusive lobe and lateral extension armed with three strong setae. Hypoproct and cerci (Fig. 3a, c) forming elongate, basally fused lobes arising from underside of tergite 9, apically setose. Gonocoxites separated ventrally (Fig. 3b), strongly setose, except bare posterolateral lobes, which have one subapical, internal, medially directed small and stout seta (Fig. 3e). Setae on dorsal side of gonocoxite similar to those on ventral side. Posterolateral lobe of gonocoxite situated midway between dorsal and ventral edges (Fig. 3a, b, e), narrow, shape varies between species, always with one stiff, short seta apicointernally (Fig. 3e). Ventral medial margin of gonocoxite with a narrow, long, spatulate lobe (Fig. 3b, e), whose shape varies between species. Aedeagal guide (Fig. 3c) forming a knob with 3–5 medially directed setae deviating from other setae anteriorly on the base of the gonocoxal lobe. Gonostylus (Fig. 3b, e, f) small, internal with two branches, dorsal branch semicircular with normal setae, ventral branch bifurcated into two lobes (lb 1 & lb 2 in Fig. 3f), with truncated, blunt setae. Aedeagal apparatus (Fig. 3b, c) large, elongated, with strong, downcurved tip, basally attached to gonocoxite via strip like gonocoxal apodemes (Fig. 3c).

Female terminalia (Fig. 4) rather truncated, with short tergites 8 and 9. Tergite 9 wide, subrectangular, with some setae extending towards epiproct dorsally. Cercus one-segmented, large ovate, evenly covered with setae. Hypoproct/Tergite 10 forming narrow process along underside of cerci, with some setae. Gonocoxite 8 moderately split ventrally, with free, sclerotised, pointed lamellae. Sternite 9 small, retracted within terminalia.

Diagnosis

Males of the genus *Coelophthinia* are easily distinguished from all other Gnoristinae genera by the characteristic shape of their torsioned terminalia (Figs 1, 3), especially the open gonocoxite with long apicolateral and medioventral projections in combination with a small, internal gonostylus armed with a fan of blunt setae. The protrusive lobe of tergite 10 in the males (Fig. 3c, d) is a further unique characteristic for the genus. Both sexes can be distinguished from other Gnoristinae genera also by the wing venation (Fig. 2d) where the wide posterior fork is similar only to that of genus *Coelosia* Winnertz, 1864. From *Coelosia*, *Coelophthinia* differs in having crossvein **sc-r** present and in having a row of setae on the basal part of the mediotergite.

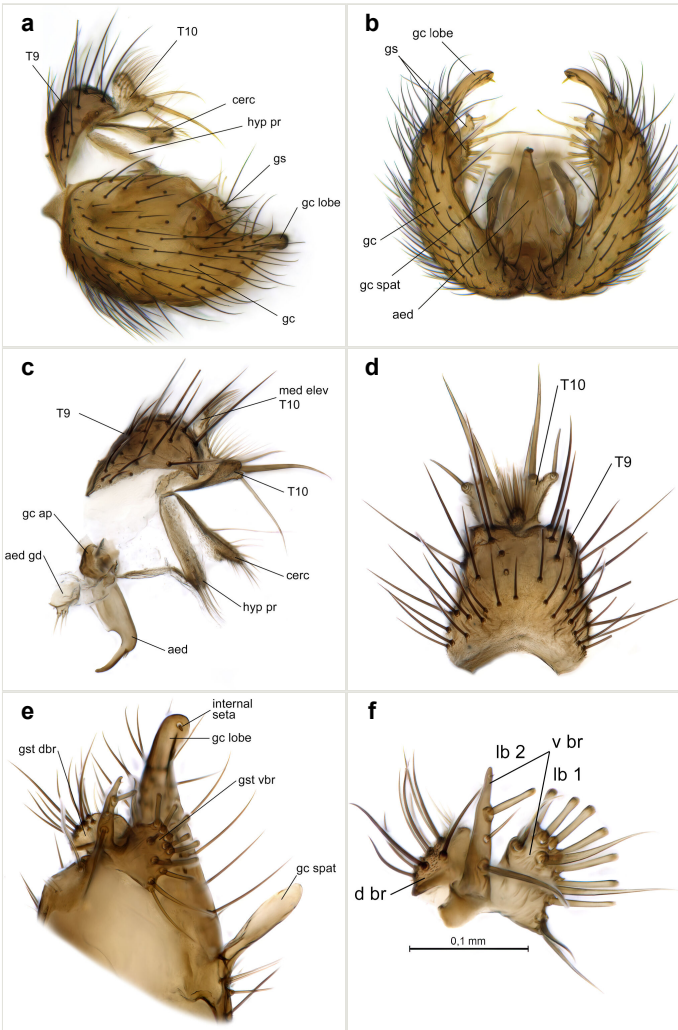


Figure 3.

Structure and terminology of male terminalia of *Coelophthinia*: **a, b** *C. thoracica* (Winnertz, 1864); **c–f** *C. loraasi* sp. n. Abbreviations: **aed** = aedeagus; **aed gd** = aedeagal guide; **cerc** = cercus; **gc** = gonocoxite; **gc ap** = gonocoxal apodeme; **gc lobe** = posterolateral lobe of gonocoxite; **gc spat** = spathulate gonocoxal lobe; **gs** = gonostylus; **gst dbr** = dorsal branch of gonostylus; **gst vbr** = ventral branch of gonostylus; **hyp pr** = hypoproct; **lb 1** = lobe 1 of ventral gonostylar branch; **lb 2** = lobe 2 of ventral gonostylar branch; **med elev T10** = medial elevated & protrusive projection from tergite 10; **T9** = tergite 9; **T10** = tergite 10.

a: *Coelophthinia thoracica*, male terminalia, lateral view [doi](#)

b: *Coelophthinia thoracica*, male terminalia, ventral view [doi](#)

c: *Coelophthinia loraasi* sp. n., tergal segments and internal organs, lateral view [doi](#)

d: *Coelophthinia loraasi* sp. n., tergal segments, dorsal view [doi](#)

e: *Coelophthinia loraasi* sp. n., gonocoxite and gonostylus, internal view [doi](#)

f: *Coelophthinia loraasi* sp. n., gonostylus, internal view. [doi](#)

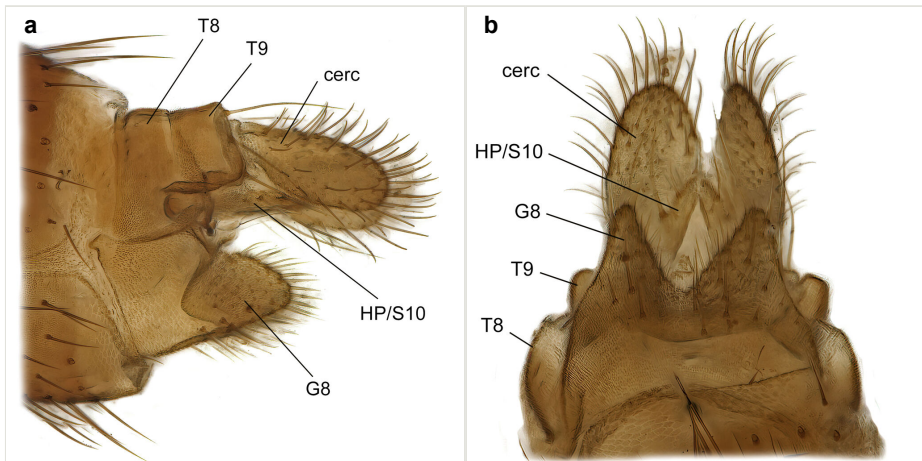


Figure 4.

Structure and terminology of female terminalia of *Coelophthinia thoracica* (Winnertz, 1864). Abbreviations: **cerc** = cercus; **G8** = gonocoxite 8; **HP/S10** = hypoproct and sternite 10; **T8** = tergite 8; **T9** = tergite 9.

a: Terminalia, lateral view [doi](#)

b: Terminalia, ventral view. [doi](#)

Coelophthinia thoracica (Winnertz, 1864)

- FGO <http://sciaroidea.info/taxonomy/41876>
- Barcodes http://www.boldsystems.org/index.php/Public_BarcodeCluster?clusteruri=BOLD:ACJ0721

Nomenclature

Phthinia thoracica Winnertz, 1964

Coelosia thoracica sensu Edwards (1925)

Coelophthinia thoracica sensu Edwards (1941)

Materials

- a. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Nordland (NSI); municipality: Hattfjelldal; locality: Auster-Vefsna NR, Stilleelva E; decimalLatitude: 65.54083; decimalLongitude: 13.75028; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-08-02 to 2018-10-05; eventRemarks: MT 6; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-106186; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:823656f0-abb9-4827-ae0e-8f26f9c86dcd; identifiedBy: J. Kjærandsen; dateIdentified: Feb-11-2019; institutionCode: TSZ; collectionCode: TMU-

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- b. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Holmvassdalen NR, riparian forest at Holmvasselva; decimalLatitude: 65.33556; decimalLongitude: 13.32222; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-05-30 to 2018-08-01; eventRemarks: WT 4; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-106504; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:fcf4435f-ca39-42db-b6f7-0631601c13d5; identifiedBy: J. Kjærandsen; dateIdentified: Feb-14-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000637; basisOfRecord: Preserved specimen; occurrenceID: 84BAD5D4-F4B8-521A-B762-1916DDC301DA
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- f. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-106712; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:5aeec5c8-908d-4d1a-9825-dc9dbf8e50bf; identifiedBy: J. Kjærandsen; dateIdentified: Feb-20-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 40190A39-45C9-5D1A-9339-F319C515DACD
- g. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-106720; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:30033165-bbc5-4d2e-b028-68e66ff88cc3; identifiedBy: J. Kjærandsen; dateIdentified: Feb-20-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 7AA75332-A497-5CDE-BF04-F1A04C03D8C0
- h. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-106721; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:8c3a90fb-0ece-44e0-9514-75075f2dff30; identifiedBy: J. Kjærandsen; dateIdentified: Feb-20-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: CEDF7D02-9AB8-57B2-9447-F854BB49B63D
- i. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-106722; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:ac95fe77-bc60-4329-9434-0233eb8d3160; identifiedBy: J. Kjærandsen; dateIdentified: Feb-20-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: B8F4B96F-27A2-553E-9C4C-523EBC78461C
- j. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country:

- Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-106723; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:388f25e3-58a2-4d5f-9dc5-8a48aa746a24; identifiedBy: J. Kjærandsen; dateIdentified: Feb-20-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 8E8AE664-B606-572E-9797-3130C28757E8
- k. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Møre og Romsdal (MRI); municipality: Sunndal; locality: Jordalsgrenda, Jordalsøra, Hamrene; minimumElevationInMeters: 140; decimalLatitude: 62.77167; decimalLongitude: 8.32; coordinateUncertaintyInMeters: 50; samplingProtocol: window trap; eventDate: 2005-08-25 to 2005-09-15; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-211962; recordedBy: J. B. Jordal; associatedOccurrences: urn:uuid:f1a7f914-3e68-41ea-8ddc-24aacf96b03f; identifiedBy: J. Kjærandsen; dateIdentified: Jun-21-2021; institutionCode: TSZ; collectionCode: COL-002881; basisOfRecord: Preserved specimen; occurrenceID: 665866ED-AD67-5E05-A4D1-A1667AD557E2
- l. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Møre og Romsdal (MRI); municipality: Sunndal; locality: Jordalsgrenda, Jordalsøra, Hamrene; minimumElevationInMeters: 140; decimalLatitude: 62.77167; decimalLongitude: 8.32; coordinateUncertaintyInMeters: 50; samplingProtocol: window trap; eventDate: 2005-08-25 to 2005-09-15; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-211963; recordedBy: J. B. Jordal; associatedOccurrences: urn:uuid:375b90a8-3770-418c-874e-6a1da807df11; identifiedBy: J. Kjærandsen; dateIdentified: Jun-21-2021; institutionCode: TSZ; collectionCode: COL-002881; basisOfRecord: Preserved specimen; occurrenceID: E6F76F3E-D289-5F67-8F47-8AB244027381
- m. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Møre og Romsdal (MRI); municipality: Sunndal; locality: Jordalsgrenda, Jordalsøra, Hamrene; minimumElevationInMeters: 140; decimalLatitude: 62.77167; decimalLongitude: 8.32; coordinateUncertaintyInMeters: 50; samplingProtocol: window trap; eventDate: 2005-09-15 to 2005-10-06; individualCount: 1; sex: female; lifeStage: imago; preparations: 80% alc.; catalogNumber: TSZD-JKJ-212829; recordedBy: J. B. Jordal; associatedOccurrences: urn:uuid:0c44d198-d721-468f-ad0b-618c82fa7aa3; identifiedBy: J. Kjærandsen; dateIdentified: Feb-10-2006; institutionCode: TSZ; collectionCode: COL-002882; basisOfRecord: Preserved specimen; occurrenceID: D8394023-A8C5-5879-AEFA-FB057E6FBEC9
- n. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Møre og Romsdal (MRI); municipality: Sunndal; locality: Jordalsgrenda, Jordalsøra, Hamrene; minimumElevationInMeters: 140; decimalLatitude: 62.77167; decimalLongitude: 8.32; coordinateUncertaintyInMeters: 5; samplingProtocol:

- window trap; eventDate: 2005-10-06 to 2005-10-23; individualCount: 1; sex: female; lifeStage: imago; preparations: 80% alc.; catalogNumber: TSZD-JKJ-213004; recordedBy: J. B. Jordal; associatedOccurrences: urn:uuid:f213ef59-8ba3-4be4-a647-c5f8333d6d30; identifiedBy: J. Kjærandsen; dateIdentified: Mar-28-2006; institutionCode: TSZ; collectionCode: COL-002903; basisOfRecord: Preserved specimen; occurrenceID: D965A3C9-7598-50DA-8A19-EFA1BCB5187B
- o. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Møre og Romsdal (MRI); municipality: Sunndal; locality: Jordalsgrenda, Jordalsøra, Hamrene; minimumElevationInMeters: 140; decimalLatitude: 62.77167; decimalLongitude: 8.32; coordinateUncertaintyInMeters: 50; samplingProtocol: Malaisetrapp; eventDate: 2006-10-06 to 2006-10-23; individualCount: 1; sex: female; lifeStage: imago; preparations: 80% alc.; catalogNumber: TSZD-JKJ-215439; recordedBy: J. B. Jordal; associatedOccurrences: urn:uuid:717ce56d-3141-4e11-a0f5-ea68b5ece1a7; identifiedBy: J. Kjærandsen; dateIdentified: Apr-28-2007; institutionCode: TSZ; collectionCode: COL-003343; basisOfRecord: Preserved specimen; occurrenceID: D5416AD5-8A81-5A30-A95C-970ADF5FC2FF
- p. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Møre og Romsdal (MRI); municipality: Sunndal; locality: Jordalsgrenda, Jordalsøra, Hamrene; minimumElevationInMeters: 140; decimalLatitude: 62.77167; decimalLongitude: 8.32; coordinateUncertaintyInMeters: 50; samplingProtocol: window trap; eventDate: 2005-08-25 to 2005-09-15; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned body+Term. on slide; catalogNumber: TSZD-JKJ-258439; recordedBy: J. B. Jordal; associatedOccurrences: urn:uuid:01556e8c-6261-4762-9e7d-6a5a334339e6; identifiedBy: J. Kjærandsen; dateIdentified: Nov-19-2005; institutionCode: TSZ; collectionCode: COL-002881; basisOfRecord: Preserved specimen; occurrenceID: BFD6E0EE-0486-5C05-BFC1-67ADDD457F35
- q. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Vestland (HOY); municipality: Sveio; locality: Førde, Solheimshaugen, in barn; minimumElevationInMeters: 35; decimalLatitude: 59.61505; decimalLongitude: 5.47556; coordinateUncertaintyInMeters: 10; samplingProtocol: pooter; eventDate: 07/26/2020; eventRemarks: in barn window post; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS) + term in glycerine; catalogNumber: TSZD-JKJ-111214; recordedBy: J. Kjærandsen; associatedOccurrences: urn:uuid:85481bfd-bf00-4f48-8ada-0e29cf4cf501; identifiedBy: J. Kjærandsen; dateIdentified: Aug-04-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-001476; basisOfRecord: Preserved specimen; occurrenceID: 6909E658-B3CB-552C-BA18-831EF2E7AB7B
- r. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Vestland (HOY); municipality: Osterøy; locality: Kleppe; decimalLatitude: 60.52579; decimalLongitude: 5.55333; coordinateUncertaintyInMeters: 500; samplingProtocol: yellow traps; eventDate: 1992-10-10 to 1992-10-31; individualCount: 1; sex: male; lifeStage: imago; preparations: Ethanol (80%); catalogNumber: TSZD-JKJ-207257; recordedBy: A. Fjeldså; associatedOccurrences: urn:uuid:b024d273-f7d6-46da-ac7c-66804fa224bb; identifiedBy: J. Kjærandsen; dateIdentified: Sep-21-2004; institutionCode: TSZ [transferred from MZLU 2014];

- collectionCode: COL-001708; basisOfRecord: Preserved specimen; occurrenceID: 3569311D-E6DA-58C0-82C7-7279A2E8D61E
- s. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Rogaland (RY); municipality: Sokndal; locality: Skitmyr; minimumElevationInMeters: 22; decimalLatitude: 58.35056; decimalLongitude: 6.30556; coordinateUncertaintyInMeters: 50; samplingProtocol: Malaise trap; eventDate: 2019-09-07 to 2019-10-27; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-107949; recordedBy: J. Birkeland; associatedOccurrences: urn:uuid:9454a831-252b-4192-a00c-677cef5f23c2; identifiedBy: J. Kjærandsen; dateIdentified: May-25-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-001079; basisOfRecord: Preserved specimen; occurrenceID: DBA8E29D-03E4-51FA-B368-1A6FD31C1030
- t. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Norway; stateProvince: Rogaland (RY); municipality: Sokndal; locality: Årstad; minimumElevationInMeters: 6; decimalLatitude: 58.33806; decimalLongitude: 6.3; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2020-08-09 to 2020-09-05; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111485; recordedBy: J. Birkeland; associatedOccurrences: urn:uuid:4c4cc150-575a-440b-9800-e2c1a8d578c0; identifiedBy: J. Kjærandsen; dateIdentified: Oct-10-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-001549; basisOfRecord: Preserved specimen; occurrenceID: F043D0C5-3FA0-5D6C-86FB-0E5A9408B653
- u. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Sweden; stateProvince: Halland (HA); municipality: Halmstads kommun.; locality: Biskopstorp S; decimalLatitude: 56.78444; decimalLongitude: 12.87; coordinateUncertaintyInMeters: 50; samplingProtocol: Malaise trap; eventDate: 2011-05-15 to 2011-07-16; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried) + terminalia in glycerine microvial; catalogNumber: TSZD-JKJ-259894; recordedBy: M. Lindström; associatedOccurrences: urn:uuid:ef86403f-2c21-41df-ae4b-17ea4bc13333; identifiedBy: J. Kjærandsen; dateIdentified: Apr-09-2013; institutionCode: TSZ [transferred from MZLU 2014]; collectionCode: COL-009388; basisOfRecord: Preserved specimen; occurrenceID: 4FD961DD-D5A5-5F4F-8B3B-1986FB65F203
- v. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Sweden; stateProvince: Norrbottens län (LU); municipality: Gällivare; locality: Haapavaara/Annavaara, 8 km WNW Vettasjärvi; decimalLatitude: 67.40622; decimalLongitude: 21.40611; coordinateUncertaintyInMeters: 1000; samplingProtocol: yellow pan traps; eventDate: 1994-06-01 to 1994-07-26; eventRemarks: Burk 21; individualCount: 4; sex: males; lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-008187; recordedBy: R. Rova; associatedOccurrences: urn:uuid:7d2e875a-da11-45e8-abfc-33897aeb3073; identifiedBy: J. Kjærandsen; dateIdentified: Feb-10-2005; institutionCode: NHRS; collectionCode: COL-002153; basisOfRecord: Preserved specimen; occurrenceID: 0CD3DEC2-BD54-55EE-A7C0-C535595AFC97
- w. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Sweden; stateProvince: Skåne (SK); municipality: Genarp; locality: Häckeberga;

- decimalLatitude: 55.593056; decimalLongitude: 13.425556;
 coordinateUncertaintyInMeters: 100; samplingProtocol: sweep net; eventDate:
 08/26/2007; eventRemarks: East of Genarp idrettsplass; individualCount: 1; sex: male;
 lifeStage: imago; preparations: DNA-voucher, cleared terminalia in glycerine;
 catalogNumber: TSZD-JKJ-216023; recordedBy: J. Kjærandsen; associatedOccurrences:
 urn:uuid:4b524878-0d9b-4eea-8d4d-3c03ee4bc12a; identifiedBy: J. Kjærandsen;
 dateIdentified: Aug-27-2007; institutionCode: TSZ [transferred from MZLU 2014];
 collectionCode: COL-004141; basisOfRecord: Preserved specimen; occurrenceID:
 5D54D99F-8DA5-5F68-907E-BF8F3C6BC0FC
- x. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus:
Coelophthinia; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country:
 Sweden; stateProvince: Stockholms län (SÖ); municipality: Haninge; locality: Tyresta,
 Urskogsslingan, granskog; decimalLatitude: 59.1759; decimalLongitude: 18.24758;
 coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate:
 2003-07-02 to 2003-07-21; eventRemarks: trap id. 4-88; individualCount: 1; sex: male;
 lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-010078; recordedBy:
 Swedish Malaise Trap Project, NHRS; associatedOccurrences: urn:uuid:
 165b5596-10a7-4603-b311-794effd00996; identifiedBy: J. Kjærandsen; dateIdentified:
 Jun-20-2005; institutionCode: NHRS; collectionCode: SMTP-0088; basisOfRecord:
 Preserved specimen; occurrenceID: 1F7FD0BE-6BEB-565A-92C5-7253E1183C6E
- y. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus:
Coelophthinia; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country:
 Sweden; stateProvince: Stockholms län (SÖ); municipality: Haninge; locality: Tyresta
 National Park; decimalLatitude: 59.18639; decimalLongitude: 18.30528;
 coordinateUncertaintyInMeters: 1000; samplingProtocol: Yellow traps; eventDate:
 2000-07-28 to 2000-09-20; eventRemarks: Site 07; individualCount: 8; sex: males;
 lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-010199; recordedBy: B.
 Viklund, L. O. Wikars & H. Ahnlund; associatedOccurrences:
 urn:uuid:d658f27b-9750-4e83-bd83-f9eee6c56bde; identifiedBy: J. Kjærandsen;
 dateIdentified: Jun-24-2005; institutionCode: NHRS; collectionCode: COL-002625;
 basisOfRecord: Preserved specimen; occurrenceID: 9D1B95B1-A2AA-58EB-
 A73C-53762B8E4829
- z. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus:
Coelophthinia; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country:
 Sweden; stateProvince: Stockholms län (SÖ); municipality: Haninge; locality: Tyresta
 National Park; decimalLatitude: 59.18639; decimalLongitude: 18.30528;
 coordinateUncertaintyInMeters: 1000; samplingProtocol: Yellow traps; eventDate:
 2000-07-28 to 2000-09-20; eventRemarks: Site 07; individualCount: 1; sex: female;
 lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-010216; recordedBy: B.
 Viklund, L. O. Wikars & H. Ahnlund; associatedOccurrences: urn:uuid:
 5309c85b-5f22-4f68-9f22-f6051976340c; identifiedBy: J. Kjærandsen; dateIdentified:
 Jun-24-2005; institutionCode: NHRS; collectionCode: COL-002624; basisOfRecord:
 Preserved specimen; occurrenceID: 9C5722E4-C041-5F8B-ABFF-2D62C5A502B4
- aa. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus:
Coelophthinia; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country:
 Sweden; stateProvince: Stockholms län (SÖ); municipality: Haninge; locality: Tyresta
 National Park; decimalLatitude: 59.18639; decimalLongitude: 18.30528;
 coordinateUncertaintyInMeters: 1000; samplingProtocol: Yellow traps; eventDate:
 2000-07-28 to 2000-09-20; eventRemarks: Site 07; individualCount: 1; sex: male;
 lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-010222; recordedBy: B.

- Viklund, L. O. Wikars & H. Ahnlund; associatedOccurrences: urn:uuid:f477d532-e63b-4b55-848c-0a5e59e0a288; identifiedBy: J. Kjærandsen; dateIdentified: Jun-24-2005; institutionCode: NHRS; collectionCode: COL-002626; basisOfRecord: Preserved specimen; occurrenceID: F75A619F-FCE2-5892-AABB-333BC0C1F1CA
- ab. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Sweden; stateProvince: Stockholms län (SÖ); municipality: Haninge; locality: Tyresta National Park; decimalLatitude: 59.18639; decimalLongitude: 18.30528; coordinateUncertaintyInMeters: 1000; samplingProtocol: Malaise trap; eventDate: 2000-06-05 to 2000-07-15; eventRemarks: Site 04; individualCount: 1; sex: male; lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-010679; recordedBy: B. Viklund, L. O. Wikars & H. Ahnlund; associatedOccurrences: urn:uuid:047bbcca-d09a-460d-9518-514fe6f46602; identifiedBy: J. Jakovlev; dateIdentified: Jun-08-2005; institutionCode: NHRS; collectionCode: COL-T-04BA00; basisOfRecord: Preserved specimen; occurrenceID: 4BCE3817-F8D2-54B7-B8CA-A9E09CFE0F54
- ac. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Sweden; stateProvince: Östergötlands län (ÖG); municipality: Ödeshögs kommun; locality: Omberg, Storpissan; decimalLatitude: 58.33491667; decimalLongitude: 14.655; coordinateUncertaintyInMeters: 50; samplingProtocol: Malaise trap; eventDate: 2005-03-03 to 2005-05-28; eventRemarks: trap id. 15-1658; individualCount: 1; sex: male; lifeStage: imago; preparations: 80% alc.; catalogNumber: SPM-015937; recordedBy: Swedish Malaise Trap Project, NHRS; associatedOccurrences: urn:uuid:f2cb03c4-0e35-4d84-9e58-414780e77187; identifiedBy: J. Kjærandsen; dateIdentified: Jul-23-2007; institutionCode: NHRS; collectionCode: SMTP-1658; basisOfRecord: Preserved specimen; occurrenceID: 5896C867-2940-54B1-A0AE-AF44BB6E993F
- ad. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Denmark; stateProvince: East Jutland (EJ); municipality: Norddjurs; locality: Anholdt; decimalLatitude: 56.70978; decimalLongitude: 11.56551; coordinateUncertaintyInMeters: 4000; samplingProtocol: Malaise trap; eventDate: 2006-09-24 to 2006-11-10; eventRemarks: in Pinus scrub; individualCount: 1; sex: male; lifeStage: imago; preparations: 80% alc.; catalogNumber: TSZD-JKJ-215250; recordedBy: T. Munk & S. Kjeldgaard; associatedOccurrences: urn:uuid:c243a63b-72be-46a6-9937-56f2a29afef9; identifiedBy: J. Kjærandsen; dateIdentified: Dec-14-2006; institutionCode: TSZ; collectionCode: COL-003311; basisOfRecord: Preserved specimen; occurrenceID: 0859DB2A-56E5-55C4-864E-4FB710F3C9DD
- ae. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Estonia; county: Mulgi; locality: Muti NR; decimalLatitude: 58.1403; decimalLongitude: 25.6808; samplingProtocol: window trap; eventDate: 2017-06-21 to 2017-07-24; individualCount: 1; sex: male; lifeStage: imago; preparations: specimen in 70% ethanol; catalogNumber: IZBE0251600; recordedBy: Ilmar Süda; associatedOccurrences: BDJ_12308_1; identifiedBy: Olavi Kurina; institutionCode: IZBE; basisOfRecord: Preserved specimen; occurrenceID: DB662280-BD4A-5821-8E2D-BD2983F55862
- af. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Estonia; county: Tartu; locality: Palupõhja, Kaha; decimalLatitude: 58.4318; decimalLongitude: 26.2413; samplingProtocol: Malaise trap; eventDate: 2009-08-4 to

- 2009-08-18; individualCount: 1; sex: male; lifeStage: imago; preparations: specimen in 70% ethanol; catalogNumber: IZBE0251601; recordedBy: Villu Soon; associatedOccurrences: BDJ_12308_2; identifiedBy: Olavi Kurina; institutionCode: IZBE; basisOfRecord: Preserved specimen; occurrenceID: 343F738B-AF79-5320-809B-64140BE9E933
- ag. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Belgium; stateProvince: Brussels; county: Auderghem; locality: Jardin botanique Jean Massart; decimalLatitude: 50.814; decimalLongitude: 4.4394; samplingProtocol: Malaise trap; eventDate: 2015-10-20 to 2015-10-30; individualCount: 1; sex: female; lifeStage: imago; catalogNumber: IZBE0251604; associatedReferences: Kurina, O.; Grootaert, P. (2016). Fungus gnats in the Botanical garden Jean Massart on the outskirts of Brussels: 52 new country records and a pictorial atlas of the genera (Diptera: Sciaroidea). Belgian Journal of Entomology, 44, 1–44.; associatedOccurrences: BDJ_12308_5; identifiedBy: Olavi Kurina; institutionCode: IZBE; basisOfRecord: Preserved specimen; occurrenceID: 8AF32458-97C9-5BF6-B724-CFF22AB81695
- ah. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Belgium; stateProvince: Bruxelles; municipality: Suderghem; locality: Jardin Massart; decimalLatitude: 50.8134; decimalLongitude: 4.43645; coordinateUncertaintyInMeters: 250; samplingProtocol: Malaise trap; eventDate: 2015-10-20 to 2015-10-30; individualCount: 1; sex: male; lifeStage: imago; preparations: Legs consumed for barcoding; catalogNumber: TSZD-JKJ-106938; recordedBy: O. Kurina; associatedReferences: Kurina, O.; Grootaert, P. (2016). Fungus gnats in the Botanical garden Jean Massart on the outskirts of Brussels: 52 new country records and a pictorial atlas of the genera (Diptera: Sciaroidea). Belgian Journal of Entomology, 44, 1–44.; associatedOccurrences: urn:uuid:fc1dd876-6672-4877-9419-f0988733b8d0; identifiedBy: J. Kjærandsen; dateIdentified: Mar-28-2019; institutionCode: ICBE - BOLD voucher; collectionCode: TMU-JKJ-COL-000838; basisOfRecord: Preserved specimen; occurrenceID: 8AC189EE-4269-536C-87A6-4580ABB3221E
- ai. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Slovakia; county: Banská Bystrica Region; municipality: Revúca District; locality: NP Muránska planina, Maretkiná; verbatimElevation: 1002 m; decimalLatitude: 48.7705; decimalLongitude: 20.0287; samplingProtocol: sweep net; eventDate: 05/26/2009; individualCount: 1; sex: male; lifeStage: imago; preparations: slide mounted in Euparal; catalogNumber: IZBE025160; recordedBy: Olavi Kurina; associatedReferences: Ševčík, J.; Kurina, O. (2011). Fungus gnats (Diptera: Sciaroidea) of the Gemer region (Central Slovakia): Part 2 - Mycetophilidae. Casopis Slezského Zemského Muzea (A), 60, 97–126. DOI: 10.2478/v10210-011-0011-x.; associatedOccurrences: BDJ_12308_4; identifiedBy: Olavi Kurina; institutionCode: IZBE; basisOfRecord: Preserved specimen; occurrenceID: 9F856CF2-F149-5BFC-B8F3-9B0909AAB999
- aj. scientificName: *Coelophthinia thoracica*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *thoracica*; scientificNameAuthorship: (Winnertz); country: Italy; stateProvince: Trentino-South Tyrol; county: South Tyrol; locality: N. Park Stilfser Joch, Suldental (O von Gomagoi); verbatimElevation: 1220 m; decimalLatitude: 46.576; decimalLongitude: 10.5475; samplingProtocol: Malaise trap; eventDate: 2005-09-05 to 2005-09-19; individualCount: 1; sex: male; lifeStage: imago; preparations: pinned specimen (mounted from ethanol); catalogNumber: IZBE0251602; recordedBy: C. Lange & J. Ziegler; associatedReferences: Kurina, O. 2008. Sciaroidea excl. Sciaridae. In

Ziegler, J. (ed.) *Diptera Stelviana. A dipterological perspective on a changing alpine landscape. Volume 1. Studia Dipterologica. Supplements, 16, 245–293.*; associatedOccurrences: BDJ_12308_3; identifiedBy: Olavi Kurina; institutionCode: IZBE; basisOfRecord: Preserved specimen; occurrenceID: 3BC0A359-04E8-5D03-A666-E28477F1DFFD

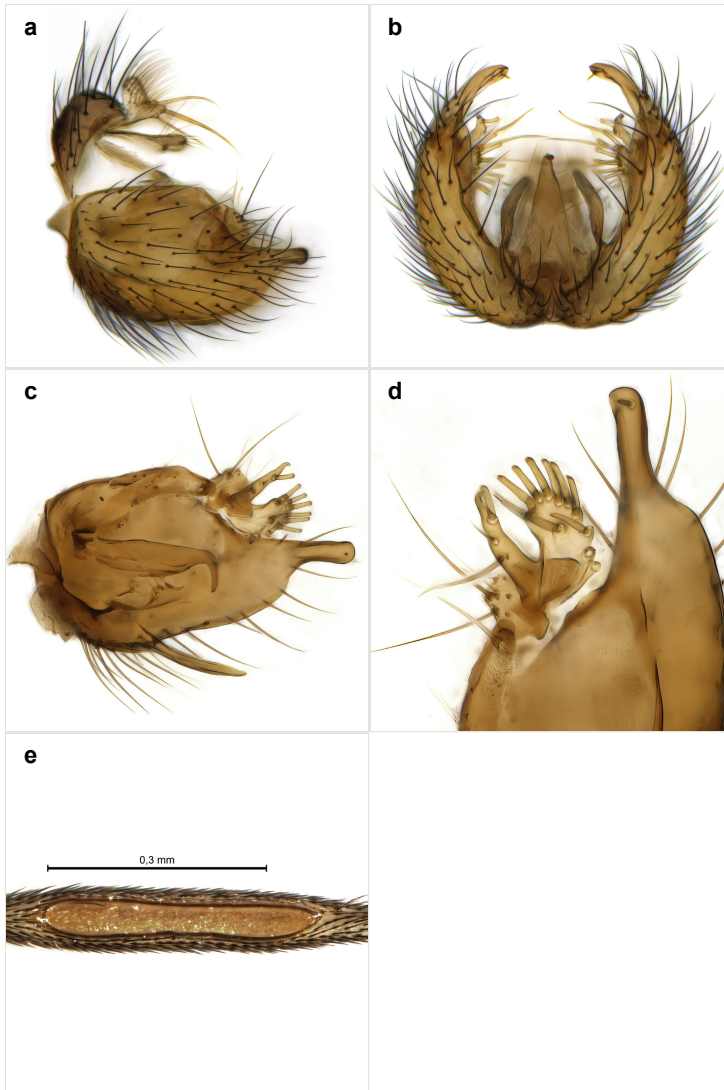


Figure 5.

Coelophthina thoracica, (Winnertz, 1864) male terminalia and mid-tibial organ.

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Internal, lateral view [doi](#)

d: Gonostylus, enlarged [doi](#)

e: Mid-tibial organ. [doi](#)

Description

Male (Figs 1, 3, 5).

Coloration and most body characteristics as in the genus description. Body length 3.6–4.2 mm. Wing length 2.8–3.1 mm; ratio of length to width 3.1–3.3. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 6.3–8.1 times longer than wide, length 0.26–0.29 that of tibial length.

Terminalia. Tergite 9 rectangular in dorsal view, about 1.3 times as long as wide, medially somewhat constricted, curved like a hood in lateral view. Medial protrusion of tergite 10 short and rounded, about as high as wide in posterior view, densely setose. Gonocoxites in lateral view with a somewhat elongated outline, with straight or slightly convex ventral margin. Posterolateral lobe of gonocoxite long and narrow, constricted section about 3x longer than wide, rounded apically, laterally bare for about 3x apical width. Spathulate gonocoxal lobe 7–7.5 times as long as wide, curved slightly medially, with constricted base, basad of base with a group of 3–5 longer setae. Dorsal branch of gonostylus small, simple, semicircular, dorsally setose with one extra long seta deviating from others. The broad lobe 1 (cf. Fig. 5d) fan-shaped, carrying 7–8 blunt setae along rim and 5 normal very long setae subapically on inner side. The narrow, acute tipped lobe 2 (cf. Fig. 5c, d) medially somewhat expanding, with strong, blunt seta placed nearer to the tip than its length; followed by one short and one very long seta in mid-section. Aedeagus 1.2x longer than spathulate gonocoxal lobe in lateral view, with broadest medial section, somewhat narrowed basal section and apically sharply narrowed into downcurved hook; apically with a short spike at the outer side at the curving point; downcurved hook not longer than width of medial section of aedeagus.

Female (Fig. 4).

Coloration as for male. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 7.4 times longer than wide, length 0.28 that of tibial length.

Terminalia as described for genus. Tergite 8 short, posteriorly emarginated in dorsal view, bare, except 1–2 small setae posterolaterally. Tergite 9 short, posteriorly emarginated in dorsal view, bare, except apical margin with row of 7–8 long setae, which are longer than those on cercus. Cercus about two times as long as wide medially, evenly covered with setae. Sternite 8 longer than tergites 8 and 9 together, posterolaterally rounded, posterior half setose, in ventral view hypogynal valves separated by V-shaped deep incision, about one-third as deep as segment length. Gonapophysis 8 elongate, about 6 times as long as wide, extending beyond mid-cercus, ventrally setose, with one deviating strong subapical seta.

Diagnosis

Coelophthinia thoracica can be distinguished from other species of the genus by the combination of having a somewhat elongated shape of the gonocoxite as seen in

lateral view, with a straight or slightly convex ventral margin, a long and slender posterolateral lobe and a short and rounded medial protrusion of tergite 10. The aedeagus is uniquely shaped, long, with ventrally curved hook not longer than width of medial section of aedeagus. The length of the mid-tibial organ is about 0.3 of tibial length.

***Coelophthinia lata* Kjaerandsen, sp. n.**

- Barcodes http://www.boldsystems.org/index.php/Public_BarcodeCluster?clusteruri=BOLD:ACZ6758
- ZooBank [78CB434E-611B-434E-A51C-56070B74C9E2](https://www.zoobank.org/78CB434E-611B-434E-A51C-56070B74C9E2)

Materials

Holotype:

- a. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Auster-Vefsna NR, Stilleelva W; decimalLatitude: 65.53278; decimalLongitude: 13.72667; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-05-28 to 2018-07-30; eventRemarks: WT 1; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-105617; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:a6b455a7-12ad-422d-b4cd-fced8d1e9e98; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000628; occurrenceID: 1AF4B55D-2594-5560-8335-43201D913260

Paratypes:

- a. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Troms (TRI); municipality: Målselv; locality: Skaktardalen N, Øvre Dividal LVN, WT-1; decimalLatitude: 68.76306; decimalLongitude: 19.72417; coordinateUncertaintyInMeters: 10; samplingProtocol: Triangle window trap w/camo-roof; eventDate: 2015-08-24 to 2015-09-15; eventRemarks: WT-2; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-101623; recordedBy: J. Kjærandsen & M. T. Dahl; associatedOccurrences: urn:uuid:67eae1c-e27e-4527-8c39-55233258f134; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000298; occurrenceID: 736FC47B-EC12-5F3E-8ABC-835BF0D840A6
- b. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Troms (TRI); municipality: Målselv; locality: Skaktardalen N, Øvre Dividal LVN, WT-2; decimalLatitude: 68.76306; decimalLongitude: 19.72417; coordinateUncertaintyInMeters: 10; samplingProtocol: Triangle window trap w/camo-roof; eventDate: 2015-08-24 to 2015-09-15; eventRemarks: WT-2; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-101624; recordedBy: J. Kjærandsen & M. T. Dahl; associatedOccurrences: urn:uuid:6e690999-3826-46ba-b1c9-0420a0319827; identifiedBy: J. Kjærandsen;

- dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000298; occurrenceID: 07B88691-4500-5BC1-A783-92E4ED3FE92B
- c. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Troms (TRI); municipality: Nordreisa; locality: Imofossen and Imoroavvi, Reisa NP; decimalLatitude: 69.29889; decimalLongitude: 22.00389; coordinateUncertaintyInMeters: 250; samplingProtocol: sweep net; eventDate: 07/20/2016; eventRemarks: around and N Imofossen; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-102314; recordedBy: J. Kjaerandsen; associatedOccurrences: urn:uuid:14f7ff65-17a4-4976-b2fc-3234ef57b681; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000395; occurrenceID: 9BF840DC-5A38-5496-B1E7-190E97CA973B
- d. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Troms (TRI); municipality: Målselv; locality: Skaktardalen N, Øvre Dividal LVN, MT-2; decimalLatitude: 68.76389; decimalLongitude: 19.72361; coordinateUncertaintyInMeters: 50; samplingProtocol: Malaise trap; eventDate: 2015-08-24 to 2015-09-15; eventRemarks: MT-2-DOWN; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-110150; recordedBy: J. Kjaerandsen & M. T. Dahl; associatedOccurrences: urn:uuid:aa7b5ed0-1427-458a-88a3-dade239d363a; identifiedBy: J. Kjaerandsen; dateIdentified: Apr-05-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000300; occurrenceID: DD4E7B98-D023-54D5-B1B2-744C995C0C7B
- e. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Auster-Vefsna NR, Stilleelva W; decimalLatitude: 65.53194; decimalLongitude: 13.725; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-05-28 to 2018-07-30; eventRemarks: WT 2; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-104763; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:90e15539-0d53-4b84-a45f-87848d925fdc; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000631; occurrenceID: 1F57ACB8-1488-53D2-940B-A389D43D40D8
- f. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Auster-Vefsna NR, Stilleelva W; decimalLatitude: 65.53278; decimalLongitude: 13.72667; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-30 to 2018-10-05; eventRemarks: WT 1; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-105025; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:2de1b742-dc94-4067-8612-8c162cf25c67; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000793; occurrenceID: 2BDAADE0-D894-594C-9BA3-0BBFF7794513
- g. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country:

- Norway; stateProvince: Nordland (NSI); municipality: Saltdal; locality: Rognan, Fiskvågmo; minimumElevationInMeters: 35; decimalLatitude: 67.0925; decimalLongitude: 15.36083; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2019-05-28 to 2019-07-22; eventRemarks: WT 2 - 2019 - 1; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-107563; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:33e45671-f7a2-468b-a226-976191619090; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000933; occurrenceID: A18C2DC3-05FC-580E-9882-2B4C1EDA4920
- h. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Sweden; stateProvince: Uppsala (UP); municipality: Östhammar; locality: Andersby NR SW Österbybruk; verbatimCoordinates: 60.09N, 17.50E; decimalLatitude: 60.10; decimalLongitude: 17.6; eventDate: 09/10/2005; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-112682; recordedBy: M. Jaschhof; identifiedBy: J. Kjærandsen; dateIdentified: 03/22/2022; institutionCode: TSZ; collectionCode: COL-003196; occurrenceID: 2704BD26-6D7C-5F3E-9511-9E02EE192B48
- i. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Sweden; stateProvince: Norrbottens län (LU); municipality: Jokkmokk; locality: Messaure; minimumElevationInMeters: 175; decimalLatitude: 66.68262; decimalLongitude: 20.36322; coordinateUncertaintyInMeters: 1000; samplingProtocol: Barber traps; eventDate: 1971-09-02 to 1971-10-04; individualCount: 1; sex: male; lifeStage: adult; preparations: Slide in Canada Balsam; catalogNumber: TSZD-JKJ-207664; recordedBy: K. Müller; associatedOccurrences: urn:uuid:c1332da6-89a8-486a-aea6-e0b77faf223c; identifiedBy: J. Kjærandsen; dateIdentified: May-31-2021; institutionCode: TSZ; collectionCode: COL-001968; occurrenceID: BOA30B83-77C5-5E7E-A33B-7A4835A62254
- j. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalahti, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: 80% alc.; catalogNumber: TSZD-JKJ-111325; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:83e15cc1-97e5-4d07-990b-069faea0300b; identifiedBy: J. Kjærandsen; dateIdentified: Aug-12-2020; institutionCode: IZBE - donation to O. Kurina 12/8-20; collectionCode: COL-008021; occurrenceID: D06677DF-D110-5D35-82DA-26C521934915
- k. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalahti, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: 80% alc.; catalogNumber: TSZD-JKJ-111326; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:aea3b040-40bb-4f3e-babe-ed5a5617afae; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: IZBE - donation to O. Kurina 12/8-20;

collectionCode: COL-008021; occurrenceID: E1C19AC8-
FE4F-55D1-9999-66207D256187

- I. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalampi, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111327; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:1c270c2d-9ac7-48bb-bb72-981a34671761; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: COL-008021; occurrenceID: 25C13508-0390-5375-84A5-1CB3CF59CE9B

Other materials:

- a. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Troms (TRI); municipality: Nordreisa; locality: Swamp forest S Lorrholmen, Reisa NP W Naustneset; minimumElevationInMeters: 130; decimalLatitude: 69.3362; decimalLongitude: 21.9394; coordinateUncertaintyInMeters: 10; samplingProtocol: Triangle window trap w/camo-roof; eventDate: 2016-07-19 to 2016-09-20; eventRemarks: WT-5, flomskog; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-102400; recordedBy: J. Kjaerandsen; associatedOccurrences: urn:uuid:a1eef325-00ed-4687-93c3-0c4c873c9064; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000392; occurrenceID: 03A469E8-757D-5135-B0C8-7A36DCCA388F
- b. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Troms (TRI); municipality: Nordreisa; locality: Swamp forest S Lorrholmen, Reisa NP W Naustneset; minimumElevationInMeters: 130; decimalLatitude: 69.3362; decimalLongitude: 21.9394; coordinateUncertaintyInMeters: 10; samplingProtocol: Triangle window trap w/camo-roof; eventDate: 2016-07-19 to 2016-09-20; eventRemarks: WT-5, flomskog; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-102401; recordedBy: J. Kjaerandsen; associatedOccurrences: urn:uuid:5d83ad61-b801-4050-a82c-fc9d98c544c5; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000392; occurrenceID: CA97F5EE-06A2-56EA-9BEC-EC2665E9B46D
- c. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Sweden; stateProvince: Uppsala län (UP); municipality: Uppsala; locality: Fiby NR; decimalLatitude: 59.53; decimalLongitude: 17.21; coordinateUncertaintyInMeters: 1000; samplingProtocol: sweep net & aspirator; eventDate: 09/11/2005; individualCount: 1; sex: male; lifeStage: adult; preparations: 80% alc.; catalogNumber: TSZD-JKJ-215016; recordedBy: M. Jaschhof; associatedOccurrences: urn:uuid:b03cfe6f-0001-428b-89e7-8ba096e5965d; identifiedBy: J. Kjaerandsen; dateIdentified: Jun-21-2021; institutionCode: TSZ [transferred from MZLU 2014]; collectionCode: COL-003197; occurrenceID: 40541669-1B4C-5DD3-B336-7C66A312F53D

- d. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjærandsen; country: Sweden; stateProvince: Norrbottens län (TO); municipality: Kiruna; locality: Abisko; decimalLatitude: 68.35027; decimalLongitude: 18.83047; coordinateUncertaintyInMeters: 1000; samplingProtocol: light trap; eventDate: 1976-07-19 to 1976-07-26; eventRemarks: LF-05, 150-500 m W Naturv. stn.; individualCount: 1; sex: male; lifeStage: adult; preparations: Ethanol (80%); catalogNumber: TSZD-JKJ-261215; recordedBy: K. Müller; associatedOccurrences: urn:uuid:55cde649-afef-4920-ba6d-e004ef7394d2; identifiedBy: J. Kjærandsen; dateIdentified: Jun-21-2021; institutionCode: TSZ; collectionCode: COL-008061; occurrenceID: 6F8229DF-CC2F-531B-A9D1-9A5010D8E0DE
- e. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjærandsen; country: Sweden; stateProvince: Uppsala (UP); municipality: Östhammar; locality: Andersby NR SW Österbybruk; verbatimCoordinates: 60.09N, 17.50E; decimalLatitude: 60.10; decimalLongitude: 17.6; eventDate: 09/10/2005; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-112869; recordedBy: M. Jaschhof; identifiedBy: J. Kjærandsen; dateIdentified: 03/22/2022; institutionCode: TSZ; collectionCode: COL-003196; occurrenceID: 80910862-4CD2-5F09-80BE-BE874E54D7DC
- f. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjærandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalampi, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: 80% alc.; catalogNumber: TSZD-JKJ-236791; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:b80308eb-2b8e-4014-923c-cb1b4c4b45a6; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: MZLU; collectionCode: COL-008021; occurrenceID: 8917B6FA-4346-5D0E-801D-375C711F223A
- g. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjærandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalampi, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111328; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:ac337cda-18f3-44e8-98ca-02a0400ea17e; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: COL-008021; occurrenceID: 934E1C33-5AE1-5957-BFB7-0AACFA911086
- h. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjærandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalampi, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111329; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:07658590-4ff7-41f6-a9cc-5224f55f8ae3; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: COL-008021; occurrenceID: 42EDF7EB-939D-5F7C-8B69-D21700DD80DE

- i. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalahti, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111330; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:1ac60672-b049-4d6f-99b6-e284a0b4053d; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: COL-008021; occurrenceID: C8094261-52AA-59A0-B612-2FAEC7E4191C
- j. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalahti, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111331; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:8e6d498c-79d2-4f0a-ac55-add2cd03027f; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: COL-008021; occurrenceID: 3A33BEAF-4277-583A-9A1C-7D1F79D21346
- k. scientificName: *Coelophthinia lata*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *lata*; scientificNameAuthorship: Kjaerandsen; country: Finland; stateProvince: South Karelia; municipality: Parikkala; locality: Lake Siikalahti, W Kaukola; decimalLatitude: 61.55917; decimalLongitude: 29.57056; coordinateUncertaintyInMeters: 250; eventDate: 2004-06-24 to 2004-08-19; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111332; recordedBy: M. & C. Jaschhof; associatedOccurrences: urn:uuid:8331c262-c7fb-4fba-8f69-3463f2139bdc; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: COL-008021; occurrenceID: FF10C98D-8D83-5B04-8530-D9FA6FFCD257

Description

Male (Fig. 6, n = 8 for measurements).

Coloration and general body characteristics as in the genus description. Body length 3.5–4.1 mm. Wing length 2.9–3.1 mm; ratio of length to width 2.6. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 7.5 times longer than wide, length 0.25 that of tibial length.

Terminalia. Tergite 9 rectangular in dorsal view, about 1.5 times as long as wide, curved like a hood in lateral view. Medial protrusion of tergite 10 short and rounded, about as high as wide in posterior view, densely setose. Gonocoxites in lateral view with a rounded outline, with distinctly convex ventral margin. Posterolateral lobe of gonocoxite short and wide, constricted section about 1.5x longer than wide, evenly rounded apically, laterally bare for about 2x apical width. Spathulate gonocoxal lobe about seven times as long as wide, without constricted base, basad of base with a row of 3 long setae. Dorsal branch of gonostylus small, simple, oblong and semicircular, dorsally setose with some extra long setae. The broad lobe 1 (cf. Fig. 3f) fan-shaped,

carrying 8 blunt setae along rim and 5 normal setae subapically on inner side. The narrow, acute tipped lobe 2 (cf. Fig. 3f) without tiny stiff seta apically; with strong, blunt seta placed nearer to the tip than its length; followed by one short and one long seta in mid-section. Aedeagus 1.5x longer than spatulate gonocoxal lobe in lateral view, with broadest basal section, somewhat narrowed middle section and apically sharply narrowed into downcurved hook; apically with a short spike at the outer side at the curving point; downcurved hook not longer than width of base of aedeagus.

Female unknown.

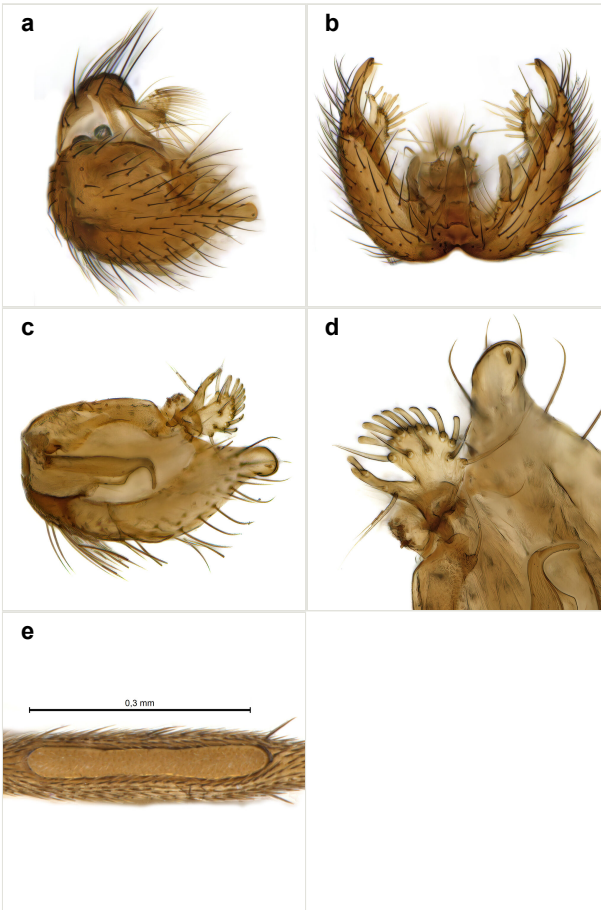


Figure 6.

Coelophthinia lata sp. n., male terminalia and mid-tibial organ.

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Internal, lateral view [doi](#)

d: Gonostylus, enlarged, internal view [doi](#)

e: Mid-tibial organ. [doi](#)

Diagnosis

Coelophthinia lata can be distinguished from other species of the genus by the combination of having a rounded shape of gonocoxite in lateral view, with distinctly convex ventral margin, broad and short posteriolateral lobe and short and broad, semicircular medial protrusion of tergite 10. The aedeagus is uniquely shaped with apical hook not longer than the height of the base of aedeagus. The length of the mid-tibial organ is about 1/4 of tibial length.

Etymology

The species epithet is from the Latin word *lata*, which means broad, denoting the broad caudal extension from the gonocoxite. This feature is diagnostic for this species.

Distribution

Nordic, so far known only from Norway, Sweden and Finland.

Coelophthinia loraasi Kjaerandsen, sp. n.

- Barcodes http://www.boldsystems.org/index.php/Public_BarcodeCluster?clusteruri=BOLD:ADV7953
- ZooBank [61C183B0-2E04-4791-AF4E-1F6E6FF1C4CF](https://www.zoobank.org/61C183B0-2E04-4791-AF4E-1F6E6FF1C4CF)

Materials

Holotype:

- scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-105034; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:c6175002-859a-43b7-a7c0-7b1aa7f4af3d; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 1723499B-47BF-5A3E-A7AC-78231ACB76EF

Paratypes:

- scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Holmvassdalen NR, Holmvassdalen 2 (Naturbase); decimalLatitude: 65.32472; decimalLongitude: 13.31806; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-08-01 to 2018-10-04; eventRemarks: MT 5; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-105026; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak;

- associatedOccurrences: urn:uuid:d56bc457-f4d6-4bdf-ac79-202b3786d370; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000804; basisOfRecord: Preserved specimen; occurrenceID: A87FEA3A-47A9-58C8-A51E-0A710678D892
- b. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjærandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Holmvassdalen NR, Holmvassdalen 2 (Naturbase); decimalLatitude: 65.32472; decimalLongitude: 13.31806; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-08-01 to 2018-10-04; eventRemarks: MT 5; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-105027; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:8c498cff-4508-46cb-b671-91e22dd0af51; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000804; basisOfRecord: Preserved specimen; occurrenceID: B463381C-D17A-588A-AF6E-7559F5E06BB0
- c. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjærandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Holmvassdalen NR, Holmvassdalen 2 (Naturbase); decimalLatitude: 65.32472; decimalLongitude: 13.31806; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-08-01 to 2018-10-04; eventRemarks: MT 5; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111198; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:15cb7618-2e04-4c7d-8607-44fa390ee4d2; identifiedBy: J. Kjærandsen; dateIdentified: Aug-04-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000804; basisOfRecord: Preserved specimen; occurrenceID: 6A975D2E-68D2-5068-BD8B-60301B0BF776
- d. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjærandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111128; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:9cc93295-3081-446f-9fe8-86b502cadbe2; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: IZBE - donation to O. Kurina 12/8-20; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: BF68D342-515E-503C-A010-4D220A1E35F0
- e. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjærandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-112069; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:0cbb51fa-6fcb-49d0-aa8e-a3e7a796957c; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799;

- basisOfRecord: Preserved specimen; occurrenceID: 307D80E4-3AB0-5857-9C4E-4DD14C6FCD18
- f. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-112070; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:420f4efa-6c91-440b-9f88-9c339949b23d; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 6835A75B-7FF5-573F-A1F0-CDF2866D39EB
- g. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-105035; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:a278486d-5957-4229-aa36-2cf6e7c18333; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ - BOLD voucher; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 2F7086CD-E243-5EB3-9A48-BB5445EC9970
- h. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: female; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111132; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:89d1ac5c-2b81-4265-859f-691f98337f65; identifiedBy: J. Kjærandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: AD42E95F-6B2C-5FEB-978E-2EBE8A70CC07

Other materials:

- a. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Auster-Vefsna NR, Stilleelva W; decimalLatitude: 65.53389; decimalLongitude: 13.72778; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-07-30 to 2018-10-05; eventRemarks: MT 1; individualCount: 1; sex: male; lifeStage: imago; preparations: Genitalia voucher for DNA-skimming; catalogNumber: TSZD-JKJ-105417; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:61856d18-5772-4ae9-8117-0f5a6f1f58cc; identifiedBy: J. Kjærandsen; dateIdentified: Jan-16-2019; institutionCode: TSZ; collectionCode: TMU-

- JKJ-COL-000792; basisOfRecord: Preserved specimen; occurrenceID: 7A9B04AB-B006-53F6-B4D3-904897784769
- b. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Auster-Vefsna NR, Stilleelva W; decimalLatitude: 65.53389; decimalLongitude: 13.72778; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-07-30 to 2018-10-05; eventRemarks: MT 1; individualCount: 1; sex: male; lifeStage: imago; preparations: Genitalia voucher for DNA-skimming; catalogNumber: TSZD-JKJ-105418; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:61856d18-5772-4ae9-8117-0f5a6f1f58cc; identifiedBy: J. Kjærandsen; datedIdentified: Jan-16-2019; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000792; basisOfRecord: Preserved specimen; occurrenceID: F1F70A59-410B-5B5C-A40D-FE4DE8B0FC67
- c. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *Coelophthinia*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Holmvassdalen NR, Holmvassdalen 2 (Naturbase); decimalLatitude: 65.32472; decimalLongitude: 13.31806; coordinateUncertaintyInMeters: 10; samplingProtocol: Malaise trap; eventDate: 2018-08-01 to 2018-10-04; eventRemarks: MT 5; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111133; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:d3d6685a-3cec-48ad-ba71-ce43ba9f614e; identifiedBy: J. Kjærandsen; datedIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000804; basisOfRecord: Preserved specimen; occurrenceID: 51512FBF-07EA-5E26-855C-AAD28DFF7EA6
- d. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111129; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:716c9c00-87c2-4c8a-8008-5a1b9b81a2b1; identifiedBy: J. Kjærandsen; datedIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 5529A AFC-A874-5B72-95C1-C81204C7A3F1
- e. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111130; recordedBy: J. Kjærandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:aa08ab08-222d-4e4a-8d1e-cde0fa500608; identifiedBy: J. Kjærandsen; datedIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 1E9DDBE0-A572-5131-B77C-29FC1333AD10

- f. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111131; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:3038b308-8675-41dd-985f-fcc8a8e89745; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: F8C79E7A-9530-5C37-B194-6F0A701C88BD
- g. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-112071; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:01ab91c1-b842-435b-8b45-82a0d6768bcb; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: F1CE0E5B-A2AE-56EC-91A5-00D3E8AC33AF
- h. scientificName: *Coelophthinia loraasi*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *loraasi*; scientificNameAuthorship: Kjaerandsen; country: Norway; stateProvince: Nordland (NSI); municipality: Grane; locality: Stormobekken; decimalLatitude: 65.595; decimalLongitude: 13.40333; coordinateUncertaintyInMeters: 10; samplingProtocol: window trap; eventDate: 2018-07-31 to 2018-10-05; eventRemarks: WT 3; individualCount: 1; sex: male; lifeStage: imago; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-112072; recordedBy: J. Kjaerandsen, J. P. Lindemann & P. Dominiak; associatedOccurrences: urn:uuid:cfb394b3-6acd-4a65-9d60-d1d950561db9; identifiedBy: J. Kjaerandsen; dateIdentified: Aug-06-2020; institutionCode: TSZ; collectionCode: TMU-JKJ-COL-000799; basisOfRecord: Preserved specimen; occurrenceID: 3B9D7021-8E22-5759-9A13-690E5EF4768A

Description

Male (Fig. 7, n = 3 for measurements).

Coloration and general body characteristics as in the genus description. Body length 3.5–3.6 mm. Wing length 2.8–2.8 mm; ratio of length to width 2.6. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 6.1 times longer than wide, length 0.20 that of tibial length.

Terminalia. Tergite 9 rectangular in dorsal view, about 1.5 times as long as wide, curved like a hood in lateral view. Medial protrusion of tergite 10 thin, height approximately 3x width in posterior view, curved posteriad, densely setose on apex and ventral side. Gonocoxites in lateral view with a narrow subsquare outline, with nearly straight ventral

margin and posterolateral lobe situated along the ventral edge. Posterolateral lobe of gonocoxite long, slender and evenly tapering, about 4x longer than width at apex, rounded apically, laterally bare for about 2x apical width. Spathulate gonocoxal lobe about five times as long as wide, rounded, with distinctly constricted base, basad of base with a row of 5 long setae. Dorsal branch of gonostylus small, simple, semicircular, laterally setose with some extra long setae. The broad lobe 1 (cf. Fig. 3f) fan-shaped, carrying 8 blunt setae along rim and 5 normal setae subapically on inner side. The narrow, acute tipped lobe 2 (cf. Fig. 3f) with a tiny stiff seta subapically; with strong, blunt seta placed at its length to the tip; followed by one short and one long seta in mid-section. Aedeagus 1.5x longer than spathulate gonocoxal lobe in lateral view, evenly broad until apically sharply narrowed downcurved hook; apically with a short spike at the outer side below the curving point; downcurved hook more than twice as long as breadth of base of aedeagus.

Female (Fig. 8, n = 2 for measurements).

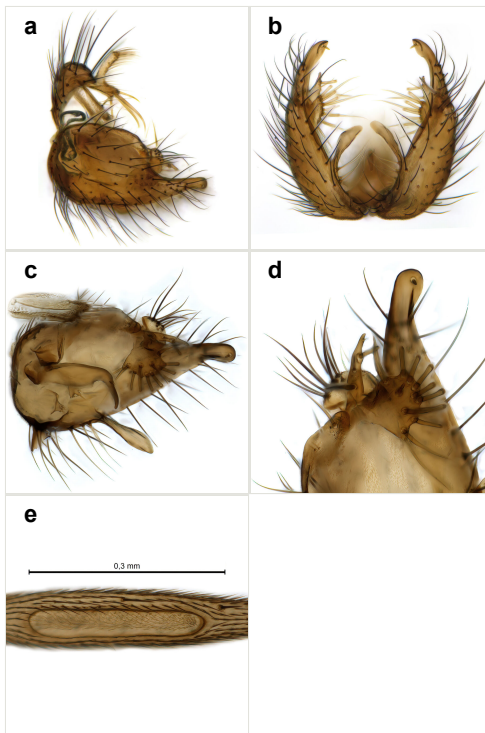


Figure 7.

Coelophthinia loraasi sp. n., Male terminalia and mid-tibial organ.

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Internal, lateral view [doi](#)

d: Gonostylus, enlarged, internal view [doi](#)

e: Mid-tibial organ. [doi](#)

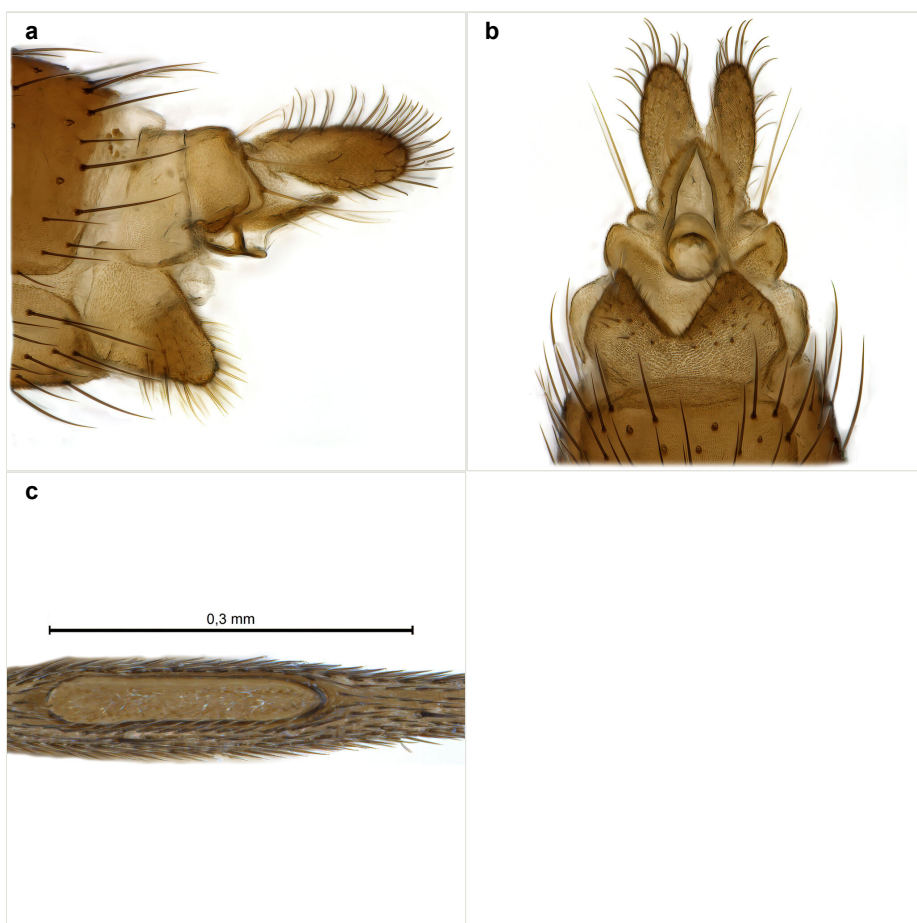


Figure 8.

Coelophthinia loraasi sp. n., female terminalia and mid-tibial organ.

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Mid-tibial organ. [doi](#)

Coloration as for male. Body length 3.9–3.9 mm. Wing length 2.9–3.0 mm; ratio of length to width 2.8. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 5.5 times longer than wide, 0.32 times of tibial length.

Terminalia as described for genus. Cercus slightly narrower than in other species, with fewer setae on ventral side. Gonapophysis 8 forming an equilateral triangle in ventral view. Sternite 9 forming a distinct circle in ventral view.

Diagnosis

Coelophthinia loraasi can be distinguished from other species of the genus by the combination of having a narrow, rectangular shape of the gonocoxite as seen in lateral

view, with a near straight ventral margin, a narrow and long posteriolateral lobe and a long, narrow and curved medial protrusion of tergite 10. The aedeagus is uniquely shaped with apical hook much longer than the height of the base of aedeagus. The length of the mid-tibial organ is about 1/6 of tibial length.

Etymology

Named in honour of Professor Jostein Lorås, the local biologist who, for many years, has worked hard for and succeeded to protect areas of old growth coniferous forests in Grane Municipality of Nordland County, including those from where the type materials originate.

Distribution

So far known only from northern Norway.

Coelophthinia itoae Kurina, sp. n.

- Barcodes http://www.boldsystems.org/index.php/Public_BarcodeCluster?clusteruri=BOLD:ADY9337
- ZooBank [0CDADA2C-69FF-4479-88B1-D69D7BF1ECC2](https://www.zoobank.org/0CDADA2C-69FF-4479-88B1-D69D7BF1ECC2)

Materials

Holotype:

- a. scientificName: *Coelophthinia itoae*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *itoae*; scientificNameAuthorship: Kurina; country: Japan; stateProvince: HOKKAIDO: Hokkaido Prefecture; county: Kushiro-shi; municipality: Kushiro-shi; locality: Upper reach of Ibeshibetsu river, nearLake Akan, Akan-cho; verbatimElevation: 448 m; decimalLatitude: 43.4891; decimalLongitude: 144.1477; samplingProtocol: sweep net; eventDate: 2006-10-03; individualCount: 1; sex: male; preparations: slide mounted in Euparal; terminalia in glycerine in separate microvial; catalogNumber: IZBE0251605; recordedBy: Olavi Kurina; identifiedBy: Olavi Kurina; basisOfRecord: Preserved specimen; occurrenceID: ECFA61EE-9402-54B6-923C-ED7DAEB0CC79

Paratypes:

- a. scientificName: *Coelophthinia itoae*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *itoae*; scientificNameAuthorship: Kurina; country: Japan; stateProvince: HOKKAIDO: Hokkaido Prefecture; municipality: Kushiro-shi; locality: Upper reach of Ibeshibetsu river, nearLake Akan, Akan-cho; verbatimElevation: 448 m; decimalLatitude: 43.4891; decimalLongitude: 144.1477; samplingProtocol: sweep net; eventDate: 2006-10-03; individualCount: 1; sex: male; preparations: slide mounted in Euparal; terminalia in glycerine in separate microvial; catalogNumber: IZBE0251606; recordedBy: Olavi Kurina; identifiedBy: Olavi Kurina; basisOfRecord: Preserved specimen; occurrenceID: 47CE4ED8-BB2B-5256-962C-8E9F8204E75B
- b. scientificName: *Coelophthinia itoae*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *itoae*; scientificNameAuthorship: Kurina; country: Japan; stateProvince: HOKKAIDO: Hokkaido Prefecture; municipality: Kushiro-shi; locality:

Lower reach of Ibeshibetsu river, near Lake Akan, Akan-cho; verbatimElevation: 448 m; decimalLatitude: 43.4808; decimalLongitude: 144.1277; samplingProtocol: sweep net; eventDate: 2006-10-04; individualCount: 1; sex: female; preparations: pinned, mounted from ethanol; terminalia in glycerine in separate microvial; catalogNumber: IZBE0251607 & TSZD-JKJ-106937 (BOLD voucher); recordedBy: Olavi Kurina; identifiedBy: Olavi Kurina; basisOfRecord: Preserved specimen; occurrenceID: 850DA64F-51D7-502C-AE32-0BD4FEAD130B

- c. scientificName: *Coelophthinia itoae*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *itoae*; scientificNameAuthorship: Kurina; country: Japan; stateProvince: HOKKAIDO: Hokkaido Prefecture; municipality: Chitose-shi; locality: Bifue-gawa at Bifue-no-taki falls; minimumElevationInMeters: 375; decimalLatitude: 42.72694; decimalLongitude: 141.19222; coordinateUncertaintyInMeters: 100; samplingProtocol: sweep net; eventDate: 2006-10-02; individualCount: 1; sex: male; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-102075; recordedBy: J. Kjærandsen; associatedOccurrences: urn:uuid:b26051ad-2aad-49f6-97b4-02f1d7836785; identifiedBy: J. Kjærandsen; dateIdentified: Sep-22-2007; institutionCode: TSZ; collectionCode: COL-003263; occurrenceID: 0FB19303-C857-5587-B6D7-6CB8E3F0826E
- d. scientificName: *Coelophthinia itoae*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *itoae*; scientificNameAuthorship: Kurina; country: Japan; stateProvince: HOKKAIDO: Hokkaido Prefecture; municipality: Kushiro-shi; locality: Middle-lower reach of Ibeshibetsu River near Lake Akan, Akan-cho; minimumElevationInMeters: 427; decimalLatitude: 43.48083; decimalLongitude: 144.13917; coordinateUncertaintyInMeters: 250; samplingProtocol: sweep net; eventDate: 2006-10-04; eventRemarks: Site 2; individualCount: 1; sex: female; lifeStage: adult; preparations: Pinned (HMDS-dried from ethanol); catalogNumber: TSZD-JKJ-111450; recordedBy: J. Kjærandsen; associatedOccurrences: urn:uuid:496836f0-e75d-4b59-99fa-36c44f47ec12; identifiedBy: J. Kjærandsen; dateIdentified: Sep-25-2020; institutionCode: TSZ - BOLD voucher; collectionCode: COL-003271; occurrenceID: 10142870-BF28-555F-9B5A-02B6395959C3

Other material:

- a. scientificName: *Coelophthinia itoae*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *itoae*; scientificNameAuthorship: Kurina; country: Japan; stateProvince: HOKKAIDO: Hokkaido Prefecture; municipality: Kushiro-shi; locality: Middle-lower reach of Ibeshibetsu River near Lake Akan, Akan-cho; minimumElevationInMeters: 427; decimalLatitude: 43.48083; decimalLongitude: 144.13917; coordinateUncertaintyInMeters: 250; samplingProtocol: sweep net; eventDate: 2006-10-04; eventRemarks: Site 2; individualCount: 1; sex: female; lifeStage: adult; preparations: 80% alc.; catalogNumber: TSZD-JKJ-111497; recordedBy: J. Kjærandsen; associatedOccurrences: urn:uuid:c2186363-d6ce-4fb3-a92f-5d3fb9c49ce5; identifiedBy: J. Kjærandsen; dateIdentified: Sep-11-2020; institutionCode: TSZ; collectionCode: COL-003271; occurrenceID: 939DC69F-ABCF-56B7-B4DB-649FCA9933B7

Description

Male. (Figs 9, 10)

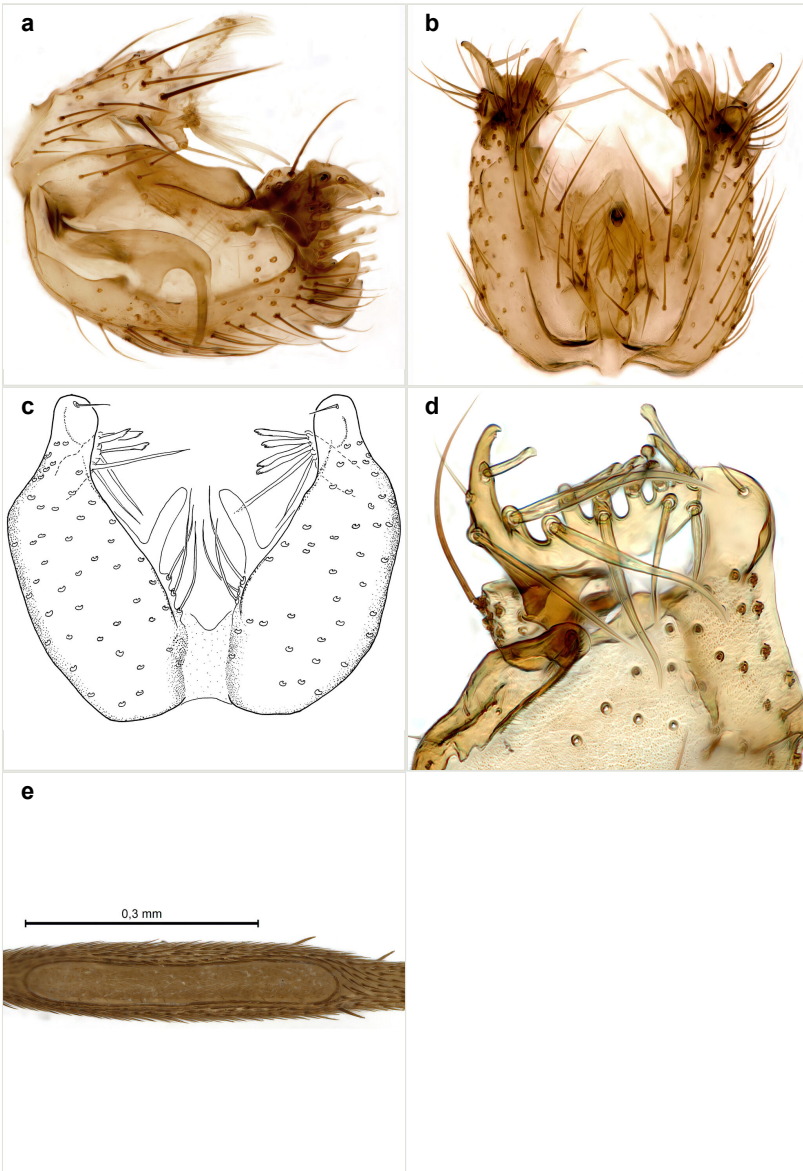


Figure 9.

Coelophthinia itoae sp. n., male terminalia and mid-tibial organ (IZBE0251605: Akan-cho, Japan).

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Ventral view [doi](#)

d: Gonostylus, enlarged, internal view [doi](#)

e: Mid-tibial organ. [doi](#)



Figure 10. [doi](#)

Coelophthinia itoae sp. n., habitus (IZBE0251605: Akan-cho, Japan).

Coloration and most body characteristics as in the genus description. Body length 3.2 mm. Wing length 2.70–2.77 mm; ratio of length to width 1.9–2.5. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 6.7 times longer than wide, length 0.34 that of tibial length.

Terminalia. Tergite 9 rectangular in dorsal view, about 1.25 times as long as wide, curved like a hood in lateral view. Medial protrusion of tergite 10 remarkably long, height approximately 4–5x width in posterior view, curved posteriad, densely setose. Gonocoxites in lateral view with a rounded outline, with slightly convex ventral margin. Posterolateral lobe of gonocoxite short and wide, only somewhat longer than wide, truncated apically, laterally bare for about 1.5x apical width. Spathulate gonocoxal lobe about 3 times as long as wide, curved slightly medially, without constricted base, basad of base with a group of 3–4 longer setae. Dorsal branch small, simple, wider than long, apically rounded, dorsally setose, with one extra long seta deviating from others. The broad lobe 1 (cf. Fig. 9d) transversally extended, carrying 6 blunt setae along rim and 5 normal very long setae subapically on inner side. The narrow, acute tipped lobe 2 (cf. Fig. 9d) tapering, with strong, blunt seta placed subapically; with one short and one very long seta in mid-section. Aedeagus 1.5x longer than spathulate gonocoxal lobe in lateral view, with swelling medially; apically narrowed into downcurved hook; apically with a spike at the outer side at the curving point; downcurved hook about three times of width of aedeagus basally.

Female. (Fig. 11)

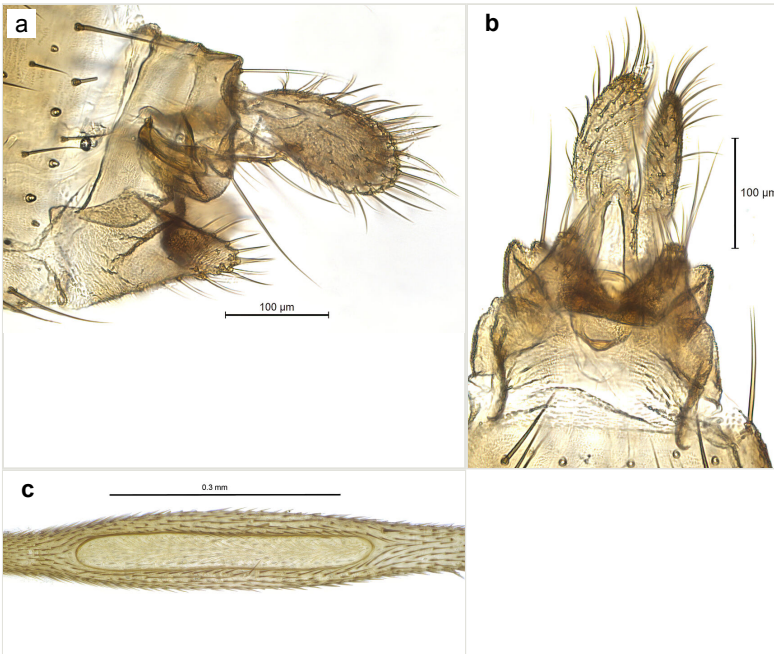


Figure 11.

Coelophthinia itoae sp. n. female terminalia and mid-tibial organ (IZBE0251607: Akan-cho, Japan).

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Mid-tibial organ. [doi](#)

Coloration as for male. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 9.2 times longer than wide, length 0.32 that of tibial length.

Terminalia as described for genus. Tergite 8 short, posteriorly emarginated in dorsal view, bare. Tergite 9 short, posteriorly emarginated in dorsal view, bare, except posterior margin with row of 7–8 long setae, which are longer than those on cercus. Cercus about two times as long as wide medially, evenly covered with setae. Sternite 8 longer than tergites 8 and 9 together, posterolaterally rounded, posterior half setose, in ventral view hypogynal valves separated by V-shaped deep incision, about one-third as deep as segment length. Gonapophysis 8 elongate, about 8 times as long as wide, extending to mid-cercus, setose, with one deviating strong subapical seta.

Diagnosis

Coelophthinia itoae can be distinguished from other species of the genus by the combination of having a rounded shape of the gonocoxite as seen in lateral view, with a slightly convex ventral margin, a short and wide posterolateral lobe and a long and posteriad curved medial protrusion of tergite 10. The ventral branch of the gonostylus with broad lobe transversally extended. The aedeagus is uniquely shaped, short, with

delimited swelling medially and with apical hook about three times longer than the width of the base of aedeagus. The length of the mid-tibial organ is about 0.3 of tibial length.

Etymology

Named after Tomiko Ito, who kindly guided JK and OK on a collecting trip around Hokkaidō, Japan, in 2006, when this species was collected and discovered.

Distribution

Eastern Palaearctic: Japan (Hokkaidō, Honshū).

Coelophthinia curta (Johannsen, 1912)

- Species-ID <http://sciaroidea.info/taxonomy/47769>
- Barcodes http://www.boldsystems.org/index.php/Public_BarcodeCluster?clusteruri=BOLD:ACI7210
- Barcodes http://www.boldsystems.org/index.php/Public_BarcodeCluster?clusteruri=BOLD:AAM9005

Nomenclature

Phthinia curta Johannsen, 1912

Materials

- scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Alpine; locality: Grover Hot Springs St. Pk.; verbatimLocality: nr. Hoffman house; verbatimElevation: 1800m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.6952; decimalLongitude: -119.838; eventID: 06LOT476; samplingProtocol: Malaise trap (2m); eventDate: 14.viii–3.ix.2006; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12J163; recordedBy: Peter H. Kerr; identificationID: 12J163; identifiedBy: Peter H. Kerr; dateIdentified: 04/23/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33169; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 4687B2F6-B274-5D61-998B-906EA0CF1550
- scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 07LOT196; samplingProtocol: Malaise trap (6m); eventDate: 17.v–7.vi.2007; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 07Y536; recordedBy: Peter H. Kerr; identificationID: 07Y536; identifiedBy: Peter H. Kerr; dateIdentified: 08/07/2007; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33156; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 839E40EC-E712-5B07-96F1-6AFDA24D1AC5

- c. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 07LOT196; samplingProtocol: Malaise trap (6m); eventDate: 17.v–7.vi.2007; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G706; recordedBy: Peter H. Kerr; identificationID: 11G706; identifiedBy: Peter H. Kerr; dateIdentified: 06/01/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33163; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: BC5DA562-7E14-5546-9568-23359E800E2F
- d. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Humboldt Bay National Wildlife Refuge; verbatimLocality: Lanphere Dunes; verbatimElevation: 6m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 40.8914; decimalLongitude: -124.143; eventID: 07LOT636; samplingProtocol: Malaise trap (6m); eventDate: 28.ix–2.xi.2007; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G707; recordedBy: Peter H. Kerr; identificationID: 11G707; identifiedBy: Peter H. Kerr; dateIdentified: 06/01/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33164; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: FA87D9B0-7E17-5C0A-A189-0888A731C692
- e. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 07LOT762; samplingProtocol: Malaise trap (6m); eventDate: 29.xi.2007-10.i.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G708; recordedBy: Peter H. Kerr; identificationID: 11G708; identifiedBy: Peter H. Kerr; dateIdentified: 06/01/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33165; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: AA06313A-D072-5FF6-976B-CAD345AE6897
- f. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 07LOT762; samplingProtocol: Malaise trap (6m); eventDate: 29.xi.2007-10.i.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G778; recordedBy: Peter H. Kerr; identificationID: 11G778; identifiedBy: Peter H. Kerr; dateIdentified: 08/03/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33167; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: F02E1752-791A-5784-900E-3300D450B987
- g. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 07LOT762; samplingProtocol: Malaise

- trap (6m); eventDate: 29.xi.2007-10.i.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G779; recordedBy: Peter H. Kerr; identificationID: 11G779; identifiedBy: Peter H. Kerr; dateIdentified: 08/03/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33168; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: A4F93DFF-EB3F-59F2-AC84-74D132E51EE4
- h. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Patrick's Point State Park; verbatimLocality: forest behind visitor center; verbatimElevation: 10m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.1351; decimalLongitude: -124.1546; eventID: 07LOT816; samplingProtocol: Malaise trap (6m); eventDate: 11.xi-19.xii.2007; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12K705; recordedBy: Peter H. Kerr; identificationID: 12K705; identifiedBy: Peter H. Kerr; dateIdentified: 11/28/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33175; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: E926E5CD-904C-5236-938F-B7BFBEC51AC9
- i. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Patrick's Point State Park; verbatimLocality: forest behind visitor center; verbatimElevation: 10m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.1351; decimalLongitude: -124.1546; eventID: 07LOT816; samplingProtocol: Malaise trap (6m); eventDate: 11.xi-19.xii.2007; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i608; recordedBy: Peter H. Kerr; identificationID: 20i608; identifiedBy: Peter H. Kerr; dateIdentified: 11/20/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33188; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 23683977-097A-58AF-B31B-B710CFAB63F3
- j. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Patrick's Point State Park; verbatimLocality: forest behind visitor center; verbatimElevation: 10m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.1351; decimalLongitude: -124.1546; eventID: 07LOT816; samplingProtocol: Malaise trap (6m); eventDate: 11.xi-19.xii.2007; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 21M154; recordedBy: Peter H. Kerr; identificationID: 21M154; identifiedBy: Peter H. Kerr; dateIdentified: 03/01/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33192; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 86BB8BA2-7AED-594F-A612-2E1AB8B9EDEC
- k. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 08LOT008; samplingProtocol: Malaise trap (6m); eventDate: 10.i-18.iii.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 10F088; recordedBy: Peter H. Kerr; identificationID: 10F088; identifiedBy: Peter H. Kerr; dateIdentified: 03/08/2010; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33159; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 0D04A3E9-ED66-5F96-8D1E-7111A3118BA0

- l. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 08LOT008; samplingProtocol: Malaise trap (6m); eventDate: 10.i-18.iii.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 10F749; recordedBy: Peter H. Kerr; identificationID: 10F749; identifiedBy: Peter H. Kerr; dateIdentified: 08/03/2010; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33160; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 561008A1-A56B-58E4-B57B-502B5C283609
- m. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 08LOT008; samplingProtocol: Malaise trap (6m); eventDate: 10.i-18.iii.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i609; recordedBy: Peter H. Kerr; identificationID: 20i609; identifiedBy: Peter H. Kerr; dateIdentified: 11/20/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33189; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: B4C3D13C-30D6-54BF-8E2E-D41E7DB8ED9C
- n. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: 08LOT008; samplingProtocol: Malaise trap (6m); eventDate: 10.i-18.iii.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 21P218; recordedBy: Peter H. Kerr; identificationID: 21P218; identifiedBy: Peter H. Kerr; dateIdentified: 11/24/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33196; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: A1EA7117-CFA7-57A8-A29B-0464FAB0D72F
- o. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: CSCA08L283; samplingProtocol: Malaise trap (6m); eventDate: 18.iii-2.v.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 21M584; recordedBy: Peter H. Kerr; identificationID: 21M584; identifiedBy: Peter H. Kerr; dateIdentified: 03/12/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33193; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 069E4CDC-C46C-5BFC-BD90-3AB8B94E3F65
- p. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Patrick's Point State Park; verbatimLocality: forest behind visitor center; verbatimElevation: 10m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.1351; decimalLongitude: -124.1546; eventID: CSCA08L358; samplingProtocol:

- Malaise trap (6m); eventDate: 19.xii.07-3.iii.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12J164; recordedBy: Peter H. Kerr; identificationID: 12J164; identifiedBy: Peter H. Kerr; dateIdentified: 04/25/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33170; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: DCB4283F-3756-5890-B132-6D4CF777321A
- q. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Patrick's Point State Park; verbatimLocality: forest behind visitor center; verbatimElevation: 10m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.1351; decimalLongitude: -124.1546; eventID: CSCA08L358; samplingProtocol: Malaise trap (6m); eventDate: 19.xii.07-3.iii.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i432; recordedBy: Peter H. Kerr; identificationID: 20i432; identifiedBy: Peter H. Kerr; dateIdentified: 10/20/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33187; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 5EDF84C1-0634-565A-BF0B-AB2D3A89E39D
- r. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Amador; locality: Indian Grinding Rock State Historical Park; verbatimLocality: dry wash/stream bed within South Nature trail; verbatimElevation: 715m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4216; decimalLongitude: -120.645; eventID: CSCA08L596; samplingProtocol: Malaise trap (6m); eventDate: 15.v-18.vi.2008; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 21P217; recordedBy: Peter H. Kerr; identificationID: 21P217; identifiedBy: Peter H. Kerr; dateIdentified: 11/24/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33195; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 1C6BE6CC-A75F-5603-979C-FEB071F2DC4C
- s. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Humboldt; locality: Redwoods National Park; verbatimLocality: Redwood Crk Rd., 100m E. Bald Hills Rd.; verbatimElevation: 15m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.3023; decimalLongitude: -124.0406; eventID: CSCA09L522; samplingProtocol: Malaise trap (2m); eventDate: 2.vi-25.vii.2009; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 09D923; recordedBy: Peter H. Kerr; identificationID: 09D923; identifiedBy: Peter H. Kerr; dateIdentified: 09/16/2009; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33157; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: AC53A3EC-CAB4-5D77-BDF7-5EBF65F438D4
- t. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Del Norte; locality: Six Rivers National Forest; verbatimLocality: ForRoute16N02, 0.3miE BearBasin Rd., nr. BearBasin Outlook; verbatimElevation: 1500m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 41.8016; decimalLongitude: -123.7369; eventID: CSCA09L526; samplingProtocol: Malaise trap (6m); eventDate: 3.vi-24.vii.2009; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 09E154; recordedBy: Peter H. Kerr; identificationID: 09E154; identifiedBy: Peter H. Kerr; dateIdentified: 09/29/2009; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33158;

- institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 2E93AB5B-25DA-5CF8-920A-27D5B0F78DAE
- u. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: CSCA10L011; samplingProtocol: Malaise trap (6m); eventDate: 16.iii–5.v.2010; individualCount: 3; sex: male; lifeStage: Adult; catalogNumber: 13M168; recordedBy: Peter H. Kerr; identificationID: 13M168; identifiedBy: Peter H. Kerr; dateIdentified: 04/04/2013; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33177; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 91592254-13ED-5501-8315-AB4D29BAFF11
- v. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: CSCA10L011; samplingProtocol: Malaise trap (6m); eventDate: 16.iii–5.v.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 13M648; recordedBy: Peter H. Kerr; identificationID: 13M648; identifiedBy: Peter H. Kerr; dateIdentified: 10/08/2013; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33178; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: F08D8E49-58E1-540B-9CE3-E72BC50EEF8B
- w. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Sonoma; locality: Annadel State Park; verbatimLocality: ravine nr. Warren Richardson trail; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.4351; decimalLongitude: -122.6111; eventID: CSCA10L011; samplingProtocol: Malaise trap (6m); eventDate: 16.iii–5.v.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i322; recordedBy: Peter H. Kerr; identificationID: 20i322; identifiedBy: Peter H. Kerr; dateIdentified: 09/30/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33182; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 45F32441-C235-5ACA-B298-F2AC1E8AD4A1
- x. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L174; samplingProtocol: Malaise trap (6m); eventDate: 3.vi–16.vii.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 14P293; recordedBy: Peter H. Kerr; identificationID: 14P293; identifiedBy: Peter H. Kerr; dateIdentified: 02/25/2014; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33179; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: D214BD80-73AC-53D4-BE2D-3BFB7508345C
- y. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; infraspecificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare;

locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L174; samplingProtocol: Malaise trap (6m); eventDate: 3.vi–16.vii.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i431; recordedBy: Peter H. Kerr; identificationID: 20i431; identifiedBy: Peter H. Kerr; dateIdentified: 10/20/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33186; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 41D15E30-95AC-5168-9042-D4CFDBB48F6F

- z. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L174; samplingProtocol: Malaise trap (6m); eventDate: 3.vi–16.vii.2010; individualCount: 2; sex: male; lifeStage: Adult; catalogNumber: 21K695; recordedBy: Peter H. Kerr; identificationID: 21K695; identifiedBy: Peter H. Kerr; dateIdentified: 02/04/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33190; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 9CC8DAEB-540E-582F-ABB8-99685FC4F2C0
- aa. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L174; samplingProtocol: Malaise trap (6m); eventDate: 3.vi–16.vii.2010; individualCount: 1; sex: female; lifeStage: Adult; catalogNumber: 21K696; recordedBy: Peter H. Kerr; identificationID: 21K696; identifiedBy: Peter H. Kerr; dateIdentified: 02/04/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33191; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: D5286190-FFA3-53D5-9E99-EB437BCCC5C0
- ab. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L174; samplingProtocol: Malaise trap (6m); eventDate: 3.vi–16.vii.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 22R074; recordedBy: Peter H. Kerr; identificationID: 22R074; identifiedBy: Peter H. Kerr; dateIdentified: 11/22/2022; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33197; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: F8A6451D-F7BF-5099-AA37-B7C6EF2BA3A2
- ac. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees;

- decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L258; samplingProtocol: yellow pan trap; eventDate: 3.vi–16.vii.2010; individualCount: 5; sex: male; lifeStage: Adult; catalogNumber: 11G245; recordedBy: Peter H. Kerr; identificationID: 11G245; identifiedBy: Peter H. Kerr; dateIdentified: 01/31/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33162; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 10D313D4-F5AC-5E90-9901-AC90C44AFFDD
- ad. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L258; samplingProtocol: yellow pan trap; eventDate: 3.vi–16.vii.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G710; recordedBy: Peter H. Kerr; identificationID: 11G710; identifiedBy: Peter H. Kerr; dateIdentified: 06/01/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33166; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 921E53B5-E4A8-531F-9DBE-183370129244
- ae. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L258; samplingProtocol: yellow pan trap; eventDate: 3.vi–16.vii.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i323; recordedBy: Peter H. Kerr; identificationID: 20i323; identifiedBy: Peter H. Kerr; dateIdentified: 09/30/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33183; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 7636D39C-8B47-59C0-A72B-36AC8BB7BC6F
- af. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Tulare; locality: Whitaker Forest, E. Eshom Cr. Drainage; verbatimLocality: nr. tree #142; verbatimElevation: 1650m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 36.7062; decimalLongitude: -118.9319; eventID: CSCA10L286; samplingProtocol: Malaise trap (6m); eventDate: 16.vii–12.viii.2010; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 11G228; recordedBy: Peter H. Kerr; identificationID: 11G228; identifiedBy: Peter H. Kerr; dateIdentified: 01/31/2011; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33161; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 3F6E815B-F5FF-5BB0-B4BB-6B3A0F74118D
- ag. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Marin; locality: Pt. Reyes National Seashore; verbatimLocality: Limantour Rd., near Sky trailhead; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.05259; decimalLongitude: -122.8263; eventID: CSCA12L022; samplingProtocol: Malaise trap (2m); eventDate: 13.iii–1.v.2012; individualCount: 1; sex: male; lifeStage:

- ah. Adult; catalogNumber: 12J295; recordedBy: Peter H. Kerr; identificationID: 12J295; identifiedBy: Peter H. Kerr; dateIdentified: 05/08/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33171; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 4838DE00-CD18-57DD-A0E5-E64BDC07BA97 scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Marin; locality: Pt. Reyes National Seashore; verbatimLocality: Mt. Vision Rd., 1.8mi E SFDrakeBlvd; verbatimElevation: 280m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.10134; decimalLongitude: -122.8877; eventID: CSCA12L023; samplingProtocol: Malaise trap (6m); eventDate: 13.iii-1.v.2012; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12J435; recordedBy: Peter H. Kerr; identificationID: 12J435; identifiedBy: Peter H. Kerr; dateIdentified: 05/17/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33172; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 396FDA04-2F3D-5225-8D39-450A809B76C4
- ai. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Marin; locality: Pt. Reyes National Seashore; verbatimLocality: Mt. Vision Rd., 1.8mi E SFDrakeBlvd; verbatimElevation: 280m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.10134; decimalLongitude: -122.8877; eventID: CSCA12L023; samplingProtocol: Malaise trap (6m); eventDate: 13.iii-1.v.2012; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12J573; recordedBy: Peter H. Kerr; identificationID: 12J573; identifiedBy: Peter H. Kerr; dateIdentified: 06/01/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33173; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: B39BCF55-86B5-5FB7-BD6D-7961DCEA94B3
- aj. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Marin; locality: Pt. Reyes National Seashore; verbatimLocality: Mt. Vision Rd., 1.8mi E SFDrakeBlvd; verbatimElevation: 280m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.10134; decimalLongitude: -122.8877; eventID: CSCA12L023; samplingProtocol: Malaise trap (6m); eventDate: 13.iii-1.v.2012; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i325; recordedBy: Peter H. Kerr; identificationID: 20i325; identifiedBy: Peter H. Kerr; dateIdentified: 09/30/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33184; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: BE45D188-FACD-5ACD-9BD5-67E6B0983EE3
- ak. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Marin; locality: Pt. Reyes National Seashore; verbatimLocality: Limantour Rd., near Sky trailhead; verbatimElevation: 220m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.0526; decimalLongitude: -122.8263; eventID: CSCA12L256; samplingProtocol: Malaise trap (2m); eventDate: 1.v-4.vii.2012; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12K890; recordedBy: Peter H. Kerr; identificationID: 12K890; identifiedBy: Peter H. Kerr; dateIdentified: 12/27/2012; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33176; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 805AF7B1-DB0C-50FD-A717-DC8D71A102D6
- al. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country:

- United States; countryCode: USA; stateProvince: California; county: San Bernardino; locality: SBNF: Glass Rd.; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 34.1744; decimalLongitude: -116.8971; eventID: CSCA12L344; samplingProtocol: FIT; eventDate: 13–20.v.2006; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 12K408; recordedBy: Peter H. Kerr; identificationID: 12K408; identifiedBy: Peter H. Kerr; dateIdentified: 11/21/2022; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33174; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: E60DCE64-547D-5E73-B9AB-C61B95CD9582
- am. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: San Bernardino; locality: SBNF: Glass Rd.; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 34.1744; decimalLongitude: -116.8971; eventID: CSCA12L344; samplingProtocol: FIT; eventDate: 13–20.v.2006; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i321; recordedBy: Peter H. Kerr; identificationID: 20i321; identifiedBy: Peter H. Kerr; dateIdentified: 09/30/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33181; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 9158CA77-4415-5D36-9C64-DBB1470E98F7
- an. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: San Bernardino; locality: SBNF: Glass Rd.; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 34.1744; decimalLongitude: -116.8971; eventID: CSCA12L344; samplingProtocol: FIT; eventDate: 13–20.v.2006; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 20i430; recordedBy: Peter H. Kerr; identificationID: 20i430; identifiedBy: Peter H. Kerr; dateIdentified: 10/20/2020; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33185; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: DFB16E4B-F06D-56A0-AF03-E2645B1C4654
- ao. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: United States; countryCode: USA; stateProvince: California; county: Santa Clara; locality: Wildegarten; verbatimElevation: 370m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 37.1007; decimalLongitude: -121.9922; eventID: CSCA17L418; samplingProtocol: Malaise trap (6m); eventDate: 13.iv–21.v.2017; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 17X552; recordedBy: Peter H. Kerr; identificationID: 17X552; identifiedBy: Peter H. Kerr; dateIdentified: 08/08/2017; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33180; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 176AE54E-B28A-545F-86BD-8EBE3E685D52
- ap. scientificName: *Coelophthinia curta*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *curta*; scientificNameAuthorship: (Johannsen); country: Canada; countryCode: CAN; stateProvince: Ontario; locality: Puslinch; verbatimLocality: Property of Bob Hanner; verbatimElevation: 335m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 43.4464; decimalLongitude: -80.2512; eventID: L#TT08-09-11c; samplingProtocol: by hand; eventDate: 2008-09-11; individualCount: 1; sex: male; lifeStage: Adult; catalogNumber: 08TTML-1780; recordedBy: Peter H. Kerr; identificationID: 08TTML-1780; identifiedBy: Peter H. Kerr; dateIdentified: 04/15/2021; type: Preserved Specimen; collectionID: urn:lsid:biocol.org:col:33194; institutionCode: BIOUG; basisOfRecord: PreservedSpecimen; occurrenceID: A6940C92-DD05-5EF4-9152-DD067C3425BE

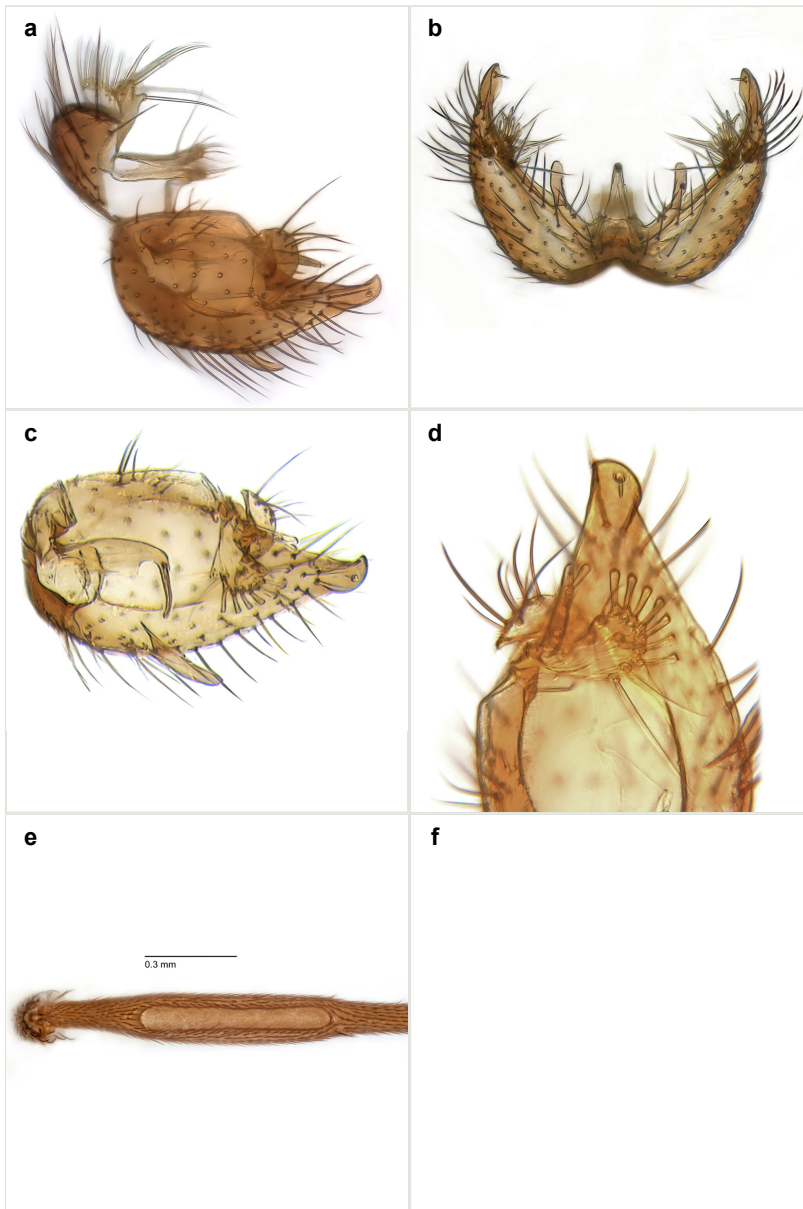


Figure 12.

Coelophthina curta, male terminalia (20i325: Point Reyes, CA) and mid-tibial organ (21M154: Patrick's Point SP, Humboldt Co., CA).

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Internal, lateral view [doi](#)

e: Mid-tibial organ. [doi](#)

Description

Male (Fig. 12)

Coloration and general body characteristics as in the genus description. Body length 2.8–3.7 mm. Wing length 2.5–3.0 mm; ratio of length to width 2.8. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 10 times longer than wide, length 0.3 times that of tibial length.

Terminalia. Tergite 9 nearly quadrate in dorsal view, slightly longer than wide, curved like a hood in lateral view. Medial protrusion of tergite 10 short, height approximately 3–4x width in posterior view, densely setose. Gonocoxites in lateral view with a rounded outline, with approximately straight ventral margin. Posterolateral lobe of gonocoxite short and wide, constricted section only approximately 2x apical width, apex more smoothly rounded ventrally, laterally bare for about 1.5x apical width. Spathulate gonocoxal lobe about five times as long as wide, with slightly constricted base, basad of base with 3 long setae not arranged in single line. Dorsal branch of gonostylus small, simple, oblong and semicircular, dorsally setose with some extra long setae. The broad lobe 1 fan-shaped, carrying 7–8 blunt-tipped setae along rim and 4 normal setae subapically on inner side. The narrow, acute tipped lobe 2 with a tiny, practically imperceptible seta subapically; with strong, sharp-tipped seta at approximately its length from the apex of the lobe, followed by one fine seta of similar length and one longer seta in mid-section. Aedeagus 1.2x longer than spathulate gonocoxal lobe in lateral view, with rounded cutout at base of long apical down-curved hook, hook approx. 0.5x length of rest of aedeagus; with a short, inconspicuous sessile projection at the outer side below the curving point of hook.

Diagnosis

Coelophthinia curta can be distinguished from other species of the genus by the combination of the following features: Posterolateral lobe of gonocoxite situated along straight ventral margin, broad, nearly as broad as constricted length; spathulate lobe on ventral medial margin of gonocoxite short oblong, mid-tibial organ clearly much longer than width of tibia.

Coelophthinia cirra Kerr, sp. n.

- ZooBank [10ADBEF3-E2C3-412D-8192-8C2322035BC9](https://doi.org/10.1009/10ADBEF3-E2C3-412D-8192-8C2322035BC9)

Materials

Holotype:

- scientificName: *Coelophthinia cirra*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *cirra*; scientificNameAuthorship: Kerr; country: United States; countryCode: USA; stateProvince: California; county: Alpine; locality: Grover Hot Springs State Park, nr. Hoffman house; verbatimLocality: Grover Hot Springs State Park; verbatimElevation: 1800m; verbatimCoordinateSystem: decimal degrees;

decimalLatitude: 38.6952; decimalLongitude: -119.838; eventID: CSCA06LOT476; samplingProtocol: Malaise Trap (2m); eventDate: 14.viii–3.ix.2006; individualCount: 1; sex: male; lifeStage: adult; catalogNumber: 12J162; recordedBy: Peter H. Kerr; identificationID: 12J162; identifiedBy: Peter H. Kerr; dateIdentified: 6/9/2021; type: PreservedSpecimen; collectionID: urn:lsid:biocol.org:col:33156; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 7D202C2D-CD98-5304-B629-4F12A82473A2

Paratypes:

- a. scientificName: *Coelophthinia cirra*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *cirra*; scientificNameAuthorship: Kerr; country: United States; countryCode: USA; stateProvince: California; county: Alpine; locality: Grover Hot Springs State Park, forest/meadow edge; verbatimLocality: Grover Hot Springs State Park; verbatimElevation: 1800m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.6996; decimalLongitude: -119.8457; eventID: CSCA06LOT275; samplingProtocol: Malaise Trap (2m); eventDate: 11–25.v.2006; individualCount: 1; sex: male; lifeStage: adult; catalogNumber: 11G757; recordedBy: Peter H. Kerr; identificationID: 11G757; identifiedBy: Peter H. Kerr; dateIdentified: 6/9/2021; type: PreservedSpecimen; collectionID: urn:lsid:biocol.org:col:33156; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 7F33526F-B6AA-5F25-BD93-54915F0936EB
- b. scientificName: *Coelophthinia cirra*; order: Diptera; family: Mycetophilidae; genus: *Coelophthinia*; specificEpithet: *cirra*; scientificNameAuthorship: Kerr; country: United States; countryCode: USA; stateProvince: California; county: Alpine; locality: Grover Hot Springs State Park, nr. Hoffman house; verbatimLocality: Grover Hot Springs State Park; verbatimElevation: 1800m; verbatimCoordinateSystem: decimal degrees; decimalLatitude: 38.6952; decimalLongitude: -119.8380; eventID: CSCA06LOT275; samplingProtocol: Malaise Trap (2m); eventDate: 11–25.v.2006; individualCount: 1; sex: male; lifeStage: adult; catalogNumber: 21K109; recordedBy: Peter H. Kerr; identificationID: 21K10; identifiedBy: Peter H. Kerr; dateIdentified: 6/9/2021; type: PreservedSpecimen; collectionID: urn:lsid:biocol.org:col:33156; institutionCode: CSCA; basisOfRecord: PreservedSpecimen; occurrenceID: 46672366-0481-5138-BA92-938A553F2952

Description

Male. (Fig. 13 Fig. 14)

Coloration and most body characteristics as in the genus description. Body length 2.8 mm. Wing length 2.5 mm; ratio of length to width 2.8. Sensory organ dorsally on the basal half of mid-tibia elongate oval, 3.5 times longer than wide, 0.1 times of tibial length.

Terminalia. Tergite 9 setose, except basal fifth medially, nearly quadrate, slightly longer than wide, medially slightly constricted, basal margin concave, curved like a hood in lateral view. Medial protrusion of tergite 10 a modest bulbous swelling, densely setose. Cerci medially fused except for apical third, setose. Gonocoxites in lateral view with a rounded outline, with straight ventral margin. Posterolateral lobe of gonocoxite long, slender and evenly tapering, about 3-4x longer than wide at apex, rounded apically,

laterally bare for about 2x apical width. Gonocoxal lobe spatulate, long and slender, with slightly constricted base, basad of base lacking row of distinctive setae, evenly tapered along dorsoventral margins, external surface bare on apical length approximately 3x apical width, apically rounded. Dorsal branch of gonostylus small, simple, oblong and semicircular, dorsally setose. The broad v br lobe 1 fan-shaped, carrying 6–7 blunt-tipped setae along rim and 4 normal setae on inner side. The narrow, acute tipped v br lobe 2 with a tiny, practically imperceptible seta subapically; with thickened, sharp-tipped seta at approximately its length from the apex of the lobe, followed by one fine seta of similar length and one longer seta near the base of the lobe approximately 1.5x length of v br lobe 2. Aedeagus of same length or slightly longer than spatulate gonocoxal lobe in lateral view, slender throughout, ventral margin entire along length, without rounded cutout at base of hook; with long apical down-curved hook, hook approx. 0.4x length of rest of aedeagus; with a short, inconspicuous sessile projection at the outer side below the curving point of hook.

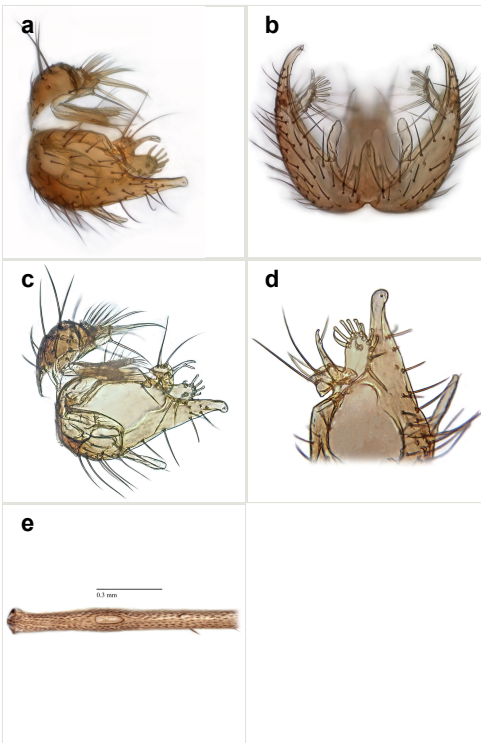


Figure 13.

Coelophthinia cirra sp. n., male terminalia (12J161: Grover Hot Springs, CA) and mid-tibial organ (12J162: Grover Hot Springs, CA).

- a: Lateral view [doi](#)
 b: Ventral view [doi](#)
 c: Internal, lateral view [doi](#)
 d: Gonostylus, enlarged, internal view [doi](#)
 e: Mid-tibial organ, dorsal view. [doi](#)

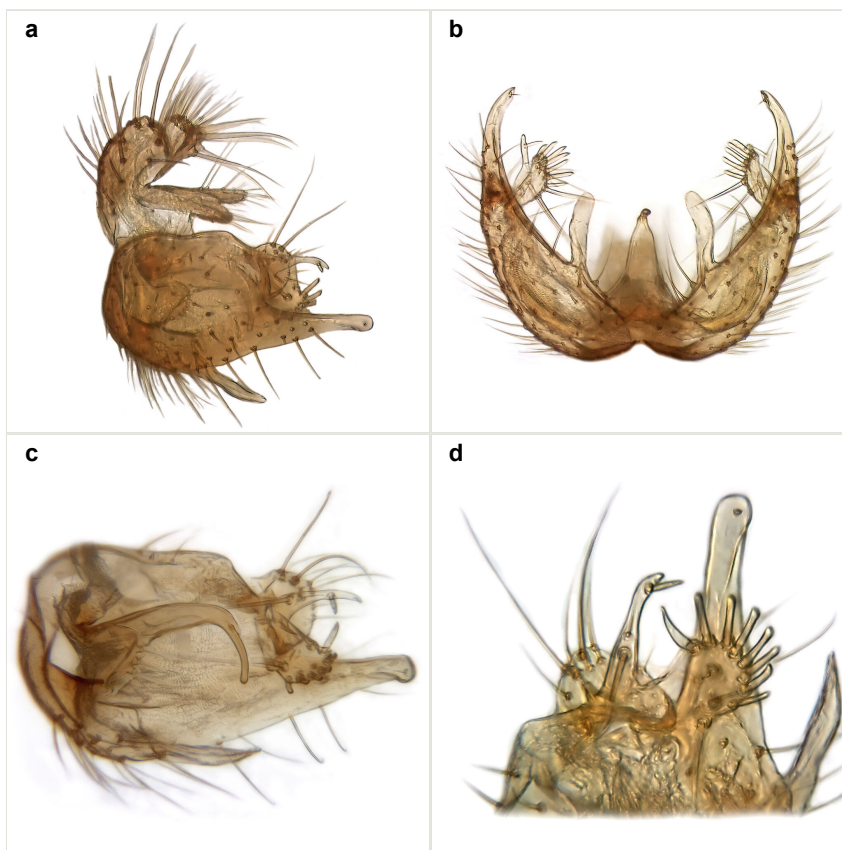


Figure 14.

Coelophthinia cirra sp. n., male terminalia (21K109: Grover Hot Springs, CA).

a: Lateral view [doi](#)

b: Ventral view [doi](#)

c: Internal, lateral view [doi](#)

d: Gonostylus, enlarged, internal view. [doi](#)

Diagnosis

Coelophthinia cirra can be distinguished from other species of the genus by the combination of the following features: mid-tibial organ only slightly longer than width of tibia, gonocoxal lobe situated along straight ventral margin, slender and evenly rounded apically, thinner than constricted length; aedeagus slender throughout, without cutout at base of apical hook.

Etymology

Adjective taken from the Latin word *cirrus*, meaning "tendrils" and descriptive of clouds. This species is thin and leggy and found at high elevations, reminiscent of the clouds.

Identification keys

Key to males of Holarctic <i>Coelophthinia</i>		
1	Protrusive middle section of tergite 10 long, narrow and curved, elevated well above top of tergite 9 (Figs 7a, 9a).	2
–	Protrusive middle section of tergite 10 short, semicircular, not elevated above top of tergite 9 (eg. Fig. 3a, c).	3
2	Posterolateral lobe of gonocoxite broad, as broad as constricted length; spatulate lobe on ventral medial margin of gonocoxite short oblong; aedeagus short and deeply downcurved (Fig. 9). (Japanese species)	<i>Coelophthinia itoae</i> sp. n.
–	Posterolateral lobe of gonocoxite narrow, much thinner than constricted length; spatulate lobe on ventral medial margin of gonocoxite long with constricted base; aedeagus long and less deeply downcurved (Fig. 7). (Norwegian species)	<i>Coelophthinia loraasi</i> sp. n.
3	Posterolateral lobe of gonocoxite situated midway between dorsal and ventral edges, with distinctly convex ventral margin (Figs 5a, 6a). (European species)	4
–	Posterolateral lobe of gonocoxite situated along straight ventral margin (Figs 12a, 13a, 14). (North American species)	5
4	Posterolateral lobe of gonocoxite broad, nearly as broad as constricted length; spatulate lobe on ventral medial margin of gonocoxite short oblong (Fig. 6).	<i>Coelophthinia lata</i> sp. n.
–	Posterolateral lobe of gonocoxite narrow, much thinner than constricted length; spatulate lobe on ventral medial margin of gonocoxite long with constricted base (Fig. 5).	<i>Coelophthinia thoracica</i>
5	Posterolateral lobe of gonocoxite broad, nearly as broad as constricted length; spatulate lobe on ventral medial margin of gonocoxite short oblong (Fig. 12). Mid-tibial organ approx. 10x longer than wide, clearly much longer than width of tibia.	<i>Coelophthinia curta</i>
–	Posterolateral lobe of gonocoxite narrow, much thinner than constricted length; spatulate lobe on ventral medial margin of gonocoxite long with constricted base (Figs 13, 14). Mid-tibial organ 2–3x longer than wide, slightly longer than width of tibia.	<i>Coelophthinia cirra</i> sp. n.

Analysis

Mitochondrial genome

The mitochondrial genome of *C. loraasi* Kjaerandsen (Fig. 15), comprising 16199 bp, contains the 37 genes (13 Protein, 22 tRNA and two rRNA genes) that are commonly found in animal mitochondria (Boore 1999). The genes are arranged in the same order as the ancestral insect mitochondrial genome (Cameron 2014), as well as the few known mitochondrial genomes of other Mycetophilidae (Wang et al. 2021).

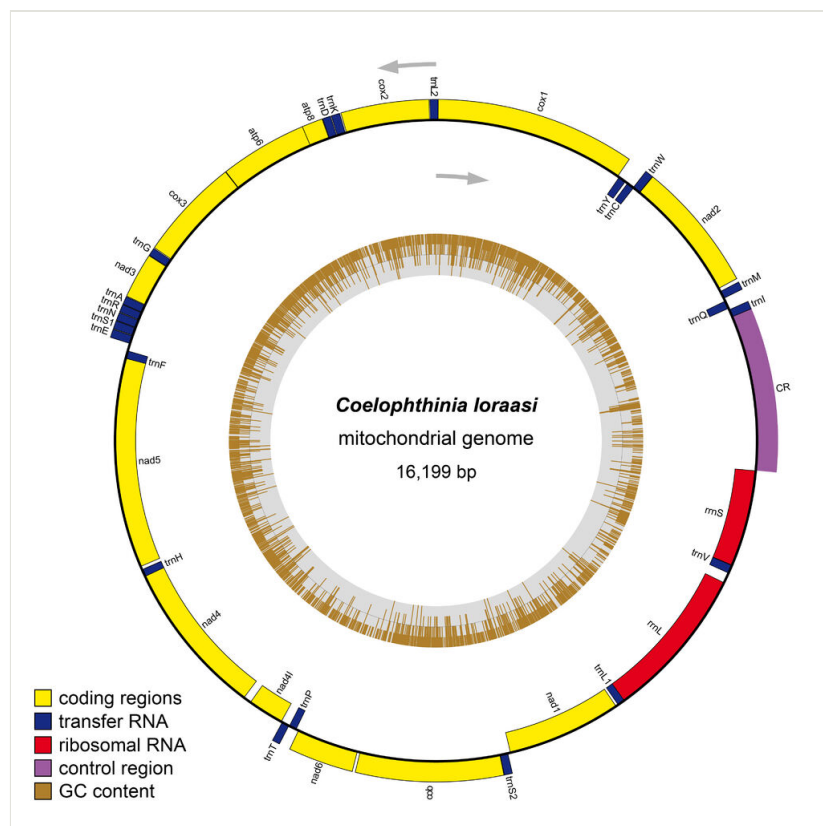


Figure 15. [doi](#)

Map of the mitogenome of *Coelophthinia loraasi*. The outer circle displays the genes on the + (outer) and - (inner) strands with coding sequences coloured in yellow, rRNA in red and tRNA in blue. Arrows indicate direction of transcription. The inner circle shows the GC content (brown) as a deviation from the average of the total mitogenome.

There are ten cases of overlapping genes and 21 cases where intergeneric nucleotides are present (Suppl. material 1). The two largest sequences of intergeneric nucleotides (next to the CR) occur between *rrnL* and *trnV* (81 bp) and between *trnE* and *trnF* (57 bp). The two largest overlaps occur between *trnL1* and *rrnL* (21 bp) and *trnF* and *nad5* (17 bp).

The protein coding genes constitute 11211 bp of the mitochondrial genome. The most frequently encoded amino acids (Suppl. material 2) are Leu, Ser, Ile and Phe and the most frequently used codons are TTA (Leu), ATT (Ile), TTT (Phe) and ATA (Met). Start codons used are ATA, ATC, ATG and ATT, where the most frequently used is ATG. Together the protein coding sequences have A+T content of 74%, AT-skew of -0.1594 and GC-skew of -0.0193, while the entire mitochondrial genome have A+T content of 78.5%, AT-skew of 0.0298 and a GC-skew of -0.2237.

Discussion

The enormous success of DNA barcoding has accumulated a substantial amount of sequenced insects on BOLD, which is very useful for the kind of new and integrative taxonomic studies that we present here. More than 73,000 specimens belonging to the family Mycetophilidae have been successfully sequenced (Kjærandsen 2022) and, of them, some 11,500 are assigned to the subfamily Gnoristinae. Some 1,300 identified Mycetophilidae species have public barcodes although more than 3,200 different BINs are assigned, this indicating that the majority of the species still remains unidentified beyond the (sub)family level on BOLD. A weakness with the BOLD initiative may be that several of the typically well-funded, large scale DNA barcoding projects, undertaken so far, did not have a focus on, nor adequate resources allocated to, securing high quality morphological identification of the vouchers for the accumulated barcodes. Unfortunately, this critical endeavour of the BOLD archive is largely left to the under-funded and scarce taxonomic expertise to engage in post-sequence work (see Kjærandsen (2022)).

In the Nordic Region, however, strong ties between The Norwegian and Swedish Biodiversity Information Centres, including their Taxonomy Initiatives and NorBOL and FinBOL, are ensuring that the best taxonomic expertise is building up the reference library of the local fauna in the BOLD archive. Hence, the majority of some 15,000 DNA barcoded fungus gnats (Sciaroidea) from the Nordic Region have been identified to species level upon submission and the reference library is profoundly and repeatedly quality-checked and curated after barcodes and BINs are assigned. This has resulted in a high-quality reference library, now covering about 84% of the known Mycetophilidae fauna including more than 150 additional species considered to be new to science (Kjærandsen and Sjøli 2020, Kjærandsen 2022). An ID-tree search with all private and public sequences of species (10,418 specimens) belonging to the subfamily Gnoristinae on BOLD placed all 46 *Coelophthinia* sequences together in one "monophyletic" clade (Fig. 16), with representatives from *Coelosia*, *Docosia* and *Synapha* as most genetically similar. The maximum genetic spread within the genus is 11.45%. Within species, spread could not be properly calculated as some public sequences have discordant names. Surprisingly, we found that all studied materials of specimens in BINs BOLD:AAM9005 and BOLD:AC17210 conform with *Coelophthinia curta*. Yet, *Coelophthinia thoracica* and the new species described here are all confined to a single BIN each. The large genetic spread of *Coelophthinia curta* with a reciprocal nearest neighbour distance between the two BINs of 3.59% is noteworthy. Taken together with the split into eastern (BOLD:AAM9005) and

western (BOLD:ACI7210) populations, the genetic evidence is, indeed, indicating two cryptic species involved. We refrain, however, from segregating new species based on genetic data only, without any substantial morphological corroboration. This is in rather stark contrast to the clear morphological segregation found among the three Nordic species where the genetic nearest neighbour distance between *Coelophthinia thoracica* and *Coelophthinia lata* is only 2%.

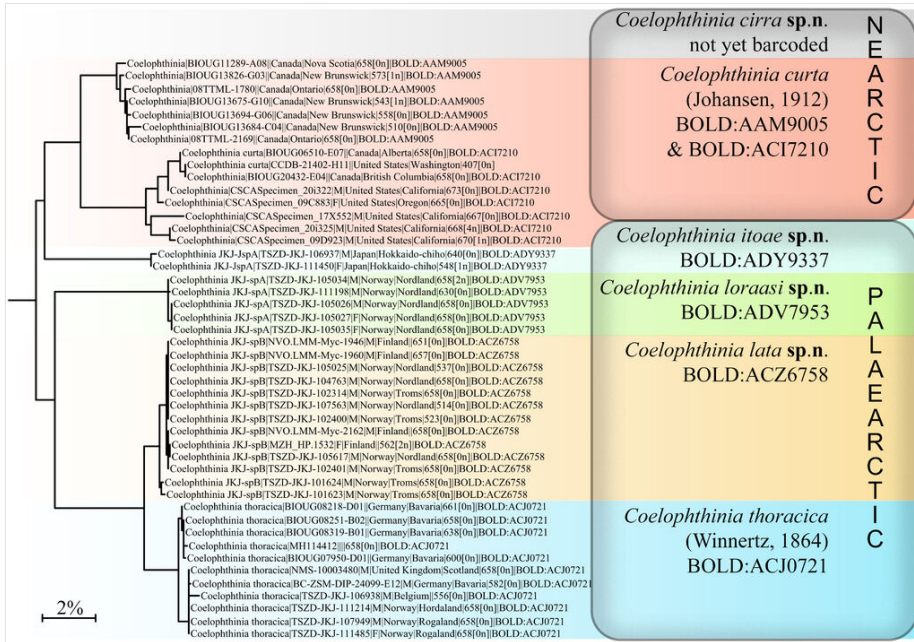


Figure 16. [doi](#)

ID-tree (Kimura-2-distance) obtained from BOLD of DNA barcodes of 46 *Coelophthinia* specimens. Species are segregated in coloured boxes and divided by the Palaearctic and Nearctic Regions.

The male terminalia in species of *Coelophthinia* are quite similar in general appearance, yet uniquely shaped for the genus. This has probably contributed to the diversity of species previously being overlooked only to be revealed when DNA barcoding started to split them into distinct clades. The morphological differences are, nevertheless, clear and unambiguous when the taxa were re-examined in detail. Morphological differences were just simply overlooked previously due to a convenient lumping of specimens that formed a unique taxon widely different from other species. For this reason, we consider these species pseudocryptic. They were morphologically recognised as distinct only after other methods unveiled their existence. Our concept here is in agreement with Lajus et al. (2015) who stated: “The large number of cryptic species suggests that the resolution of traditional morphological techniques may be insufficient for taxonomical research. However, some species now considered to be cryptic may, in fact, be designated pseudocryptic after close

morphological examination. Thus the “cryptic or pseudocryptic” dilemma speaks to the resolution of morphological analysis and its utility for identifying species” .

A 180-degree torsion is always seen where the ventral side of the terminalia is turned to the dorsal side in live specimens (see Fig. 1). The gonostyli of the terminalia are small and retracted within the extended gonocoxites and, unlike in most Mycetophilidae, do not vary considerably between the species, except in the Japanese *Coelophthinia itoae*. Instead, the outline of the gonocoxites as viewed from the lateral side and the shape of tergite 10 turned out to be reliable characters for separating the species. The female terminalia of the three species with associated females are very similar and no decisive characters were found to segregate them beyond vague differences observed in the few examined specimens. For the time being, DNA-barcoding remains the only safe way to identify females of *Coelophthinia*.

Kaspřák et al. (2019) found genetic support for treating *Coelophthinia* as a sister group to the entire subfamily Mycetophilinae. We find it interesting to note that *Coelophthinia* shares a derived character with all members of the tribe Exechiini, one of two tribes making up the subfamily Mycetophilinae. In *Coelophthinia*, just like in all Exechiini genera, but unlike in all the Mycetophilini genera, the frontal furrow is greatly reduced and only remnants are present as a short, sclerotized line close to the tip of the frontal tubercle and close to the median ocellus. In all other genera of the subfamily Gnoristinae that we have examined, the frontal furrow is complete from the median ocellus to the frontal tubercle.

Acknowledgements

JK was supported and funded by UiT—The Arctic University of Norway, the Norwegian Biodiversity Information Centre (NBIC, projects nos. 45–14 and 27–17) and the Norwegian Barcode of Life initiative (NorBOL). OK was supported by institutional research funding from the Ministry of Education and Research of Estonia and funding from the Estonian Research Council (TT14). The publication charges for this article have been funded by a grant from the publication fund of UiT—The Arctic University of Norway. We are very thankful to Prof. Toyohi Saigusa (Fukuoka, Japan) for information on occurrence of *C. itoae* in Honshu Island, Japan. We are grateful for the helpful comments and suggestions provided by Peter Chandler and Jan Ševčík in their reviews of this manuscript.

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Supplementary materials

Suppl. material 1: Mitochondrial gene arrangement

Authors: Jon P. Lindemann

Data type: genomi

Brief description: Order of the 37 genes on the Mitochondrial genome of *Coelophthinia loraasi* sp. nov., their affiliation to the forward (+) or reverse (-) strands, start and end positions (begin/end), size in base pairs (size), start codon (start cd) and number of intergeneric nucleotides (inc). A negative intergeneric nucleotide number indicates overlap between the genes.

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Suppl. material 2: Codon usage barplot

Authors: Jon P. Lindemann

Data type: genomic

Brief description: Barplot of the relative frequencies of codons used in the mitochondrial genome of *C. loraasi* sp. nov., with their encoded amino acids.

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