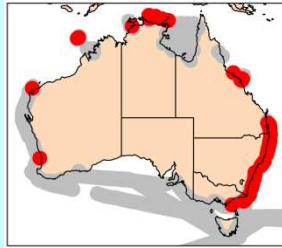


Oncaea clevei

Früchtl, 1923



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

Synonyms
None

Size
Female: 0.62-0.68 mm

Genus notes

- Promose & urosome of female 5-segmented; urosome of male 6 segmented
- Prosome elongate to elongate-oval
- 1st antenna short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than that of first segment
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process btw 2 apical spines
- To distinguish between adult and juvenile look for genital openings & count urosome somites
- Urosome generally slender

Female

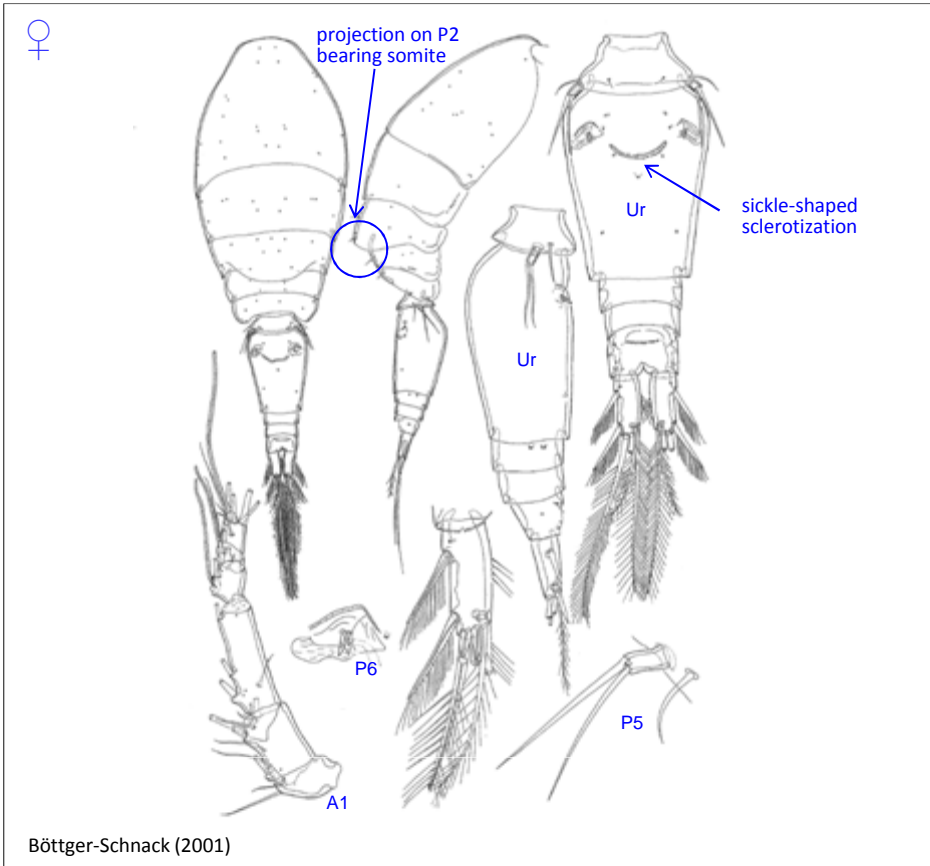
- Exoskeleton well chitinized
- Prosome 2.4x length of urosome excluding caudal rami, 2.1x urosome length including caudal rami
- P2 bearing somite with dorso-posterior projection in lateral view (variable in conspicuousness)
- Integumental pores on prosome
- Pleural areas of P4 bearing somite elongate and with rounded posterolateral corners
- Genital double-somite rectangular in dorsal aspect, 1.4x as long as maximum width & 1.6 x as long as postgenital somites combined, largest width measured near anterior margin, lateral margins of genital double-somite rounded at anterior quarter, posterior part tapering slightly
- Paired genital apertures located very close to dorso lateral margin at about 2/5 the distance from anterior margin of genital double-somite, armature represented by 1 spine and 2 minute spinous processes
- Sickle-shaped sclerotization btwn, but slightly posterior to genital apertures
- Anal somite 1.4x wider than long, slightly shorter than caudal rami
- Caudal ramus about 2.3x as long as wide

Notes

- Very similar to *O. paraclevei*, can be distinguished by location of genital apertures & form of genital double-somite

Distribution

Ecology



Böttger-Schnack (2001)



Oncaea clevei

Früchtl, 1923

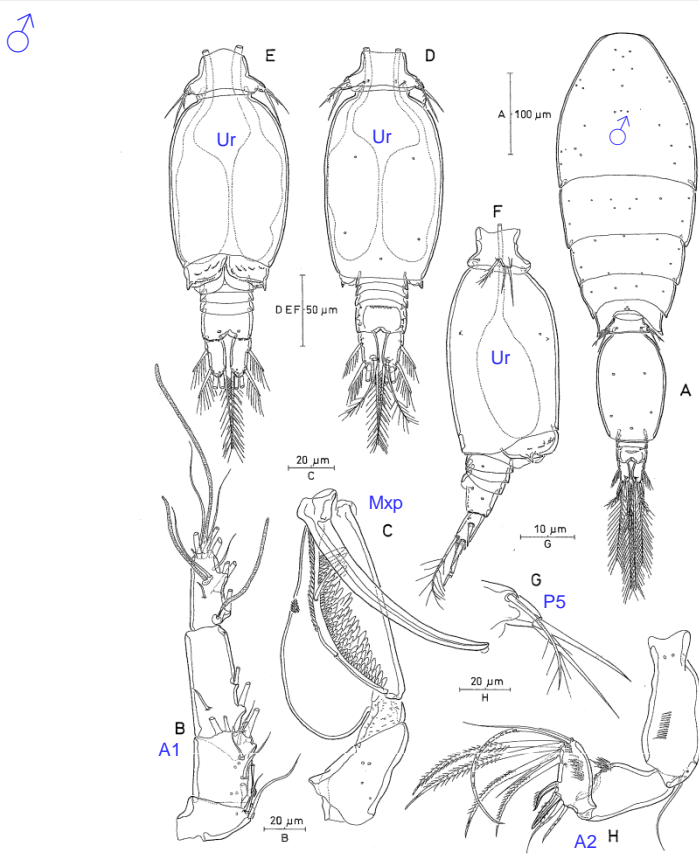
Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

Size
 Male: 0.49-0.57 mm

- Male**
- Prosome 2.5 times the length of urosome, excluding caudal rami, 2.2x urosome length, including caudal rami
 - Caudal rami about 1.8 times longer than wide, shorter than female

Source
 Heron & Bradford Grieve (1995)
 Böttger-Schnack (2001)

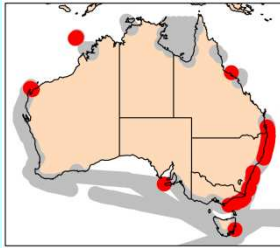
(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



Böttger-Schnack (2001)

Oncaea media

Giesbrecht, 1891



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

Synonyms

None

Size

Female: 0.65 – 0.96 mm

Genus notes

- Body cyclopidiform, prosome & urosome divisions well defined
- Promosome & urosome of female 5-segmented; urosome of male 6 segmented
- Prosome elongate to elongate-oval
- 1st antenna short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than that of first segment
- Labrum medially incised
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process btw 2 apical spines
- To distinguish between adult and juvenile look for genital openings & count urosome somites
- Urosome generally slender

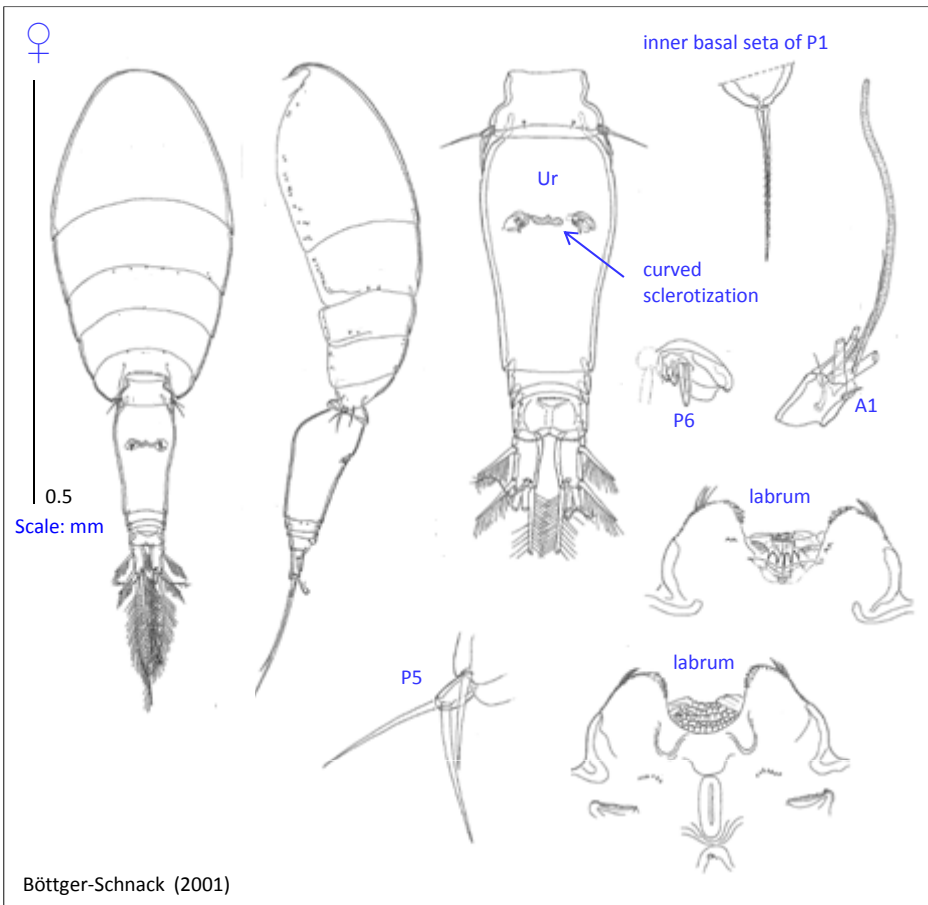
Female

- Exoskeleton moderately chitinised
- Prosome 2.6x length of urosome, excluding caudal rami, 2.2x urosome length including caudal rami
- P2 bearing somite without projection
- Genital double somite 1.9 times as long as maximum width (in dorsal aspect) and 2.6x as long as postgenital somites combined
- Double-curved sclerotization between genital apertures
- Anal somite 2x wider than long, about 2/3 length of caudal rami

Note

Closely related to *O. scottodicarloi*, to separate look at:

- Proportional lengths of urosome segments; elongated genital segment in *O. media*, genital segment is 2x as long as the rest of urosome
- Form and location of sclerotization between genital apertures; in *O. media* genital openings are closer to top 1/3 of genital segment, in *O. scottodicarloi* genital openings are almost 1/2 way from top genital segment
- Relative lengths of endopod spines of P4



Böttger-Schnack (2001)

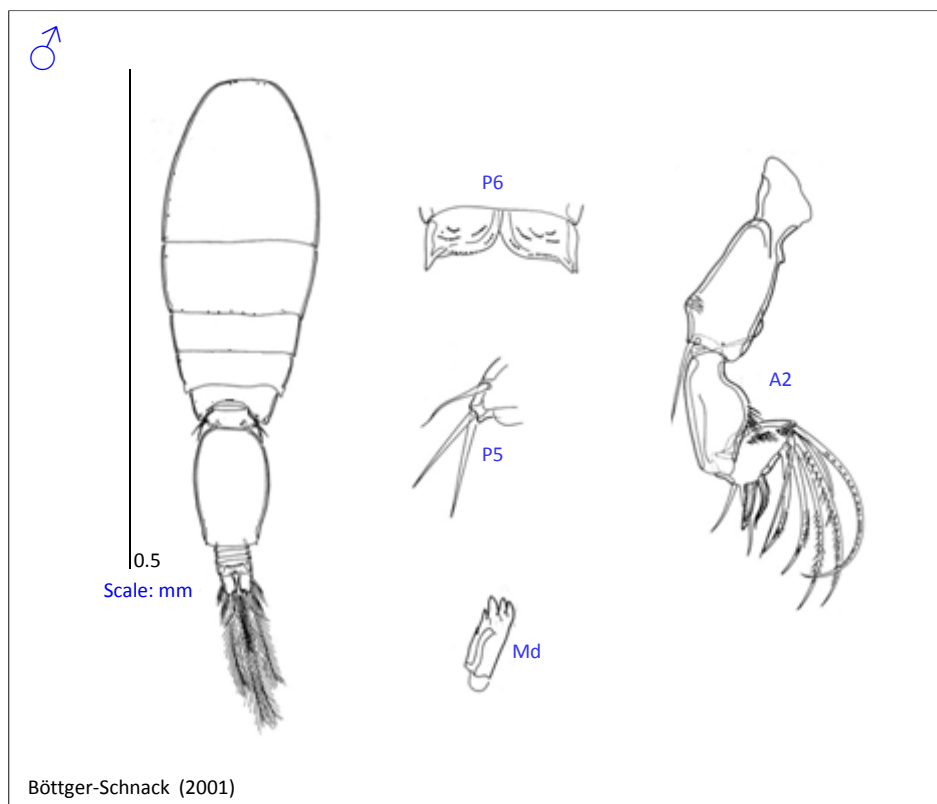


C. Davies CSIRO © 2012

Oncaea media

Giesbrecht, 1891

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Size

Male: 0.56 – 0.67 mm

Male

- Prosome 2.2x length of urosome, excluding caudal rami, 1.9x urosome length, including caudal rami
- Caudal rami about as long as wide, much shorter than female

Distribution

- Epipelagic-mesopelagic
- Inshore, coastal and oceanic
- Australian distribution includes Gulf of Carpentaria, Great Barrier Reef, the North West Cape, New South Wales and south east including Tasmania
- World distribution: widespread in tropical and sub tropical waters of the Pacific, Indian and Atlantic Oceans

Ecology

- Eggs carried in paired sacs
- Omnivorous
- Feeds on small zooplankton and appendicularian houses, that form marine snow containing phytoplankton and bacteria

Source

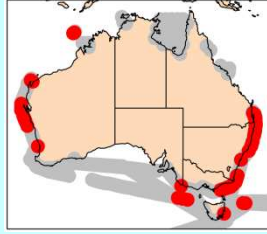
Böttger-Schnack (2001)
 Heron & Bradford Grieve (1995)
 Nyan Taw (1978)
 Ohtsuka et al (1996)
 Razouls et al (2010)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

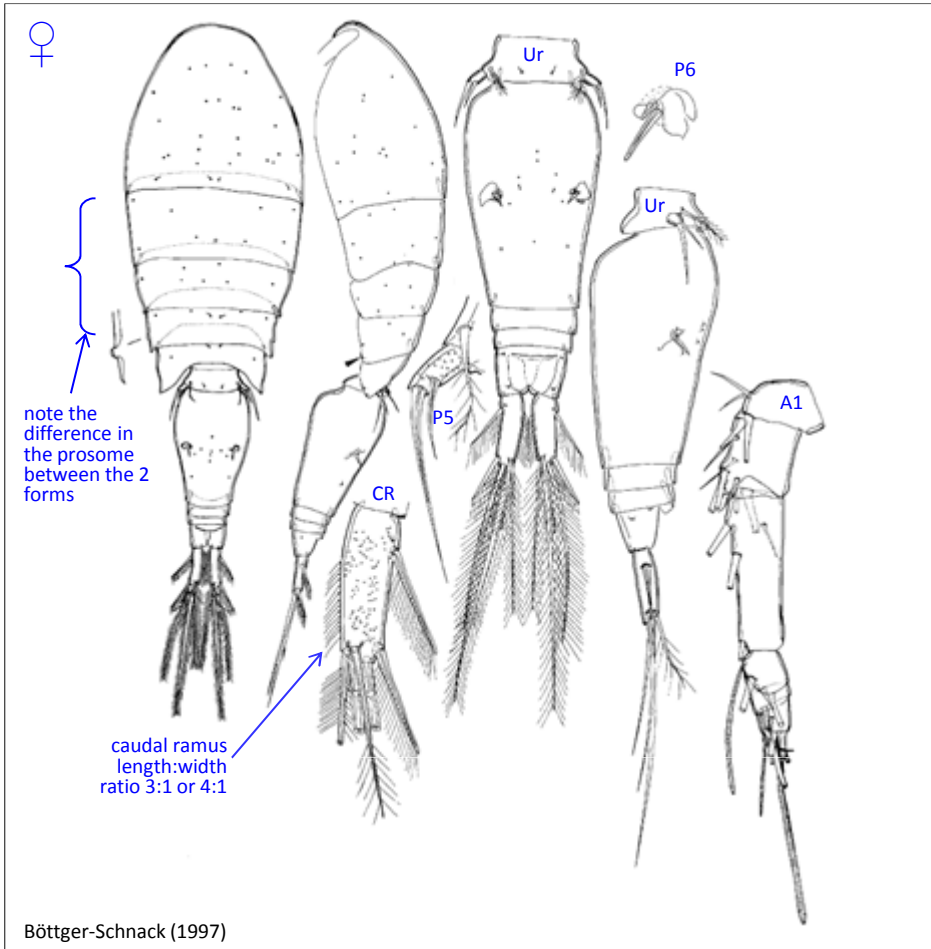
Oncaea mediterranea

(Claus, 1863)

2 form variants: broad, slender



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Böttger-Schnack (1997)



Synonyms

Anataria mediterranea (Claus, 1863)

Size

Female: 1.14-1.26 mm

Genus notes

- Promose & urosome of female 5-segmented; urosome of male 6 segmented
- Prosome elongate to elongate-oval
- 1st antenna short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than that of first segment
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process between 2 apical spines
- To distinguish between adult and juvenile look for genital openings & count urosome somites
- Urosome generally slender

Female

- Exoskeleton well chitinized
- Prosome 2.2x length of urosome (excluding caudal rami) or 1.9x (including caudal rami)
- Antennule 6-segmented
- Antenna 3-segmented, distinctively reflexed
- P2 bearing somite without conspicuous dors-posterior projection
- P3 bearing somite with conspicuous raised pore protruding laterally
- Genital double somite nearly twice as long as maximum width (measured in dorsal aspect) and twice as long as postgenital somites combined, largest width measured at anterior third, posterior part tapering gradually
- Paired genital apertures located about halfway the distance from anterior margin of genital double-somite
- Anal somite 1.3x wider than long, about 2/3 the length of caudal rami
- Anterior margin of anal opening (vestigial and operculum) with transverse row of minute denticles, posterior margin of somite finely serrated ventrally and laterally
- Caudal ramus about 3x as long as wide

Notes

- Has 2 form variants recognized: A smaller & more slender form and a larger, more robust form
- Forms differ only in general appearance & in length:width ratio of caudal ramus in females (4:1 in larger form, 3:1 smaller form)

Distribution

Ecology

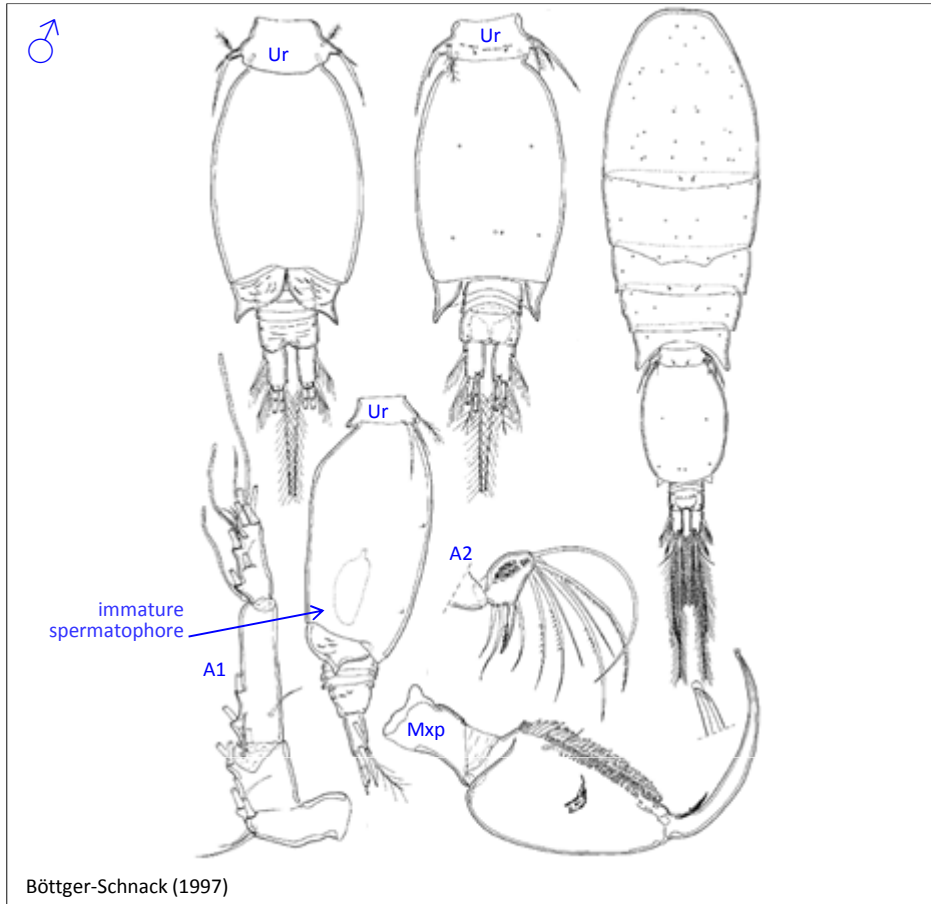


Oncaea mediterranea

(Claus, 1863)

2 form variants: *broad*, *slender*

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Size
Male: 0.89-0.96 mm

- Male**
- Leg 5 bearing somite with transverse row of denticles dorsally
 - Caudal rami 1.8x longer than wide (shorter than female)
 - Antennule 4-segmented
 - Antenna 3-segmented
 - Spermatophore oval in shape and variable in size

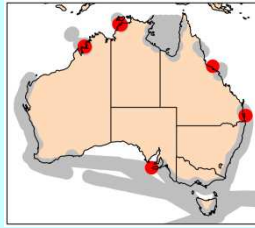
- Notes**
- No difference found between males of the 2 form variants

Source
Heron & Bradford Grieve (1995)
Böttger-Schnack (1997)

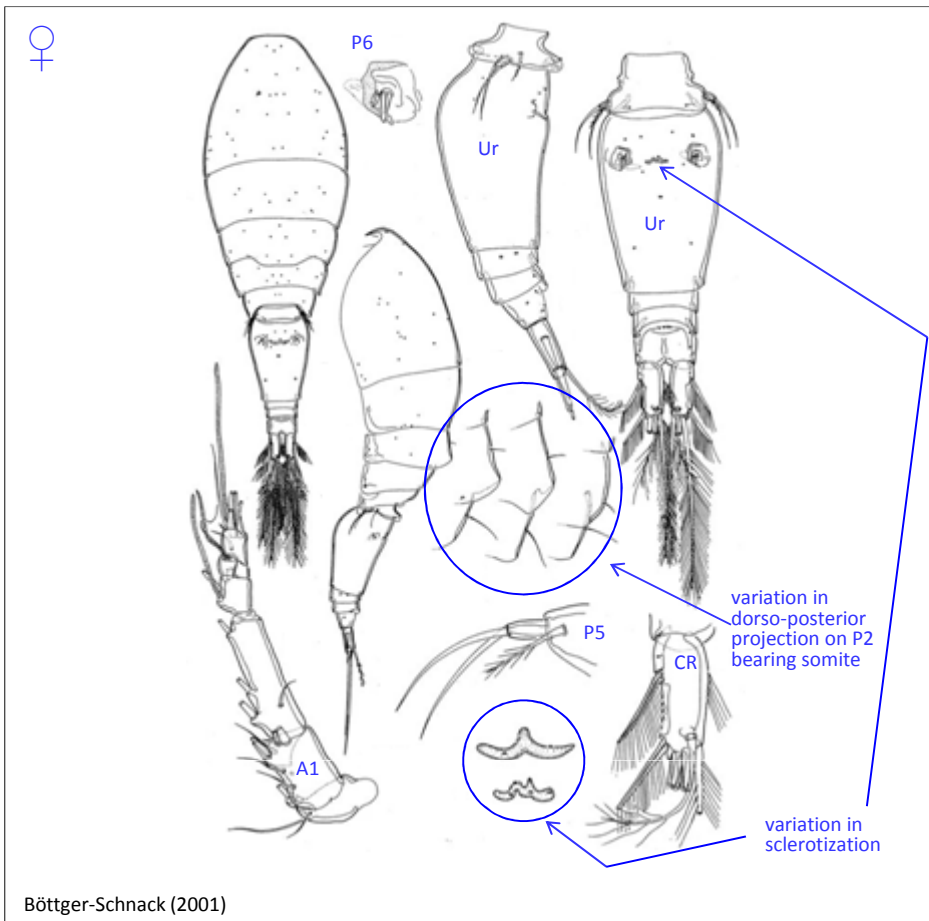
(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

Oncaea paraclevei

Böttger-Schnack, 2001



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Böttger-Schnack (2001)

Synonyms
None

Size
 Female: 0.65-0.66 mm
 Male: unknown

Genus notes

- Promose & urosome of female 5-segmented; urosome of male 6 segmented
- Prosome elongate to elongate-oval
- 1st antenna short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than that of first segment
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process between 2 apical spines
- To distinguish between adult and juvenile look for genital openings & count urosome somites
- Urosome generally slender

Female

- Exoskeleton well chitinized
- Prosome 2.1x length of urosome excluding caudal rami, 1.8x urosome length including caudal rami
- Integumental pores on prosome
- P2 bearing somite with dorso-posterior projection in lateral view (variable in conspicuousness)
- Pleural areas of P4 bearing somite elongate and with rounded posterolateral corners
- Genital double-somite oval-elongate, 1.6x as long as maximum width & 1.9x as long as postgenital somites combined, largest width measured at anterior third, lateral margins of genital double-somite rounded anteriorly
- Double curved sclerotization between genital apertures (varying in form)
- Anal somite 1.3x wider than long & about 3/4 length of caudal rami
- Anterior margin of anal opening with transverse row of minute denticles (between 4 & 10)
- Caudal rami 2.3x as long as wide

Notes

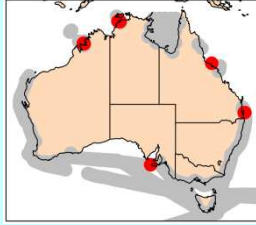
- Very similar to *O. clevei*, can be distinguished by: differences in form of the genital double somite, which is more elongate, location of genital apertures, which are more medial & somewhat more posterior than *O. clevei*, and resulting differences in the form & location of sclerotization between genital apertures

Distribution

Ecology

Oncaea paraclevei

Böttger-Schnack, 2001



Phylum
Order
Family

Arthropoda
Poecilostomatoida
Oncaeidae

Male

- To be completed

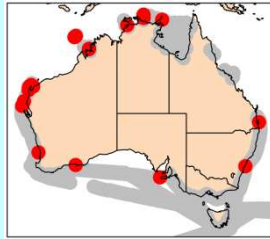
Source

Heron & Bradford Grieve (1995)
Böttger-Schnack (2001)

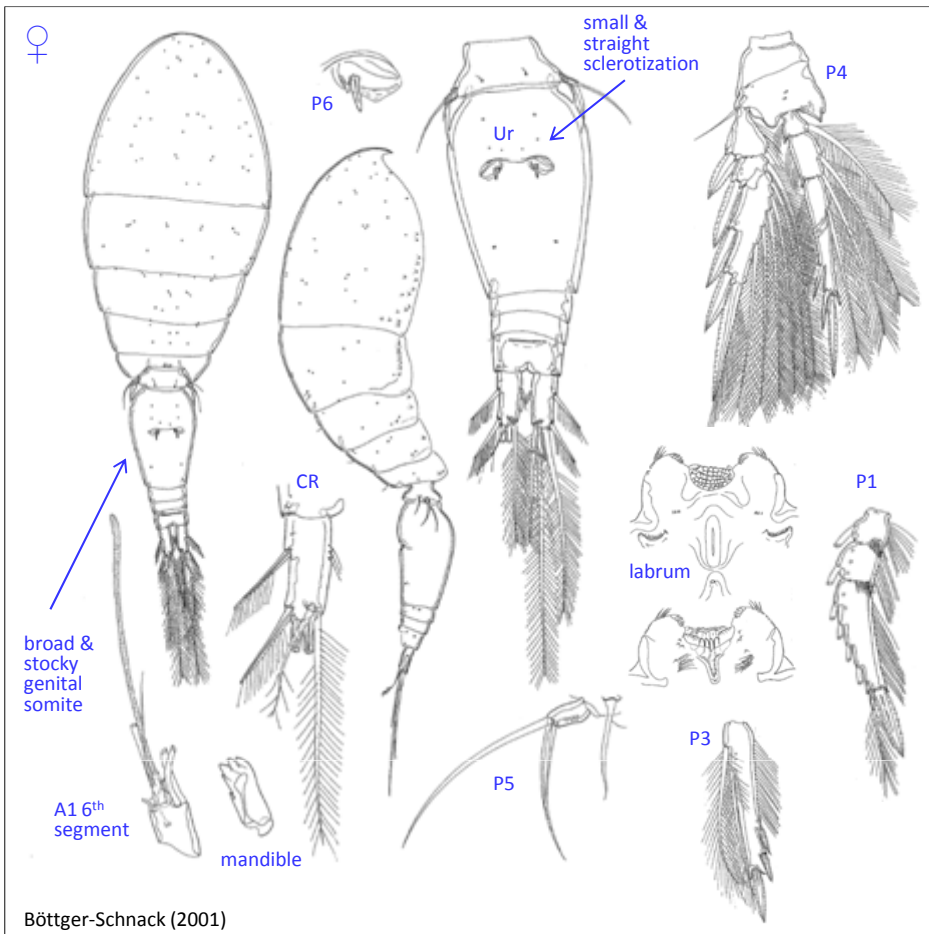
(Full reference available at
<http://www.imas.utas.edu.au/zooplankton/references>)

Oncaea scottodicarloi

Heron & Bradford-Grieve, 1995



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Böttger-Schnack (2001)

Synonyms
None

Size
Female: 0.48-0.61 mm

Genus notes

- Promose & urosome of female 5-segmented; urosome of male 6 segmented
- Prosome elongate to elongate-oval
- 1st antenna short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than that of first segment
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process btw 2 apical spines
- To distinguish between adult and juvenile look for genital openings & count urosome somites
- Urosome generally slender

Female

- Exoskeleton moderately chitinized
- Prosome 2.8x length of urosome (excluding caudal rami) 2.4x urosome length including caudal rami
- Genital double-somite 1.5x as long as maximum width & 2.5x as long as postgenital somites combined; almost square-shaped genital somite, stockier & broader
- Straight sclerotization between genital apertures
- Anal somite 1.8x wider than long & about ¼ length of caudal rami
- Caudal ramus about 2.3x as long as wide

Notes

- Closely related to *O. media*, *O. waldermari* and *O. curta*
- Distinguish between female *O. media* by proportional lengths of urosome somites (more elongated genital somite in *O. media*-genital somite is 2x as long as the rest of urosome)
- Form and location of sclerotization between genital apertures (in *O. media* genital openings are closer to top 1/3 from the top while in *O. scottodicarloi* genital openings are almost ½ way from the top of genital somite)
- Relative lengths of endopod spines of P4

Distribution

Ecology



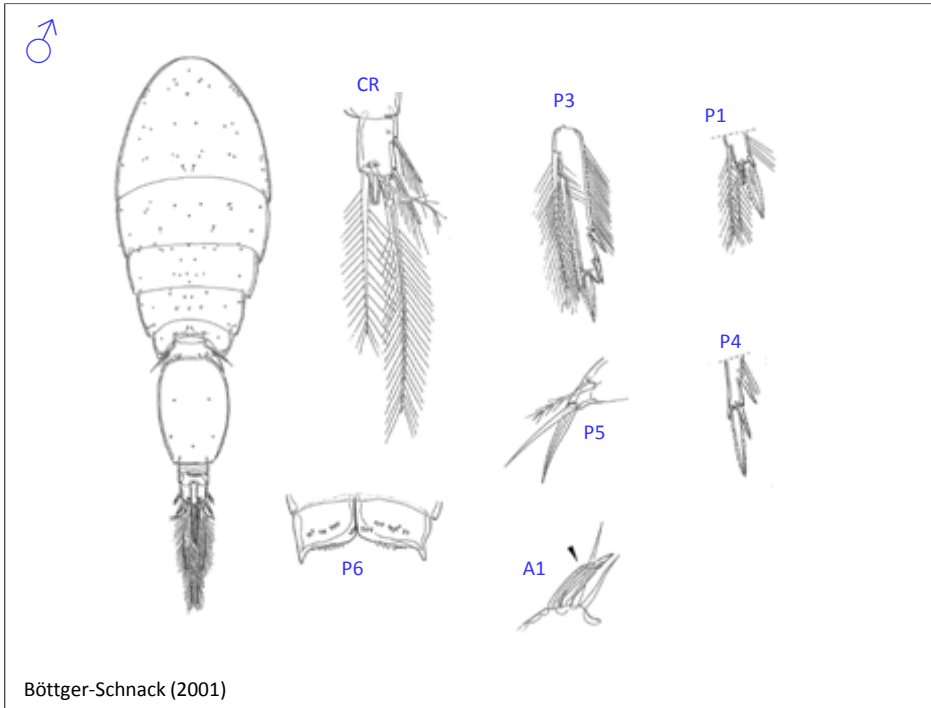
0.5 mm

C. Davies, CSIRO © 2013

Oncaea scottodicarloi

Heron & Bradford-Grieve, 1995

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Size
Male: 0.41-0.48 mm

- Male**
- Prosome 2.5 x length of urosome (excluding caudal rami), 2.2x urosome length (including caudal rami)
 - Caudal rami about 1.6x longer than wide (shorter than female)

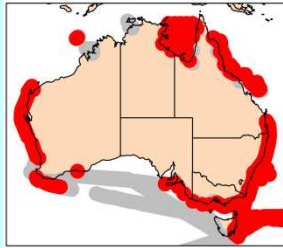
Source
Heron & Bradford Grieve (1995)
Böttger-Schnack (2001)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

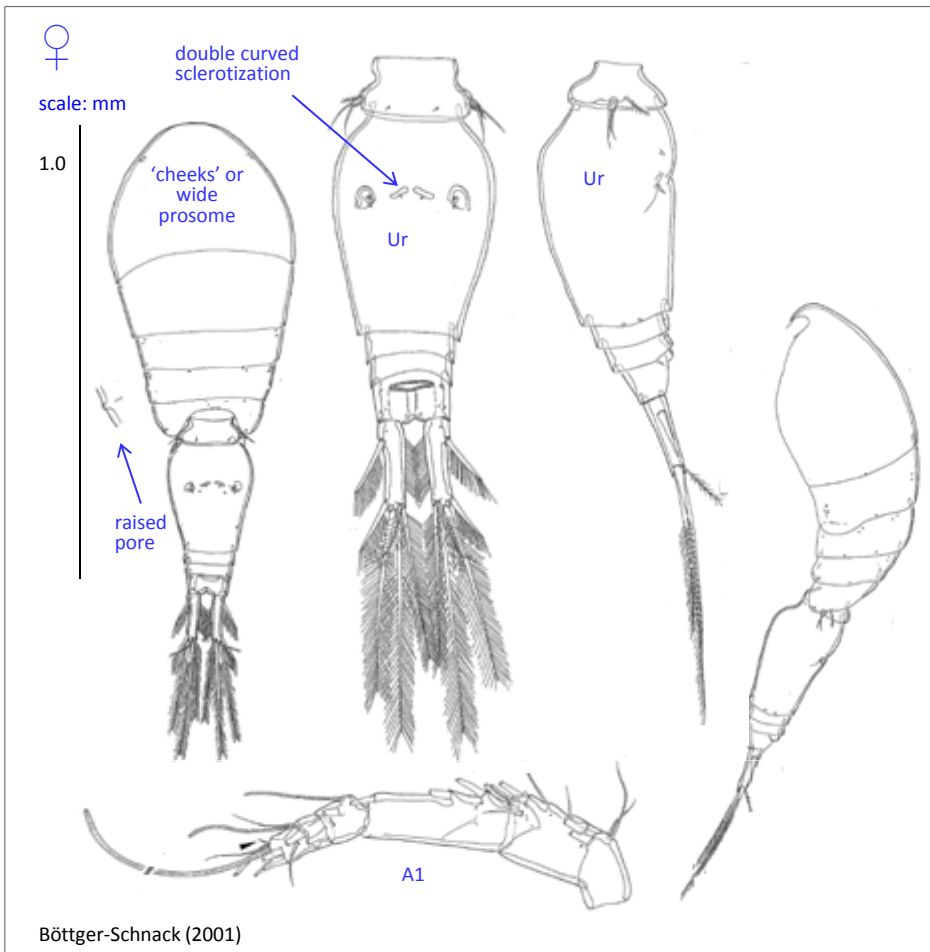
Böttger-Schnack (2001)

Oncaea venusta

Philippi, 1843



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Böttger-Schnack (2001)

Synonyms

Antaria coerulescens Claus, 1866
Antaria venusta (Philippi, 1843)
Oncaea coerulescens (Claus, 1866)
Oncaea praeclara Humes, 1988
Oncaea pyriformis Lubbock, 1860

Size

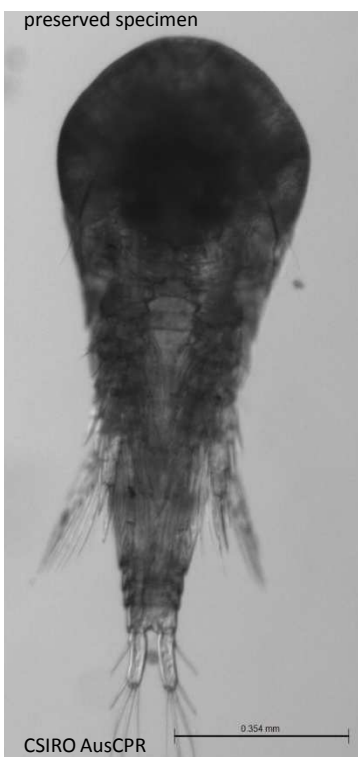
Female: 0.80 – 1.23 mm

Genus notes

- Prosome & urosome of female 5-segmented; urosome of male 6-segmented
- Prosome elongate to elongate-oval
- A1 short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than first segment
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process between 2 apical spines
- Urosome generally slender

Female

- Exoskeleton heavily chitinized, covered in numerous granules, forming long raised structures (lines)
- Prosome 2.1x length of urosome (excluding caudal rami) or 1.7x (including caudal rami)
- A1 6-segmented
- A2 3-segmented and distinctively reflexed
- P2 bearing somite without dorso-posterior projection in lateral aspect
- P3 bearing somite with conspicuous raised pore protruding laterally
- Genital somite 1.5x as long as max width (in dorsal aspect) & 1.9 x as long as post genital somites combined; largest width measured at anterior two thirds, lateral margins of genital somite rounded, posterior part tapering gradually
- Paired genital apertures located at about 2/5 the distance from anterior margin of genital somite
- Double curved sclerotization, between, but slightly anterior to genital apertures
- Anal somite 1.6 x wider than long, about half length of caudal rami
- Caudal ramus about 3.5x as long as wide



preserved specimen
 can be lilac in colour

Oncaea venusta

Philippi, 1843

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

Size

Male: 0.88 - 0.95 mm

Male

- Prosome 2x length of urosome (excluding caudal rami) or 1.7x (including caudal rami)
- Antennule 4-segmented
- Length: width ratio of genital somite 1.5:1
- Surface of genital flaps & ventral surface of anal somite ornamented with several rows of small spinules
- Caudal rami 2.5x longer than wide
- Dorsal & ventral surface of caudal ramus covered in minute scales as in female

Distribution

- Epipelagic to mesopelagic, also demersal and semi-parasitic
- Inshore coastal, coastal and oceanic
- Australian distribution includes North West Cape, Great Barrier Reef and south east area, including Tasmania
- World distribution: cosmopolitan except for the Arctic

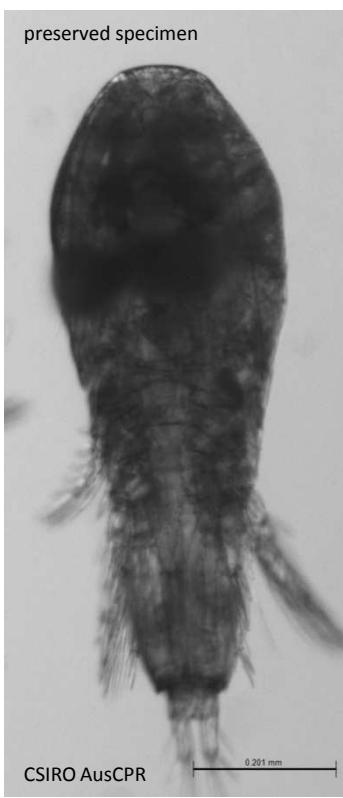
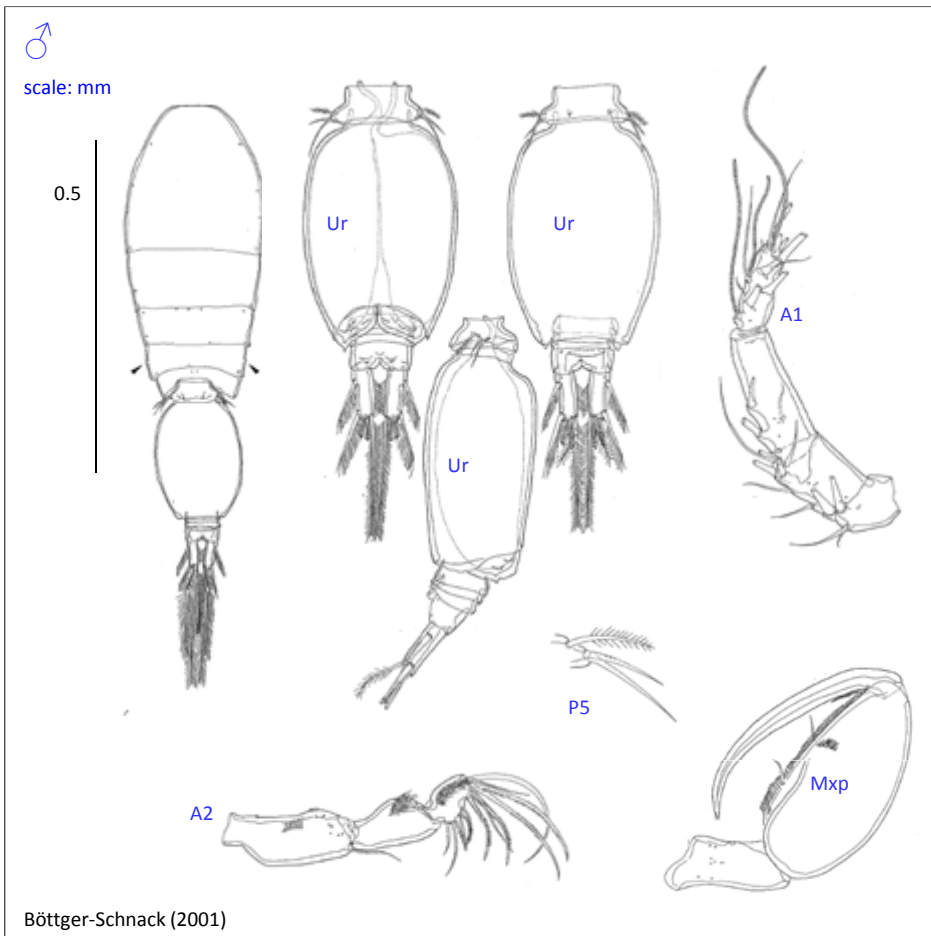
Ecology

- Two different size variants of *Oncaea venusta*, forma typica and forma venella have been genetically identified
- *O. venusta typica* is the largest in size and *O. venusta venella* the smallest
- Intermediate sizes of *O. venusta* do occur and may be genetically distinct forms
- Non-selective omnivores
- Feed on other zooplankton and appendicularian houses that form marine snow containing phytoplankton and bacteria
- Also known to be parasitic
- Females carry two, oval-shaped egg sacs that contain more than 50 eggs in each

Source

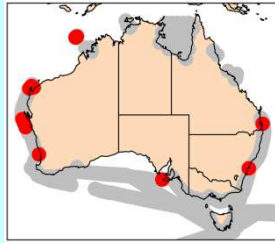
Böttger-Schnack (2001)
 Elvers et al. (2006)
 Heron & Bradford Grieve (1995)
 Ohtsuka et al. (1996)
 Razouls et al. (2010)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



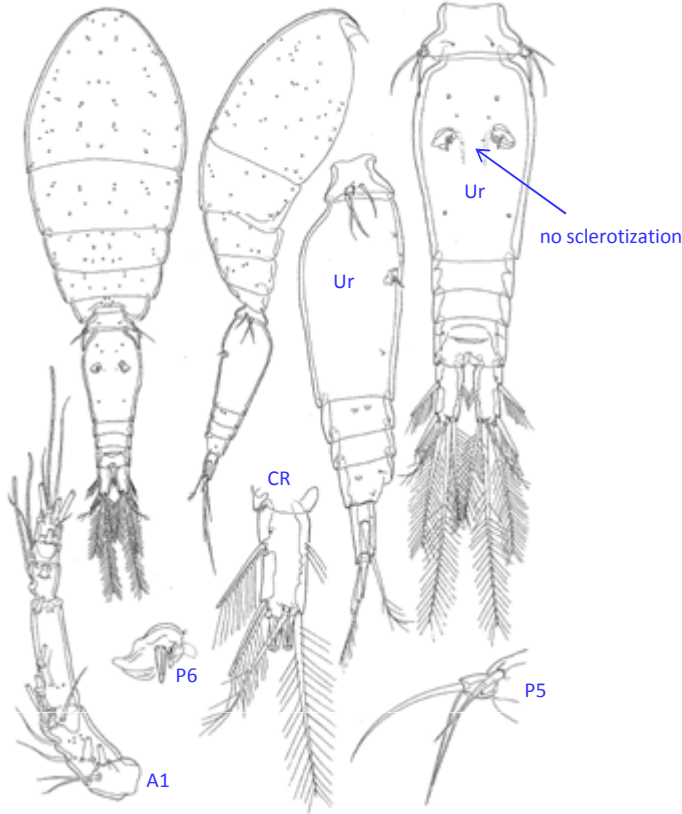
Oncaea waldemari

Bersano & Boxshall, 1996



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

♀



Böttger-Schnack (2001)

Synonyms
None

Size
Female: 0.42-0.50 mm

Genus notes

- Promose & urosome of female 5-segmented; urosome of male 6 segmented
- Prosome elongate to elongate-oval
- 1st antenna short, with reduced number of segments
- 2nd antenna 3-segmented, with terminal segment shorter than that of first segment
- Mandible complex, with 3-5 subterminal elements
- First maxilla small, bilobed
- Maxilliped a well-developed claw in both sexes
- P1-4, exopods and endopods essentially 3-segmented and leg 5 a single free segment (small rod or knob shaped) or represented by 1-3 setae
- P2, 3 & 4 of some species terminated with a conical process btw 2 apical spines
- To distinguish between adult and juvenile look for genital openings & count urosome somites
- Urosome generally slender

Female

- Exoskeleton well chitinized
- Prosome 2.7x length of urosome, (excluding caudal rami) or 2.3x (including caudal rami)
- P2 bearing somite without dorso-posterior projection
- Genital double somite 1.7x as long as max width, & 1.7x as long as postgenital somites combined
- Anal somite shorter than caudal rami
- Caudal ramus about 2.3x as long as wide

Distribution

Ecology

preserved specimen

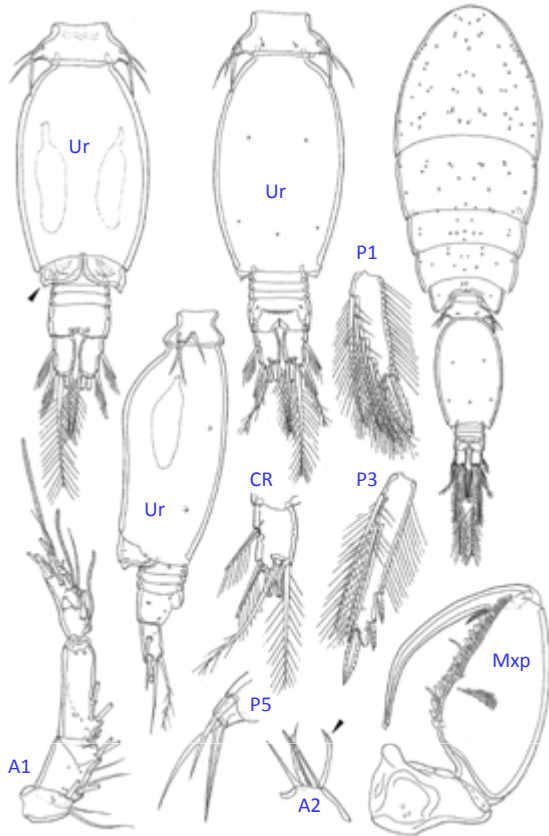


C. Davies, CSIRO © 2013

Oncaea waldemari

Bersano & Boxshall, 1996

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Böttger-Schnack (2001)

Size
Male: 0.34-0.36 mm

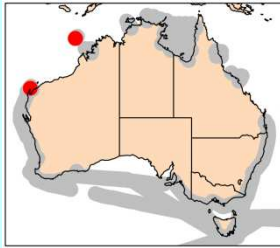
- Male**
- Caudal rami about 1.4x longer than wide, shorter than female

Source
Heron & Bradford Grieve (1995)
Böttger-Schnack (2001)

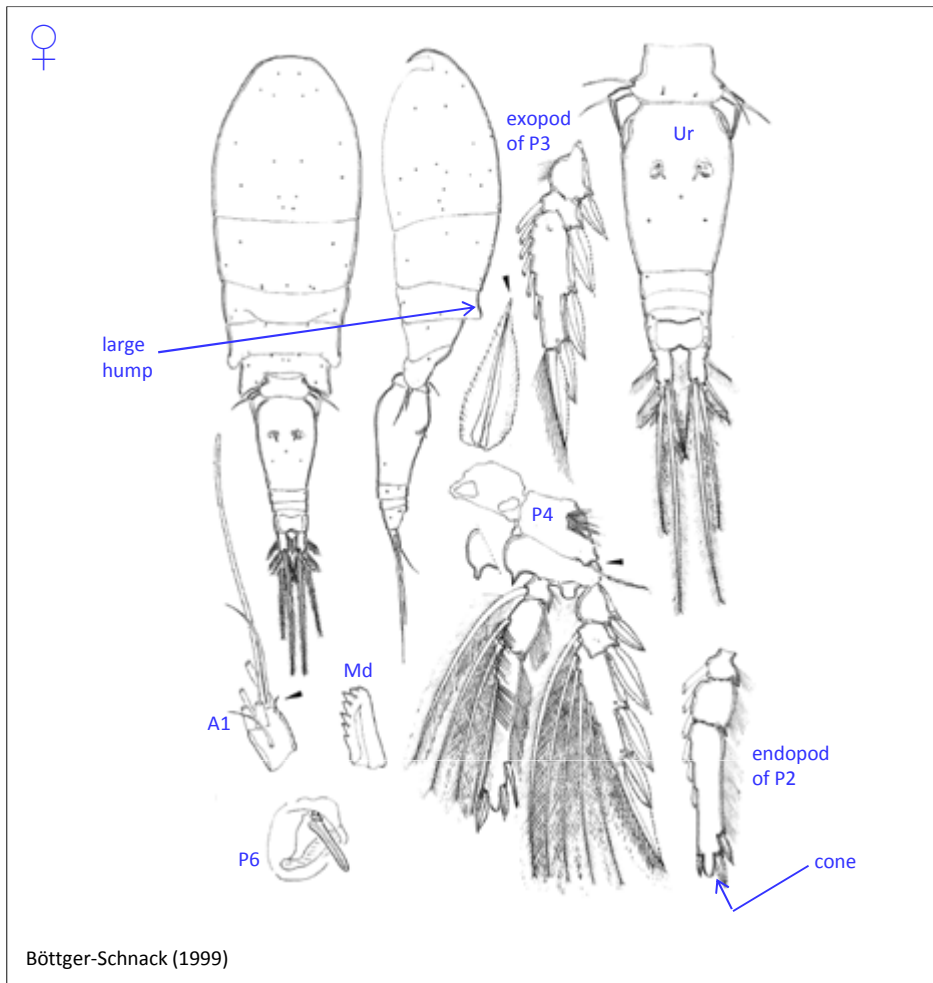
(Full reference available at
<http://www.imas.utas.edu.au/zooplankton/references>)

Triconia conifera

(Giesbrecht, 1891)



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Synonyms

Oncaea conifera Geisbrecht, 1891

Size

Female: 0.980 – 1.29 mm

Genus notes

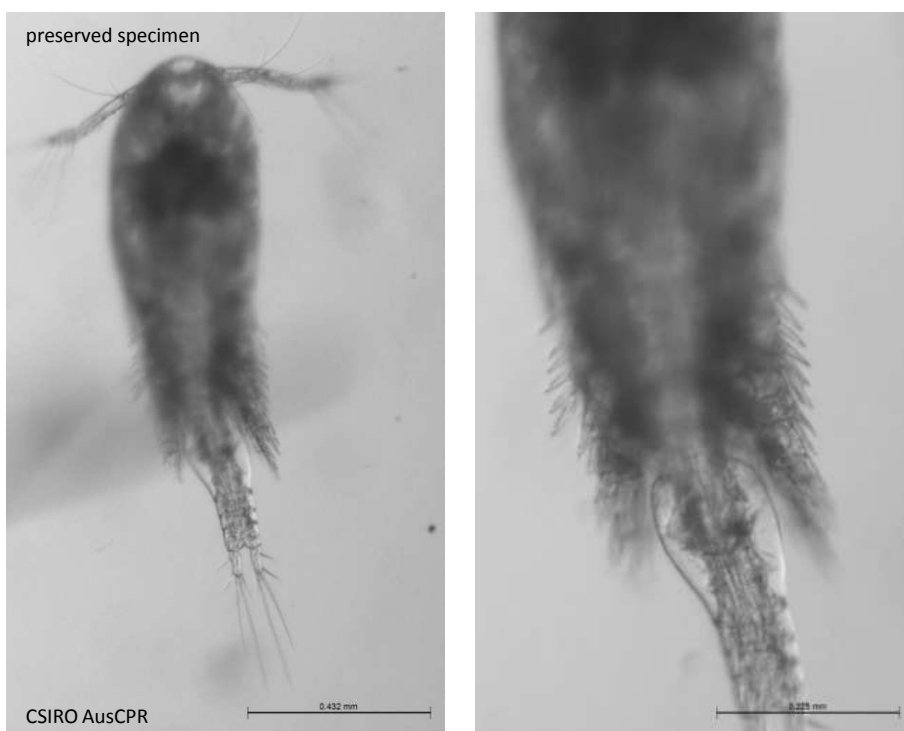
- Exoskeleton moderately chitinised
- Body cycloform, prosome elongate-oval
- Cephalosome without lateral lobate extensions
- P2 bearing somite with (*conifera* subgroup) or without (*similis* and *dentipes* subgroup) dorso posterior projection
- Conical projection on the distal endopod segments of the last three pairs of swimming legs
- Genital double somite of female barrel or flask shaped, not particularly swollen dorsally
- First and second post genital somites shorter than anal one
- Anal somite with wide anal opening: operculum with small spinules
- Caudal ramus about twice as long as wide, or shorter

Female

- P2 bearing somite with large hump

Distribution

Ecology



Triconia conifera

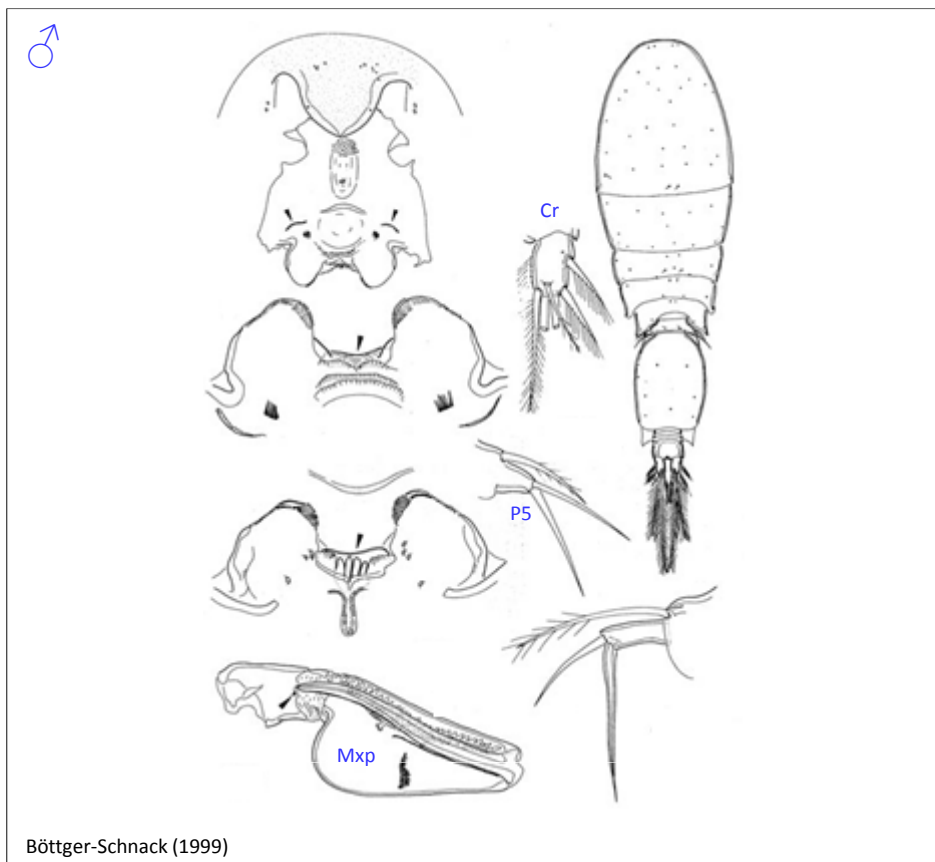
(Giesbrecht, 1891)

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

Size
Male: 0.62-0.94 mm

Source
Heron & Bradford-Grieve (1995)
Böttger-Schnack (1999)

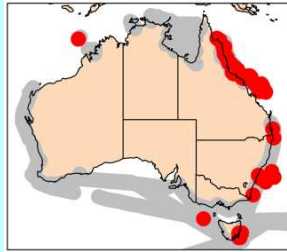
(Full reference available at
<http://www.imas.utas.edu.au/zooplankton/references>)



Böttger-Schnack (1999)

Triconia dentipes

Giesbrecht, 1891



Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae

Synonyms

Oncaea dentipes Giesbrecht, 1891

Size

Female: 0.44-0.49 mm

Genus notes

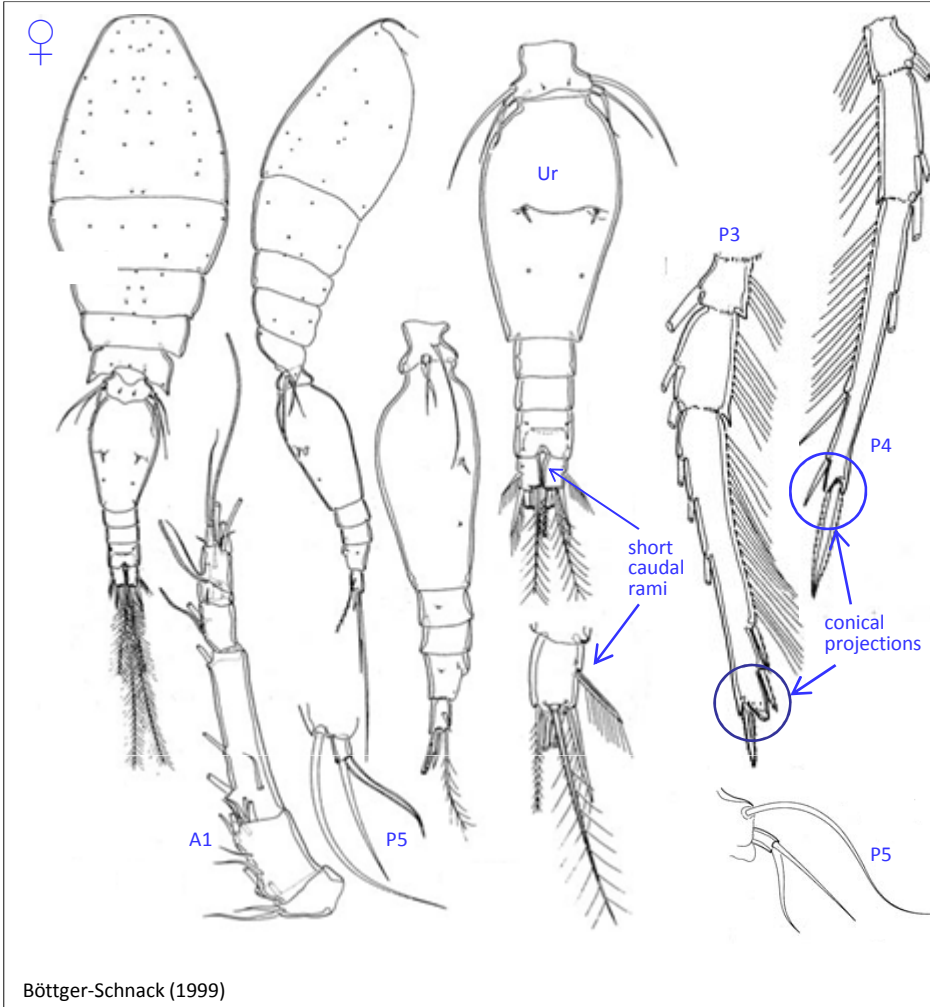
- Exoskeleton moderately chitinised
- Body cycloform, prosome elongate-oval
- Cephalosome without lateral lobate extensions
- P2 bearing somite with (*conifera* subgroup) or without (*similis* and *dentipes* subgroup) dorso posterior projection
- Conical projection on the distal endopod segments of the last three pairs of swimming legs
- Genital double somite of female barrel or flask shaped, not particularly swollen dorsally
- First and second post genital somites shorter than anal one
- Anal somite with wide anal opening: operculum with small spinules
- Caudal ramus about twice as long as wide, or shorter

Female

- Exoskeleton moderately chitonised
- Antennae 3 segmented, distinctly reflexed
- Prosome:Urosome length 1.7
- Genital somite weak flask like, length:width 1.8, 2.2x longer than other somites combined
- Genital apertures half distance from anterior margin of genital somite, straight line of weak sclerotisation between apertures
- Anal somite as wide as long, longer than caudal rami
- Caudal rami short, length:width 1.5

Distribution

Ecology



Böttger-Schnack (1999)



preserved specimen

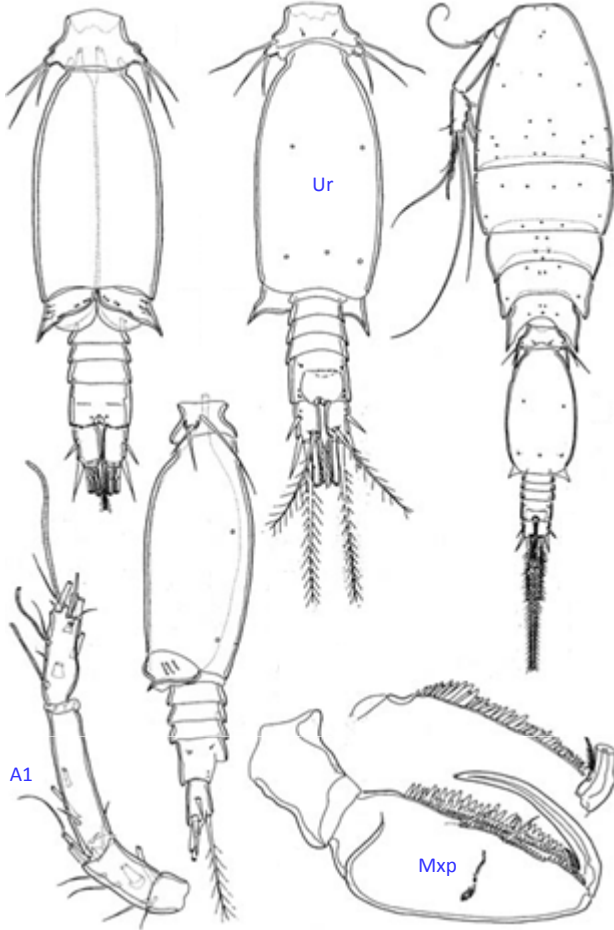
0.5 mm

A. Slotwinski, CSIRO © 2012

Triconia dentipes

(Giesbrecht, 1891)

Phylum Arthropoda
Order Poecilostomatoida
Family Oncaeidae



Böttger-Schnack (1999)

Size
Male: 0.48 mm

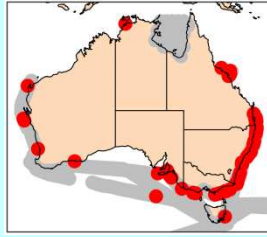
Male
• To be completed

Source
Böttger-Schnack (1999)

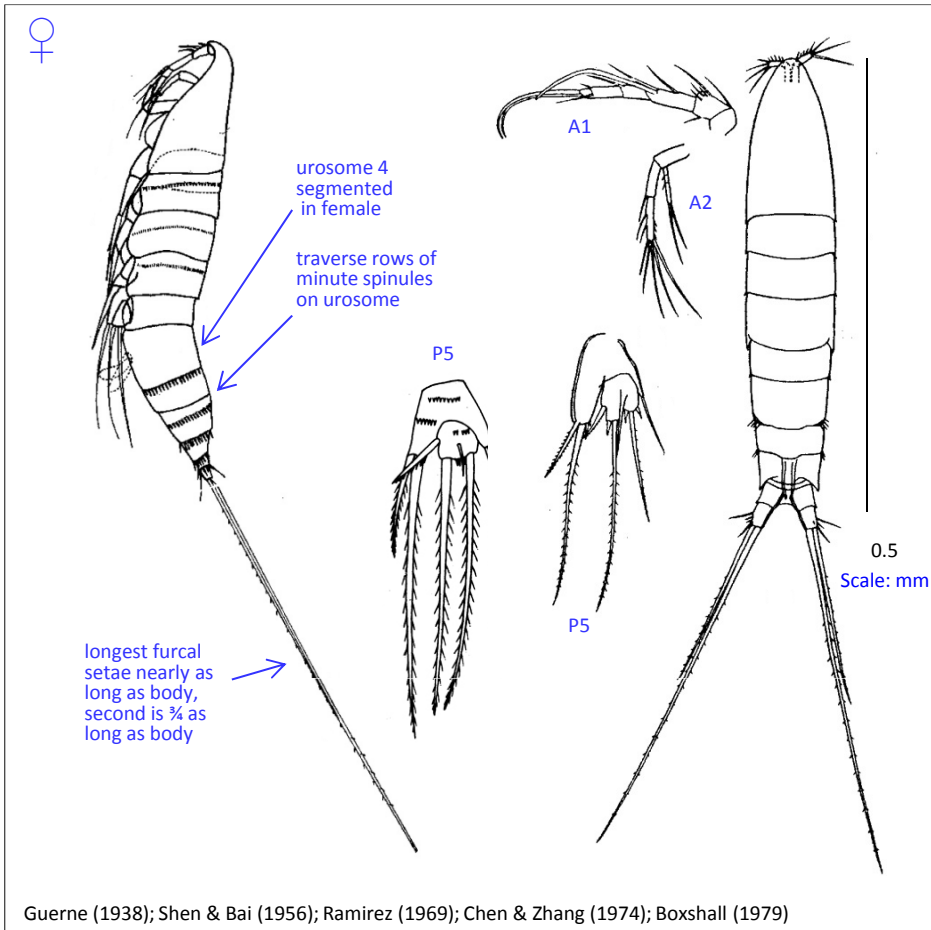
(Full reference available at
<http://www.imas.utas.edu.au/zooplankton/references>)

Microsetella norvegica

(Boeck, 1865)



Phylum Arthropoda
Order Harpacticoida
Family Ectinosomatidae



Guerne (1938); Shen & Bai (1956); Ramirez (1969); Chen & Zhang (1974); Boxshall (1979)

Synonyms

Setella norvegica Boeck, 1864
Microsetella atlantica Brady & Robertson, 1873
Ectinosoma atlanticum Brady & Robertson, 1873
Microsetella brevifida Giesbrecht, 1891

Size

Female: 0.35-0.53mm

Genus notes

- Body slender & laterally compressed
- A1 slender, elongate, 5-segmented, and in males geniculate
- Urosome is as wide as prosome, 4 segmented in female; 6 segmented in male
- Female P5 is 2 segmented & symmetrical
- Male P5 is rudimentary & symmetrical

Female

- Short rostrum turned downwards
- P5 2 inner setae of different length
- Traverse rows of minute spinules on urosome
- Caudal rami as long as wide and divergent
- Longest caudal rami setae nearly as long as body, second is $\frac{3}{4}$ as long as body
- Similar to *M. rosea*:
 - Check size, if over 0.8mm it is likely *M. rosea*
 - Length of caudal rami setae, if nearly twice as long as body then it is *M. rosea*, if shorter than it could be either species (setae could be broken)
 - *M. rosea* has spinules on metasome and urosome, *M. norvegica* has spinules on urosome
 - *M. norvegica* caudal rami slightly more divergent than *M. rosea*
 - *M. rosea* may be coloured pink

Distribution

- Epipelagic-bathypelagic
- Cosmopolitan, oceanic and coastal
- Found in tropical and subtropical regions of Australia
- World distribution: widespread in all oceans



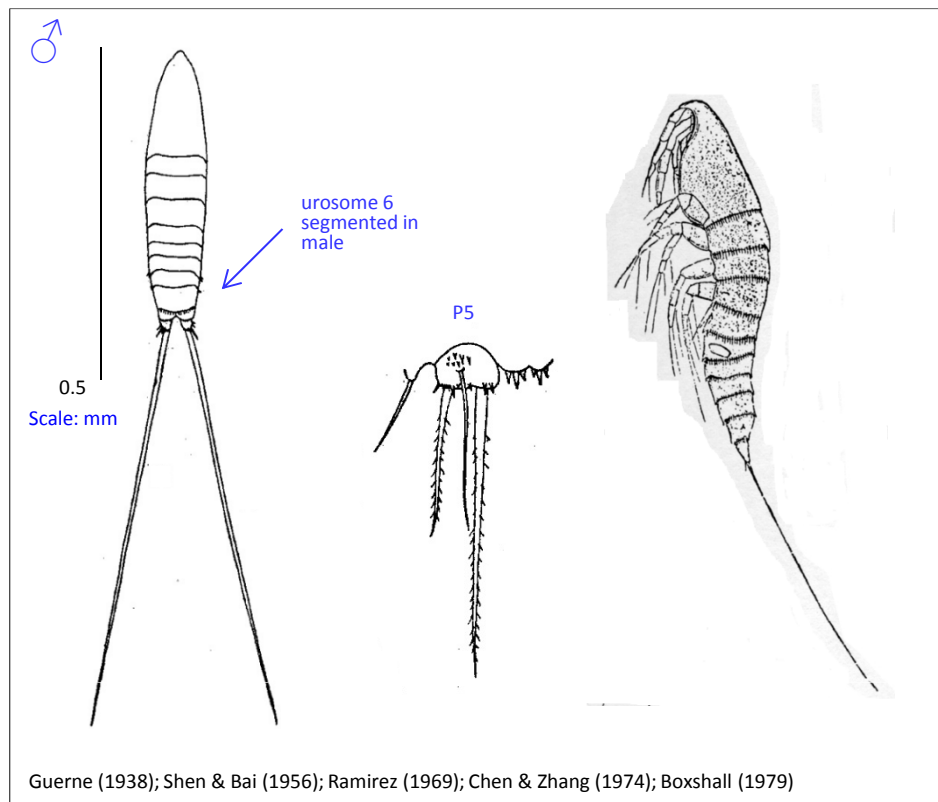
preserved specimen

CSIRO AusCPR

Microsetella norvegica

(Boeck, 1865)

Phylum Arthropoda
Order Harpacticoida
Family Ectinosomatidae



Size

Male: 0.33-0.42 mm

Male

- Smaller than female but similar shape
- A1 is geniculate
- Caudal rami a little wider than long

Ecology

- Widely distributed marine planktonic copepod
- Biology is poorly known
- Can be one of the numerically dominant species in coastal waters
- In oligotrophic waters this species is known to associate with marine snow aggregates, where attached microbial communities provide a nutrition source
- In eutrophic waters, where there are abundant food particles in water column, such associations are not observed (e.g. Inland Sea of Japan)
- Long caudal setae might assist in swimming by slowing sinking rate
- Will often aggregate in regions with relatively high turbulence, thought to also assist with swimming
- Stenohaline by nature, preferring a narrow range of salinities
- Females carry a single egg sac and can breed more than once
- Time from egg laying to moulting to adulthood is temperature dependent (at 20° C duration was 31.9 days and at 27° C, 14.3 days)
- Herbivorous

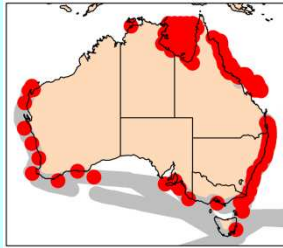
Source

Conway (2003)
 Diaz & Evans (1983)
 Green & Dagg (1997)
 Ohtsuka et al (1993)
 Razouls et al (2010)
 Uye et al (2002)

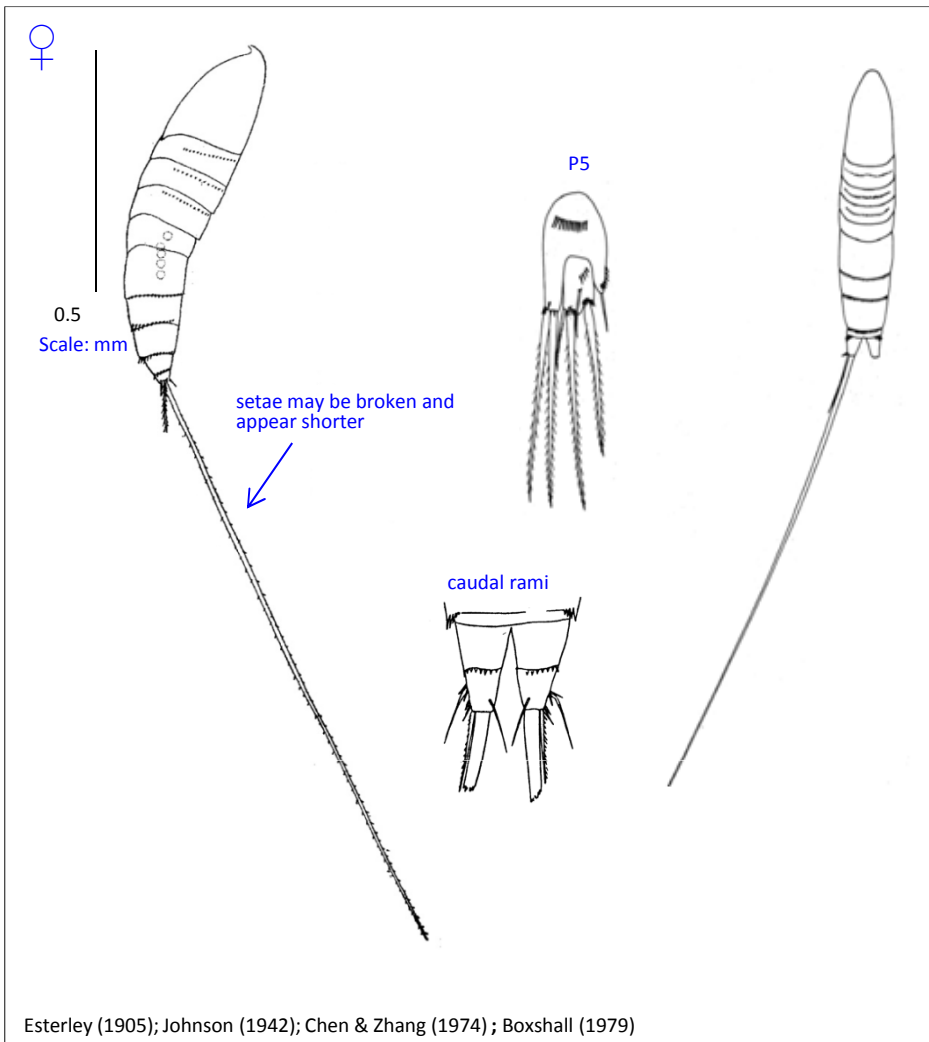
(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

Microsetella rosea

(Dana, 1848)



Phylum Arthropoda
Order Harpacticoida
Family Ectinosomatidae



Esterley (1905); Johnson (1942); Chen & Zhang (1974); Boxshall (1979)

Synonyms

Harpacticus roseus Dana, 1848
Canthocamptus roseus Dana, 1852
Ectinosoma roseum Thompson & Scott, 1903

Size

Female: 0.64-0.85 mm

Genus notes

- Body slender & laterally compressed
- A1 slender, elongate, 5-segmented, and in males geniculate
- Urosome is as wide as prosome, 4 segmented in female and 6 segmented in male
- Female P5 is 2 segmented and symmetrical
- Male P5 is rudimentary and symmetrical

Female

- Sometimes has a rosy tinge
- The 2nd, 3rd & 5th prosome somites and the urosome somites have traverse rows of spinules near the anterior margins
- Longest setae on the caudal rami 2x as long as body
- P5 with 2 inner setae approx equal in length
- Similar to *M. norvegica*:
- Check size, if over 0.8mm it is likely *M. rosea*
- Length of caudal rami setae, if nearly twice as long as body then it is *M. rosea*, if shorter than it could be either species (setae could be broken)
- *M. rosea* has spinules on metasome and urosome, *M. norvegica* has spinules on urosome
- *M. norvegica* caudal rami slightly more divergent than *M. rosea*
- *M. rosea* may be coloured pink

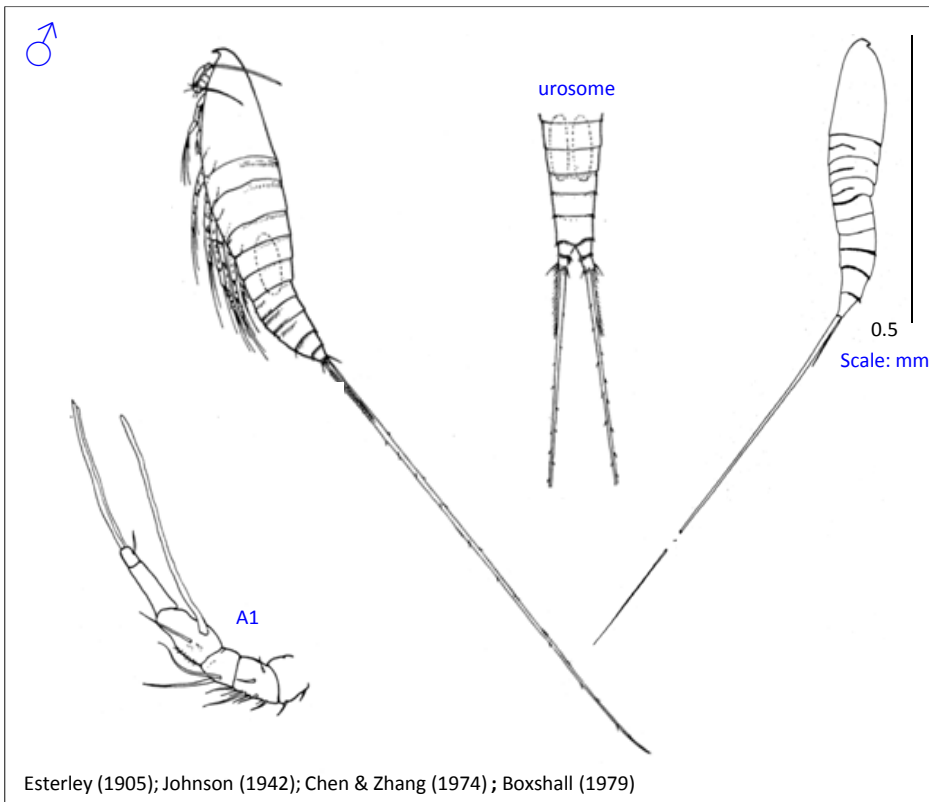
Distribution

- Epipelagic
- Oceanic and coastal
- Australian distribution includes Gulf of Carpentaria, Great Barrier Reef, New South Wales and eastern Tasmania
- World distribution: cosmopolitan except for the Arctic and Antarctic Oceans

Microsetella rosea

(Dana, 1848)

Phylum Arthropoda
Order Harpacticoida
Family Ectinosomatidae



Size
Male: 0.37-0.70 mm

Males

- Males are rarer than females
- A1 slender, elongate, 5-segmented, geniculate

Ecology

- Herbivorous
- Important dietary component for larvae of small pelagic fishes; examples include European anchovy in the Mediterranean (*Engraulis encrasicolus*) and larval jack mackerel (*Trachurus declivis*) in eastern Tasmania

Source

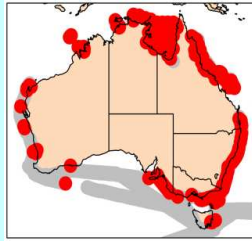
- Bacha & Amara (2009)
- Conway (2003)
- Othman et al (1990)
- Young & Davis (1992)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

Esterley (1905); Johnson (1942); Chen & Zhang (1974); Boxshall (1979)

Euterpina acutifrons

(Dana, 1847)



Phylum Arthropoda
Order Harpacticoida
Family Euterpinidae

Synonyms

Euterpe acutifrons (Dana, 1847)
Harpacticus acutifrons Dana, 1847
Laophonte sagenarum Oliveira, 1945

Size

Female: 0.50-0.75 mm

Genus notes

- A2 exp well developed
- Prosome 4 segmented
- Female urosome 5 segmented, male 6 segmented
- Both rami of P1 2 segmented

Female

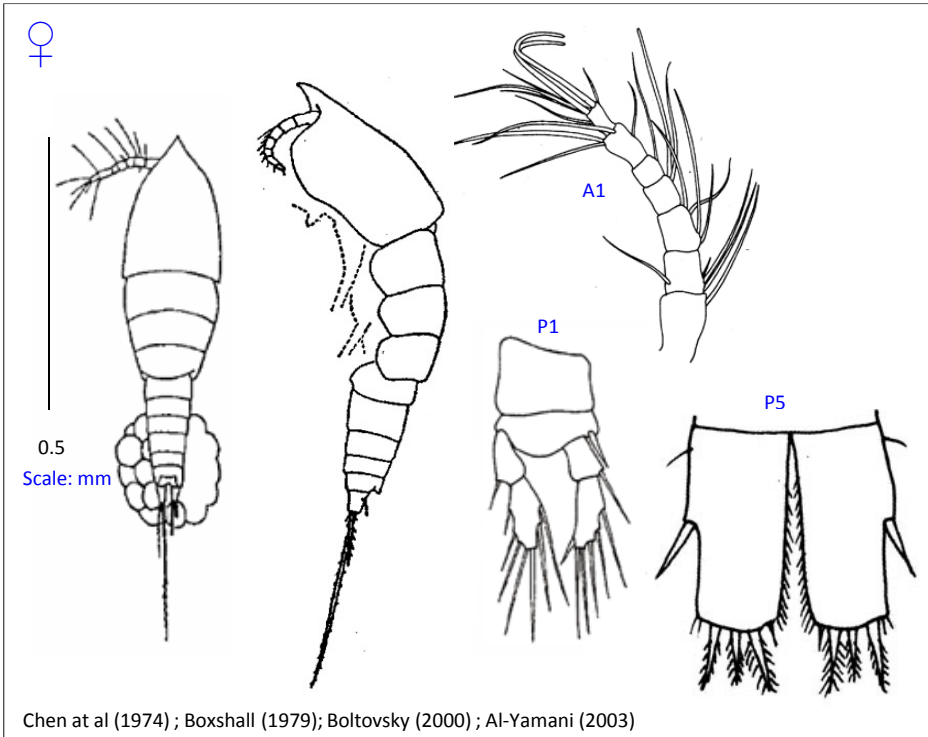
- Rostrum is stout, anterior of cephalosome is sharply pointed
- A1 7 segmented
- P5 symmetrical, 1 segmented

Distribution

- Epipelagic, cosmopolitan
- Coastal, neritic
- Australian distribution includes New South Wales, Great Barrier Reef and Tasmania
- World distribution: widespread in tropical and subtropical waters of all oceans
- Species is not found in the Arctic or Antarctic Oceans

Ecology

- Principally inshore marine species but can tolerate a wide range of salinities
- Non-selective herbivores
- Female carries single egg sac
- Generation times range from 23 – 85 days; length of time relates to water temperature and food availability



Chen et al (1974) ; Boxshall (1979); Boltovsky (2000) ; Al-Yamani (2003)

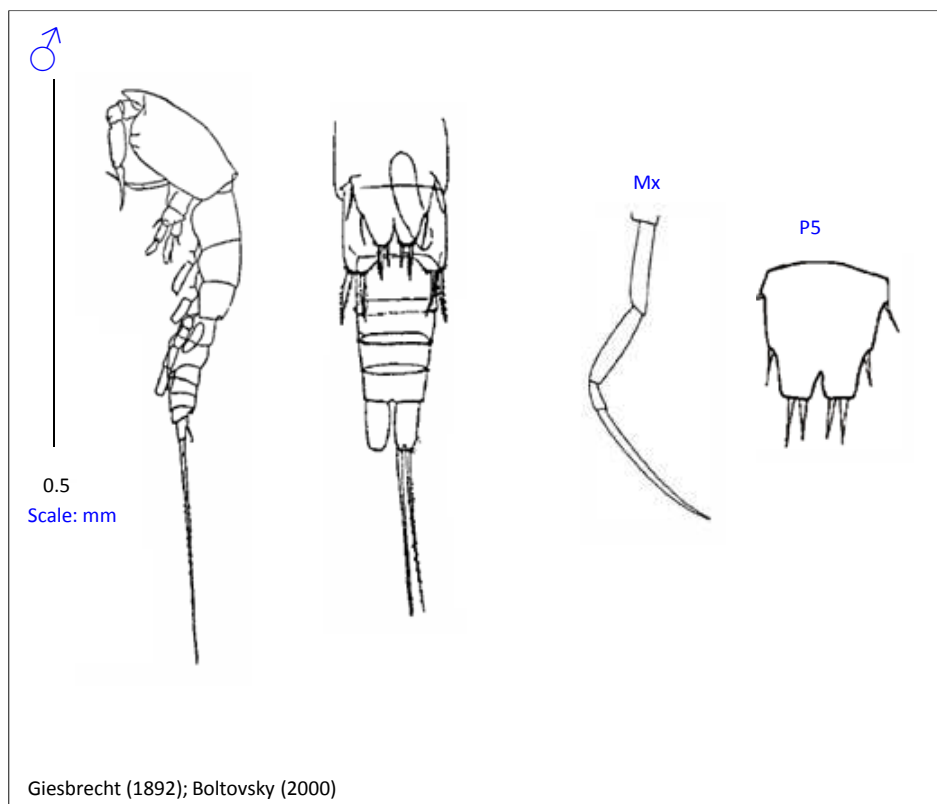


CSIRO AusCPR

Euterpina acutifrons

(Dana, 1847)

Phylum Arthropoda
Order Harpacticoida
Family Euterpinae



Size

Male: 0.50-0.56 mm

Male

- Body similar in shape to female
- Both A1 geniculate; 4th and 5th segments are fused and much thickened; 6th and 7th are fused
- A2 exp well developed
- Both rami of P1 2 segmented
- P5 symmetrical and rudimentary

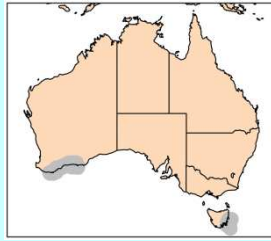
Source

Conway (2003)

Razouls et al (2010)

Taw and Ritz (1979)

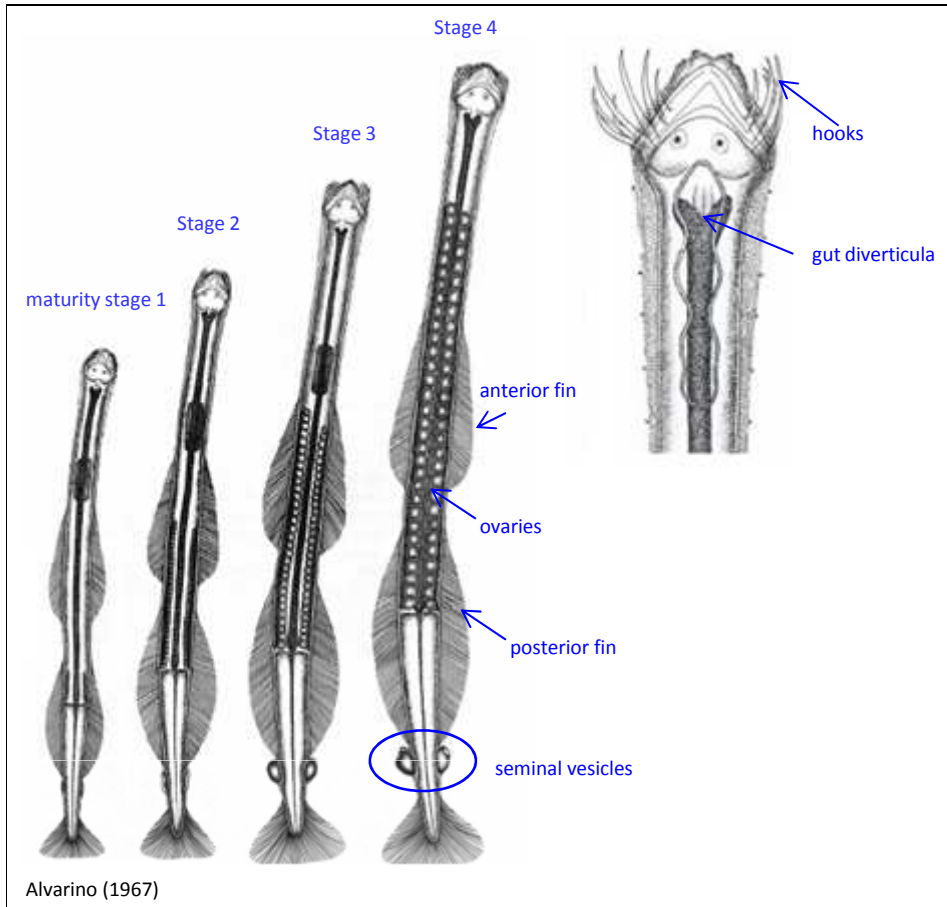
(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



Aidanosagitta neglecta

(Aida, 1897)

Phylum Chaetognatha
Order Aphragmophora
Family Sagittidae



Synonyms

Sagitta neglecta Aida, 1897

Size

- Maximum adult body length 8 mm, tail 26-30% of body length

Genus notes

- Lateral fins completely rayed, rays almost at right angles to body wall
- Intestinal diverticula present, but hard to see
- Seminal vesicles generally situated behind posterior fins, usually apart from tail fin
- Tail segment relatively long

Species notes

- Body firm, opaque, slender
- Head narrow but rounded
- Hooks not serrated
- Fin bridge absent
- Anterior fins start close to the ventral ganglion; of medium length, fully rayed, rounded
- Posterior fins of medium length, fully rayed, rounded
- Long, narrow collarette
- Large eyes, with star-shaped pigment spot
- Seminal vesicles with knob and trunk touching; or close to posterior fins but separated from tail fin
- Ovaries long, reaching to neck region
- Ova large

Distribution

- Epipelagic
- Indo-Pacific between 30°S and 30°N

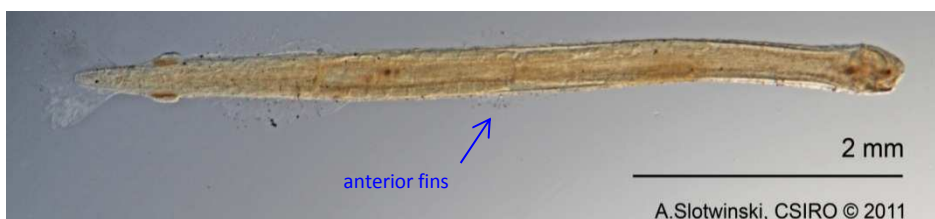
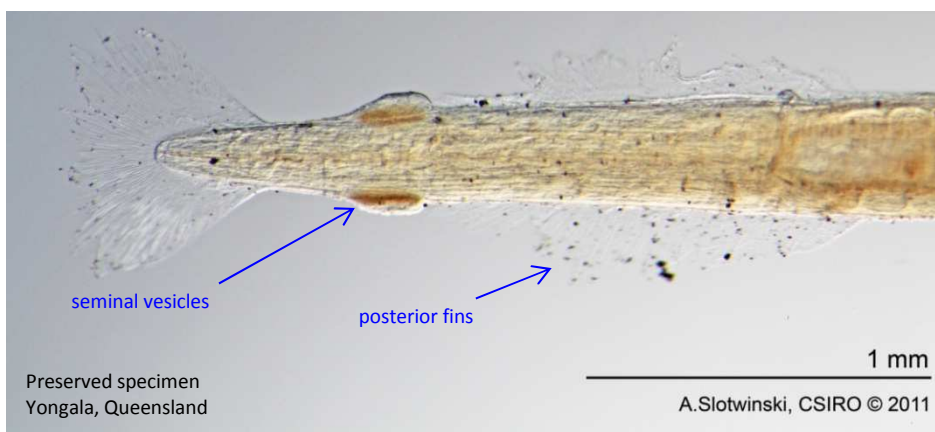
Ecology

- Opportunistic predators that detect prey by sensing their movement, e.g. beating motions of larvaceans
- Will feed on other chaetognath species
- Exhibits diel vertical migratory behaviour

Source

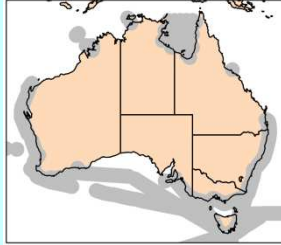
Alvarino (1967)
 Conway (2003)
 Gibbons pers. comms. (2012)
 Lie et al. (2012)
 Marine species identification portal (2011)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



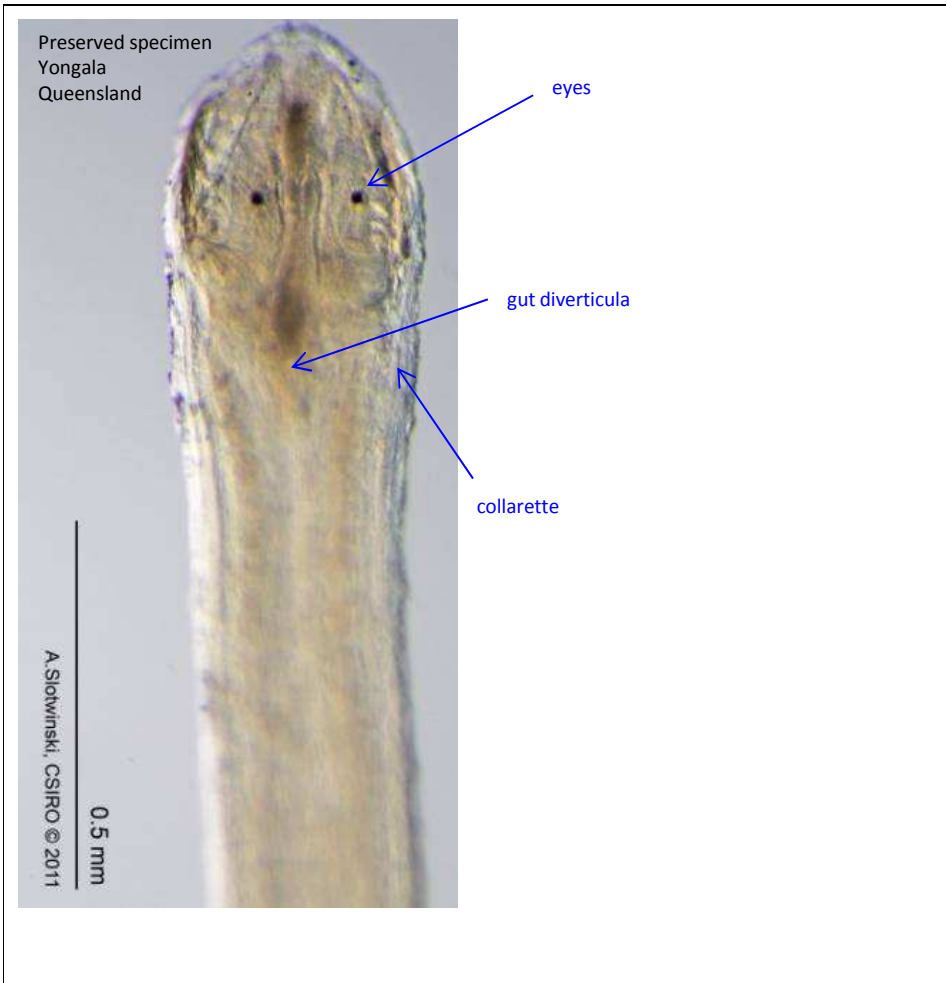
Aidanosagitta neglecta

(Aida, 1897)



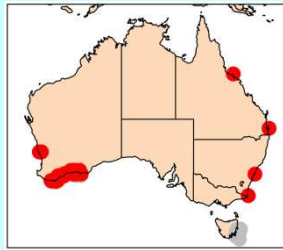
Phylum
Order
Family

Chaetognatha
Aphragmophora
Sagittidae

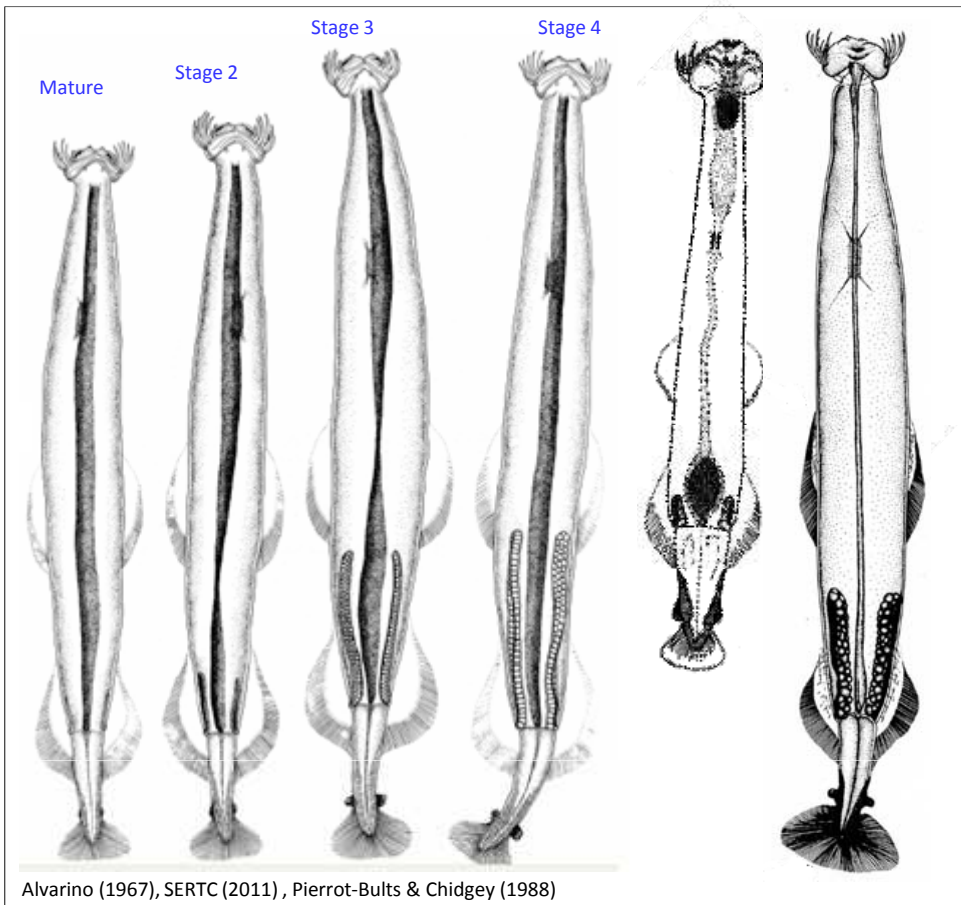


Flaccisagitta enflata

(Grassi, 1881)



Phylum Chaetognatha
Order Aphragmophora
Family Sagittidae



Synonyms

Sagitta enflata Grassi, 1881

Size

- Maximum adult body length 25 mm, tail 14-17% of length

Genus notes

- Limp, flaccid body
- Lateral fins show distinctive rayless zones
- No intestinal diverticula, hard to see
- Anterior fins separate from posterior fins (no connecting bridge of tissue) and start some distance behind ventral ganglion

Species notes

- Body flaccid, transparent, widest around mid length
- Hooks not serrated
- Anterior fins short, partially rayed, round, not close to ventral ganglion
- Posterior fins short, partially rayed, round
- Collarette absent
- Small eyes, with star-shaped pigment spot
- Seminal vesicles round and touching tail fin, well separated from posterior fins
- Ovaries short, reaching to middle of posterior fins; ova large

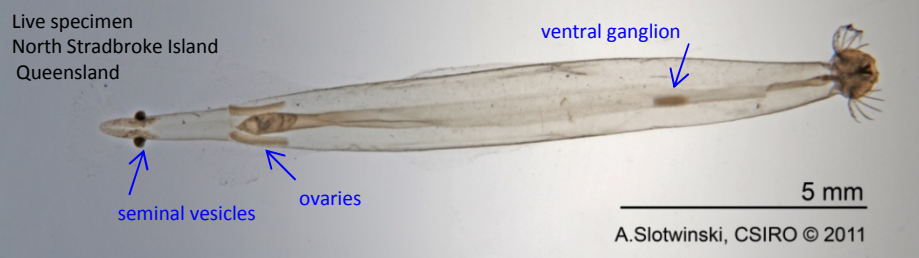
Distribution

Ecology

Source

Conway (2003)
 Gibbons pers. comm. (2013)
 Marine species identification portal (2011)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



A. Slotwinski, CSIRO © 2011

2 mm



Flaccisagitta enflata

(Grassi, 1881)

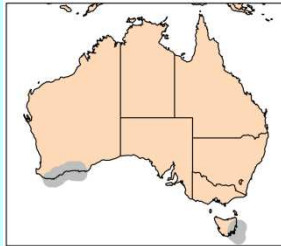
Phylum
Order
Family

Chaetognatha
Aphragmophora
Sagittidae



Serratosagitta bierii

(Alvariño, 1967)



Phylum Chaetognatha
Order Aphragmophora
Family Sagittidae

Synonyms

Sagitta bierii Alvariño, 1961

Size

Maximum adult body length 19 mm, tail 22-29% of body

Genus notes

- Body firm, stout, opaque
- Hooks serrated, need high power microscope to see
- Seminal vesicles relatively long, take up most of the space between posterior and tail fins, separated from tail fin
- No intestinal diverticula, hard to see

Species notes

- Fin bridge absent
- Anterior fins almost reach ventral ganglion, fully rayed, rounded;
- Posterior fins almost reach anterior fins, fully rayed, angular
- Collarette inconspicuous
- Small eyes with T-shaped pigment spot
- Seminal vesicles rounded with small distal prominence, close to or touching posterior fins
- Ovaries medium length, extend to ventral ganglion
- Ova large
- Adhesive papillae and adhesive organs absent

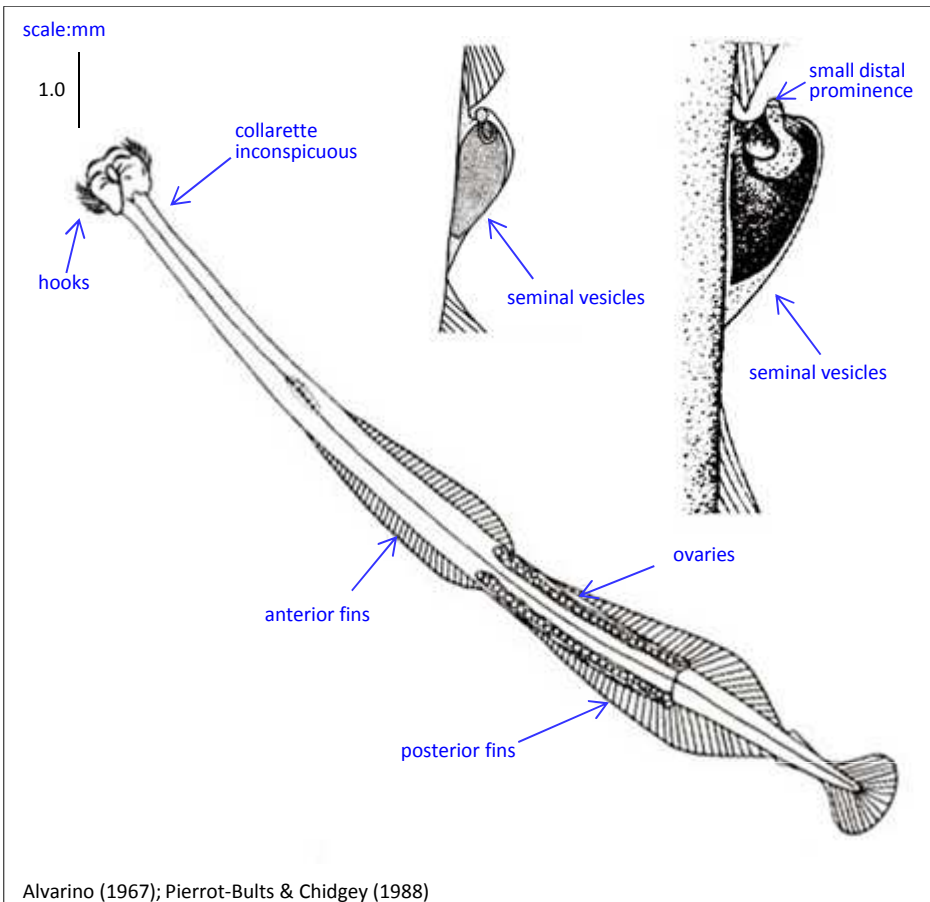
Distribution

Ecology

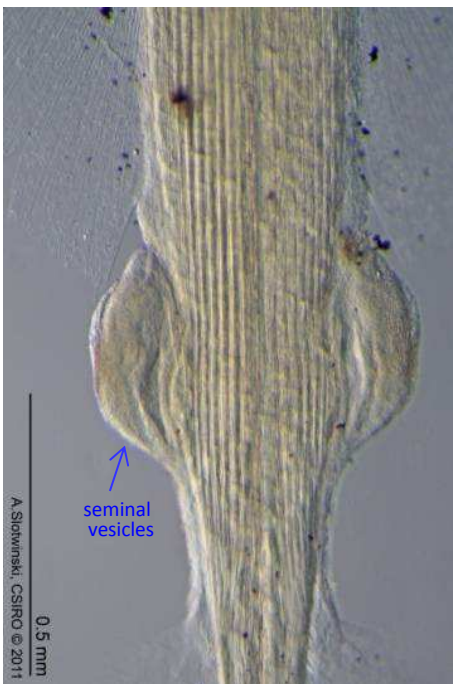
Source

Conway (2003)
 Gibbons pers. comm. (2013)
 Marine Species Identification Portal 2011

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



Alvarino (1967); Pierrot-Bults & Chidgey (1988)



A. Slotwinski, CSIRO © 2011
 0.5 mm



live specimen
 North Stradbroke Island
 Queensland

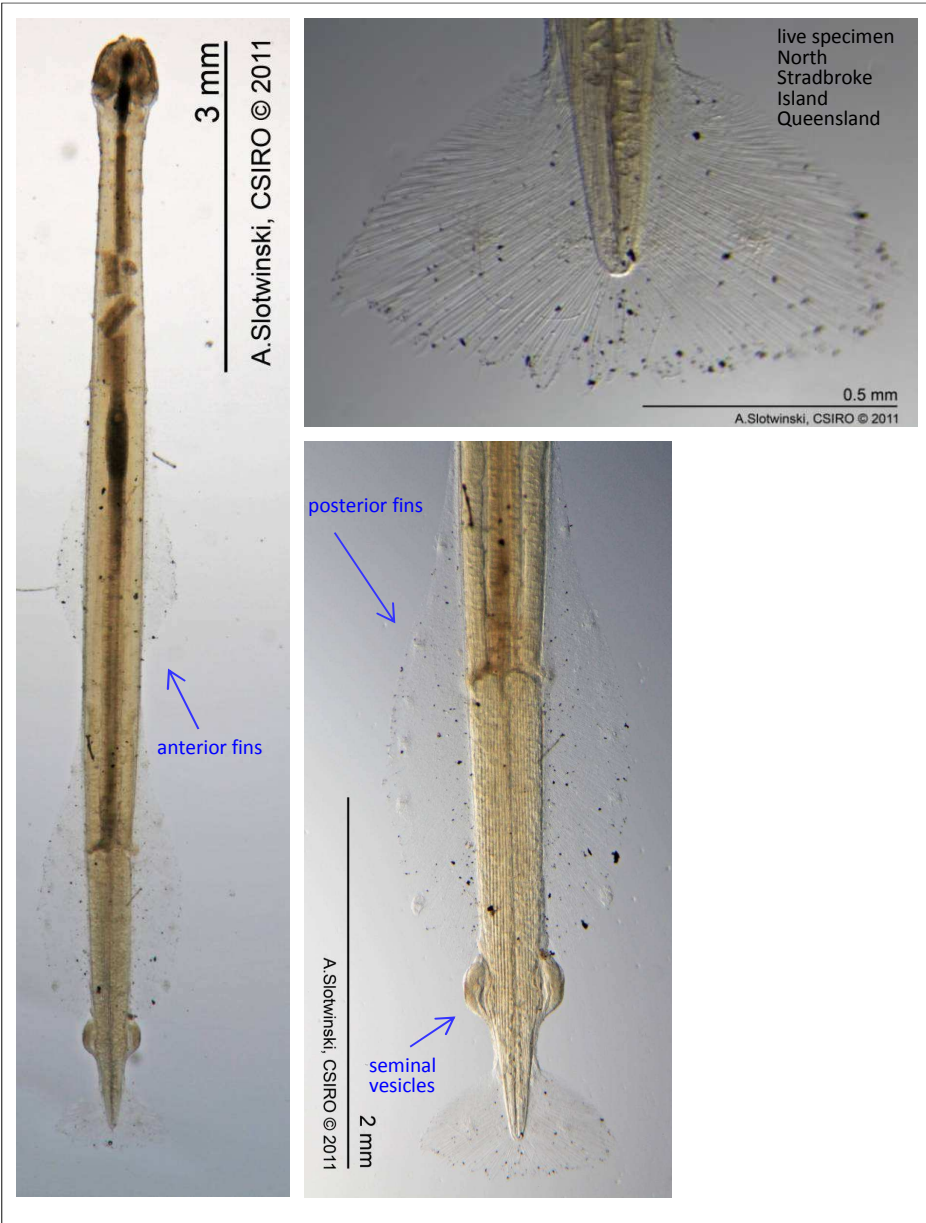


Serratosagitta bierr

(Alvariño, 1967)

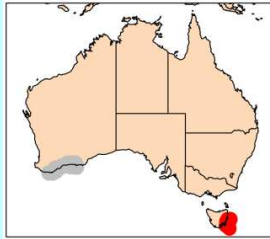
Phylum
Order
Family

Chaetognatha
Aphragmophora
Sagittidae

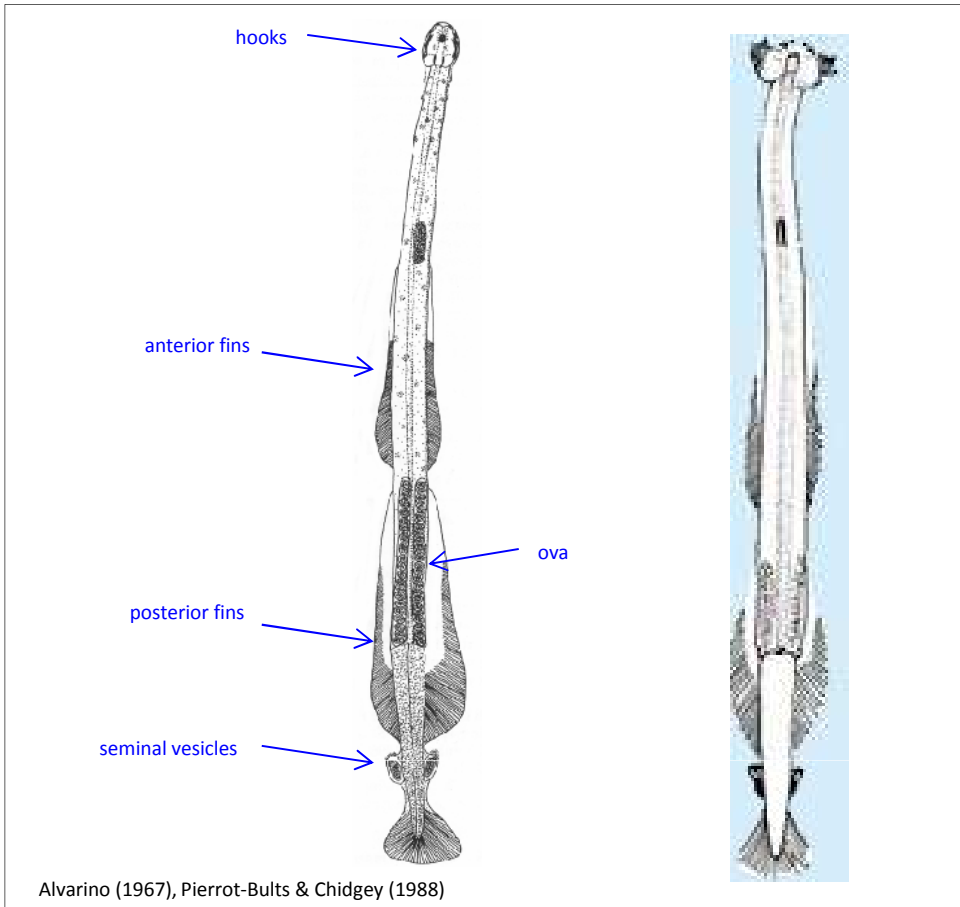


Serratosagitta tasmanica

(Thompson, 1947)



Phylum Chaetognatha
Order Aphragmophora
Family Sagittidae



Alvarino (1967), Pierrot-Bults & Chidgey (1988)

Synonyms

Sagitta serratodentata tasmanica
Sagitta tasmanica Thompson, 1947
Serratosagitta selkirki (Faggetti, 1958)

Size

Maximum body length 30 mm, tail 20-30% of body

Genus notes

- Body firm, stout, opaque
- Hooks serrated, need high power microscope to see
- Seminal vesicles relatively long, take up most of the space between posterior and tail fins, separated from tail fin
- No intestinal diverticula, hard to see

Species notes

- Fin bridge absent, but fins close together
- Anterior fins of medium length, reaching to posterior end of ventral ganglion, partially rayed, rounded
- Posterior fins long, partially rayed, rounded
- Collarlet absent or very small
- Gut diverticula absent
- Small eyes with T-shaped pigment spot
- Seminal vesicles with elaborate knob with numerous protuberances, nearly touching both when mature
- Ovaries long, may reach anterior end of ventral ganglion
- Ova small

Distribution

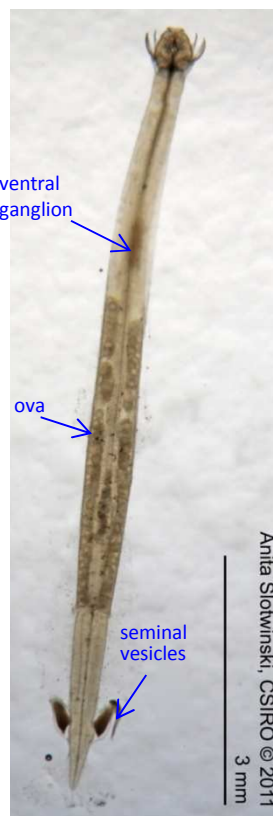
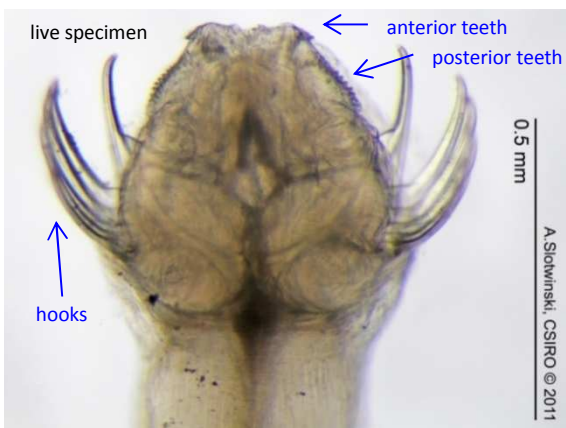
Ecology

- Epipelagic

Source

Conway (2003)
 Gibbons pers. comm. (2013)
 Marine Species Identification Portal (2011)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



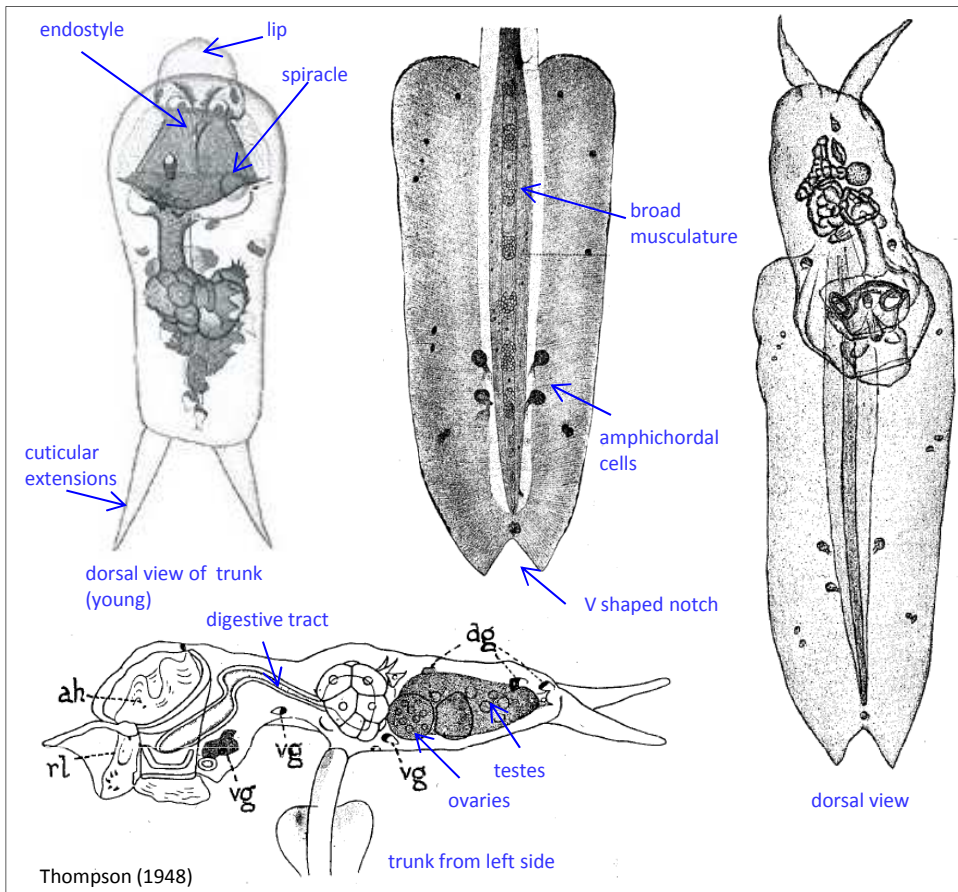
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Fritillaria pellucida

(Busch, 1851)



Phylum Chordata
Order Fritillariidae
Family Fritillariinae



Synonyms

Eurycercus pellucidus
Fritillaria furcata

Size

- Trunk up to 2.2 mm long
- Tail up to 3 mm

Family notes

- Trunk elongate, flattened dorso-ventrally
- Tail rarely longer than trunk. Broad, delicate and thin
- Spiracles situated anteriorly
- Endostyle curved upwards

Species notes

- Trunk often damaged and these features can be hard to see
- Trunk rectangular and flattened, with 2 relatively long cuticular extension
- Mouth with protruding upper lip
- Digestive tract axis transverse
- Gonads asymmetrically arranged
- Testis on right side of body; cylindrical and transverse in young specimens, later becoming V-shaped
- Ovary spherical and on left side of body

Tail

- Musculature broad
- V shaped notch at rear
- Two amphichordal cells on each side, with ejective ducts (cells may be reduced to 3). Cells are not contiguous as in *F. megachile*

Distribution

- Warm water
- Common, especially off New South Wales

Distribution

Ecology

Source

Gibbons pers. comm. (2012)
 Thompson (1948)
 Marine species identification portal (2011)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



Fritillaria pellucida

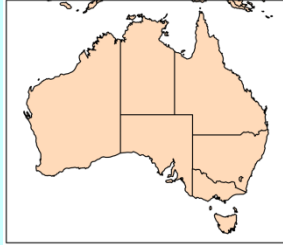
(Busch, 1851)

Phylum	Chordata
Order	Fritillariidae
Family	Fritillariinae



Oikopleura dioica

(Fol, 1872)



Phylum Chordata
Order Oikopleuridae
Family Oikopleurinae

Synonyms

Appendicularia coerulescens (Gegenbaur, 1855)
Oikopleura flabellum (Traustedt, 1880)
Oikopleura malmii (Hartmann, 1878)
Vexillaria flabellum (Müller, 1846)
(Lohmann, 1896 placed it in synonym)
Vexillaria speciosa (Eisen, 1874)

Size

Body length usually 0.5-1.0 mm, but may reach 1.3 mm
Tail 2 – 4 mm long

Family notes

- Trunk is compact and pear shaped
- The tail is longer than the trunk, tapers distally, thick and muscular
- Spiracles are situated in the rectal region
- Endostyle is straight

Species notes

- A small appendicularian
- Trunk is ovoid
- Narrow tail, 4 times body length
- Tail has narrow tail muscle and two distinct, characteristic sub-chordal cells at 1/2 to 2/3 down one side of tail musculature (distinguishable in unstained material)

Distribution

- A semi-cosmopolitan, neritic species from warm and temperate waters.
- Atlantic, Indian and Pacific Oceans. Present in Mediterranean Sea and Red Sea.

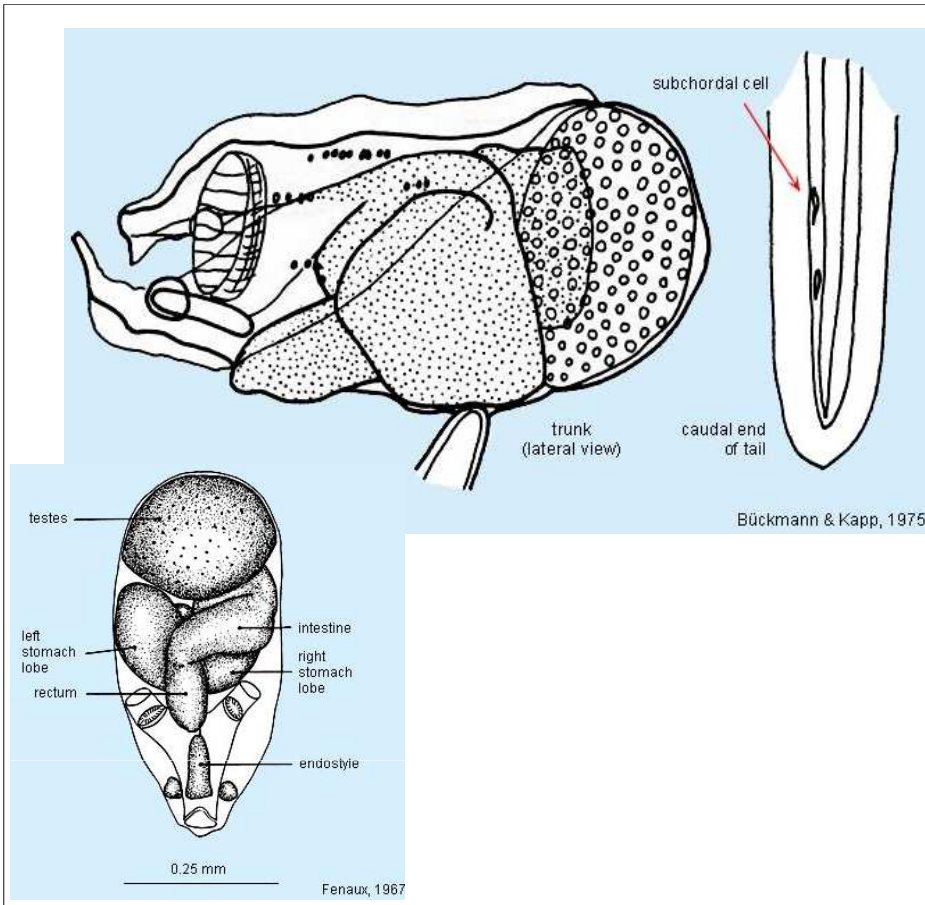
Ecology

- *O. dioica* is the most eurythermal and euryhaline species of all Appendicularia

Source

Marine Species Identification Portal (2011)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)



Oikopleura dioica

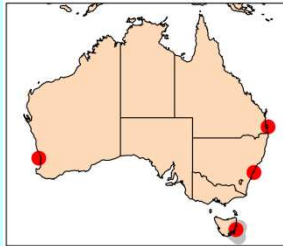
(Fol, 1872)

Phylum	Chordata
Order	Oikopleuridae
Family	Oikopleurinae



Doliolum denticulatum

Quoy & Gaimard, 1834



Phylum Chordata
Order Doliolida
Family Doliolidae

Synonyms

None

Size

Gonozooid length up to 10 mm

Genus notes

- Dextral arched intestine

Species notes

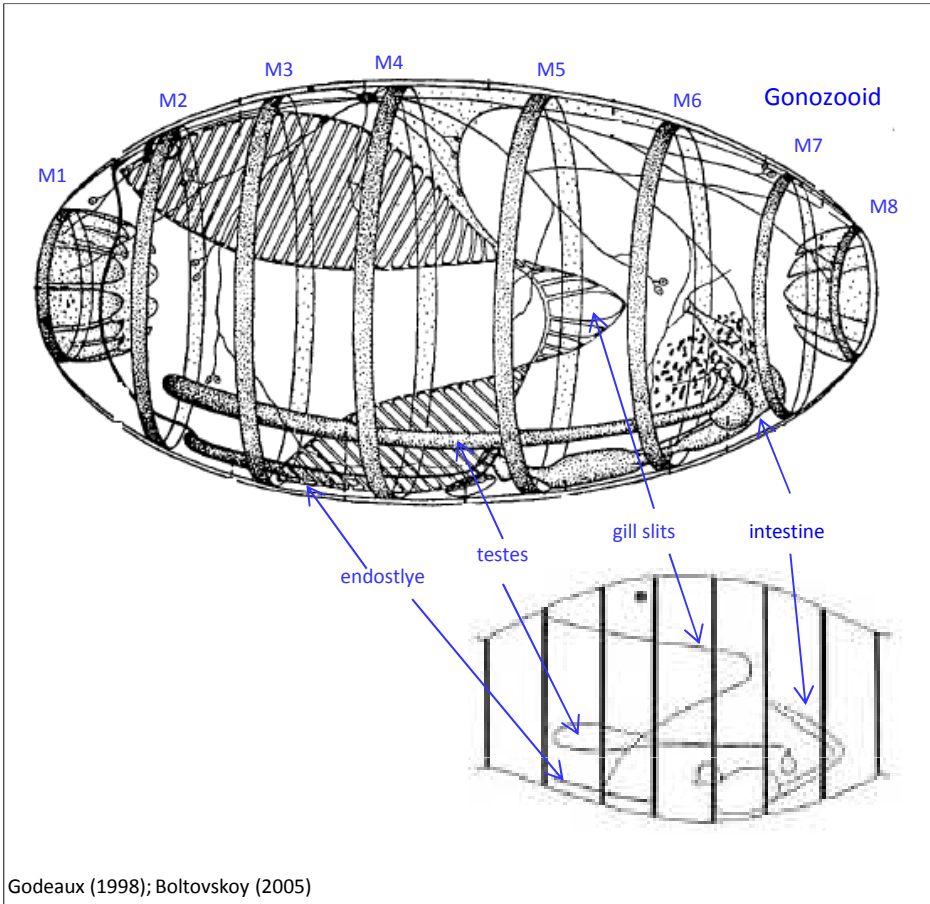
Gonozooid (Blastozooid)

- 8 muscle bands in parallel transverse rings
- Gill slits strongly arched from M2 dorsally to just passed M5, then curving and running to M3 ventrally
- Endostyle short, from M2 to M4
- Testis long, swollen, situated horizontally in front of M3, sometimes beyond M2
- Differentiated from *D. nationalis* which has shorter testes behind M4. The form of the gill slits and gill location is also diagnostic.

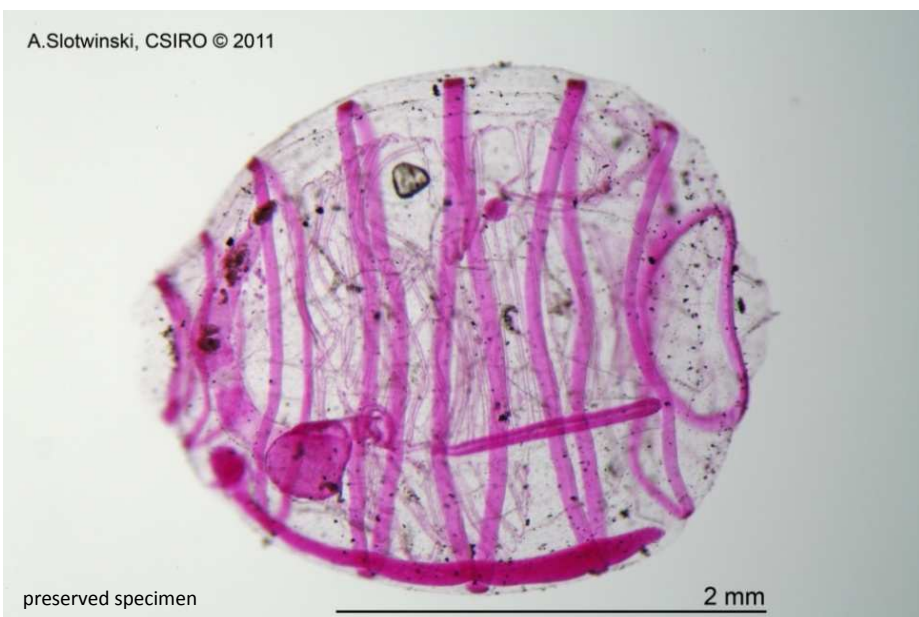
Distribution

- Widespread in all oceans from 40°N to 40°S (following approximately 10°C isotherm in north and 15°C isotherm south)

Ecology



Godeaux (1998); Boltovskoy (2005)



A. Slotwinski, CSIRO © 2011

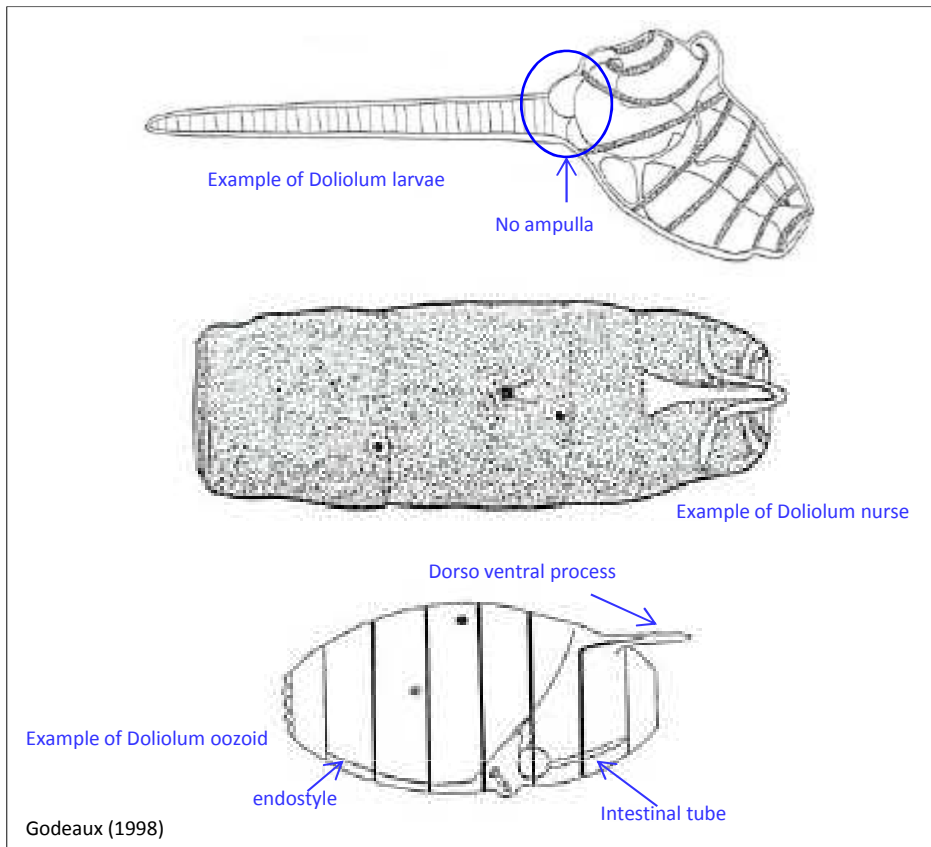
preserved specimen

2 mm

Doliolum denticulatum

Quoy & Gaimard, 1834

Phylum Chordata
Order Doliolida
Family Doliolidae



Synonyms

None

Size

Nurse length up to 2 mm

Genus notes

These stages of *D. denticulatum* and *D. nationalis* cannot be separated

Larvae

- Body fusiform
- With tail
- No ampulla

Nurses

- Barrel shaped, without visceral mass, except for heart
- M2-M8 fused in continuous sheet
- Budding on the dorso-ventral process

Oozoids

- Endostyle from M2 to M5
- 9 muscle bands in parallel transverse rings
- Dorso-ventral process at M7
- Intestinal tube stretched sagittally

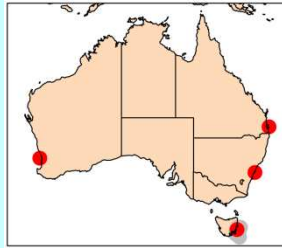
Source

Boltovskoy (2005)
 Godeaux (1998)
 van Couwelaar (2003)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

Doliolum nationalis

Borgert, 1893



Phylum Chordata
Order Doliolida
Family Doliolidae

Synonyms

None

Size

Gonozooid length up to 4 mm

Genus notes

- Dextral arched intestine

Species notes

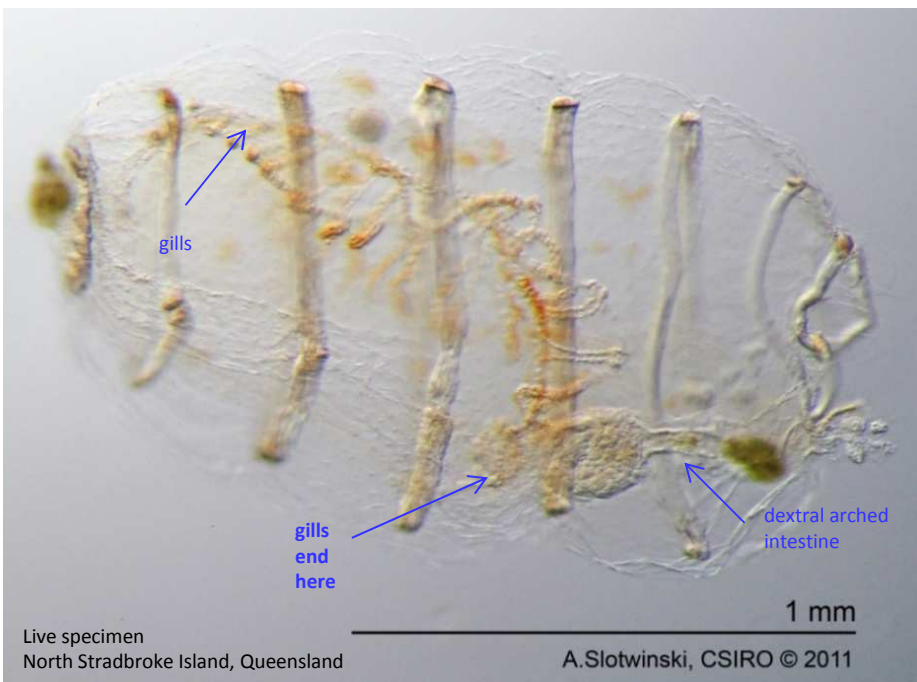
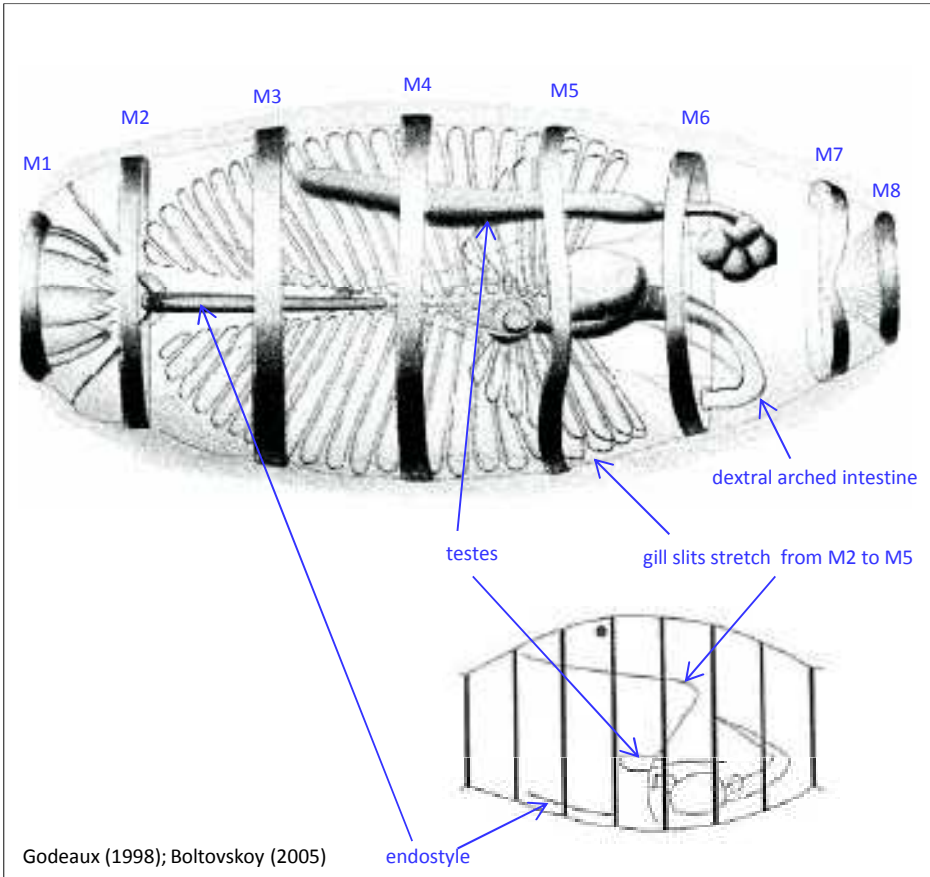
Gonozooid (Blastozooid)

- 8 muscle bands in parallel transverse rings
- Gill slits arched from M2 dorsally to M5 and turn slightly forward to finish just in front of M5
- Endostyle short, from M2 to M4
- Testis is variable in length, it extends horizontally, behind M4, on the left side of the animal
- Differentiated from *D. denticulatum* which has longer testes in front of M3. The form of the gill slits and gill location is also diagnostic.

Distribution

- Distribution in North and Central Atlantic Ocean, Mediterranean Sea, Red Sea, subtropical SW Atlantic Ocean, tropical Indian and W Pacific Oceans

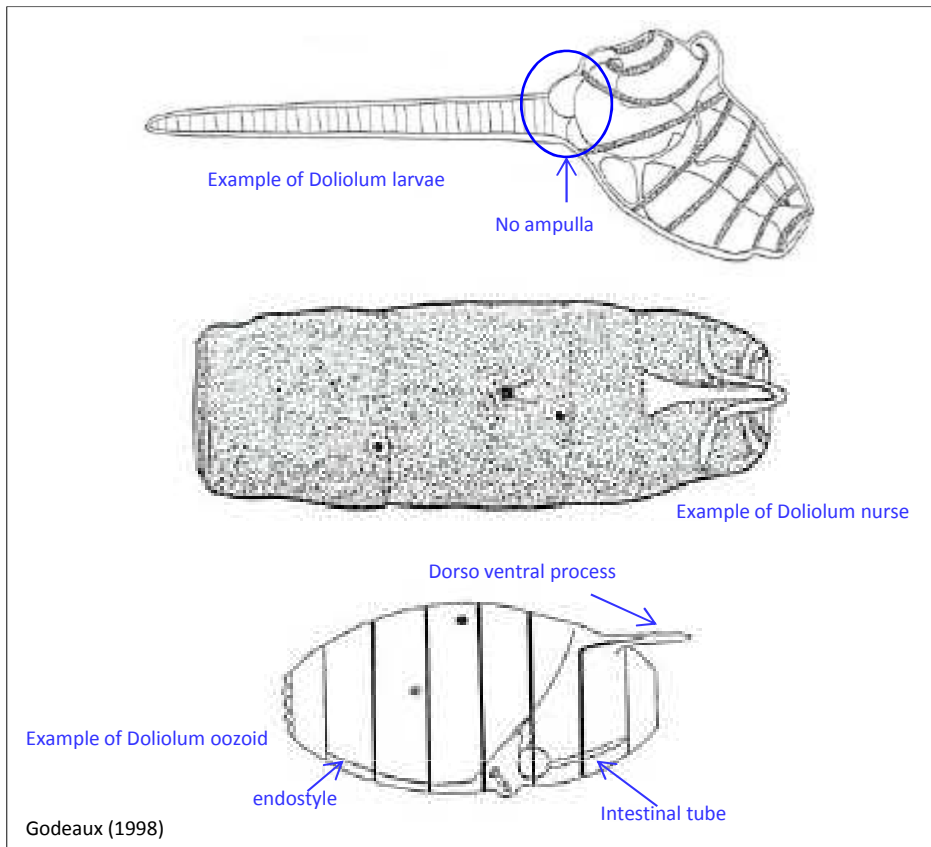
Ecology



Doliolum nationalis

Borgert, 1893

Phylum Chordata
Order Doliolida
Family Doliolidae



Synonyms

None

Size

Nurse length up to 2 mm
 No other sizes available

Genus notes

These stages of *D. denticulatum* and *D. nationalis* cannot be separated

Larvae

- Body fusiform
- With tail
- No ampulla

Nurses

- Barrel shaped, without visceral mass, except for heart
- M2-M8 fused in continuous sheet
- Budding on the dorso-ventral process

Oozoids

- Endostyle from M2 to M5
- 9 muscle bands in parallel transverse rings
- Dorso-ventral process at M7
- Intestinal tube stretched sagittally

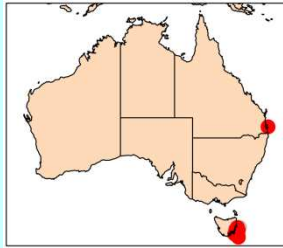
Source

Boltovskoy (2005)
 Couwelaar (2003)
 Godeaux (1998)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

Ihlea magalhanica

Apstein, 1894



Phylum Chordata
Order Salpa
Family Salpidae

Synonyms

None

Aggregate Form

Size
 Up to 22 mm

Body

- Zooids strongly symmetrical
- Almost oval shape
- Small lateral process anteriorly, longer process posteriorly
- Openings are terminal
- Test soft
- Preserved specimens appear flat

Muscles

- 5 asymmetrical body muscles
- M1-M3 join dorsally, M2-M3 join medio ventrally by anastomosis
- M3-M4 approach and may touch on either side
- M4-M5 approach or touch dorsally
- M5 broken ventrally

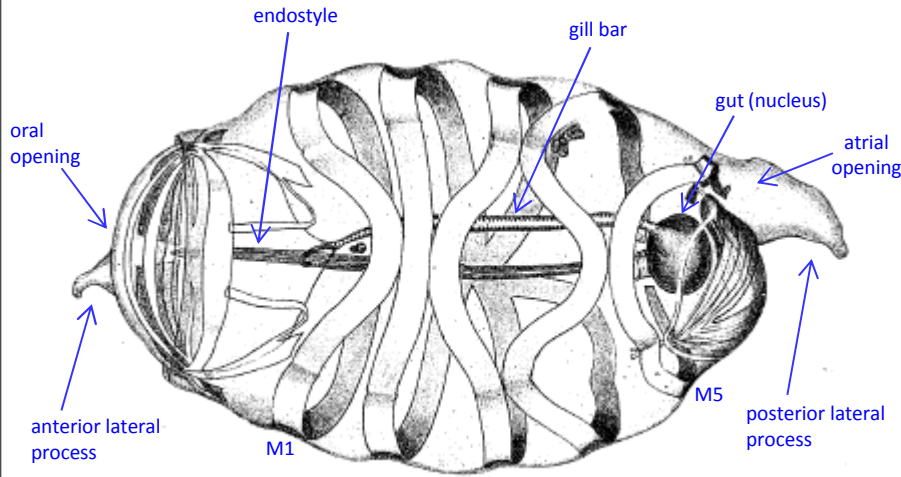
Distribution

- Common in SE Australian waters from October to February

Ecology

- Low tolerance for warm water, Indicator for cold water

Aggregate form



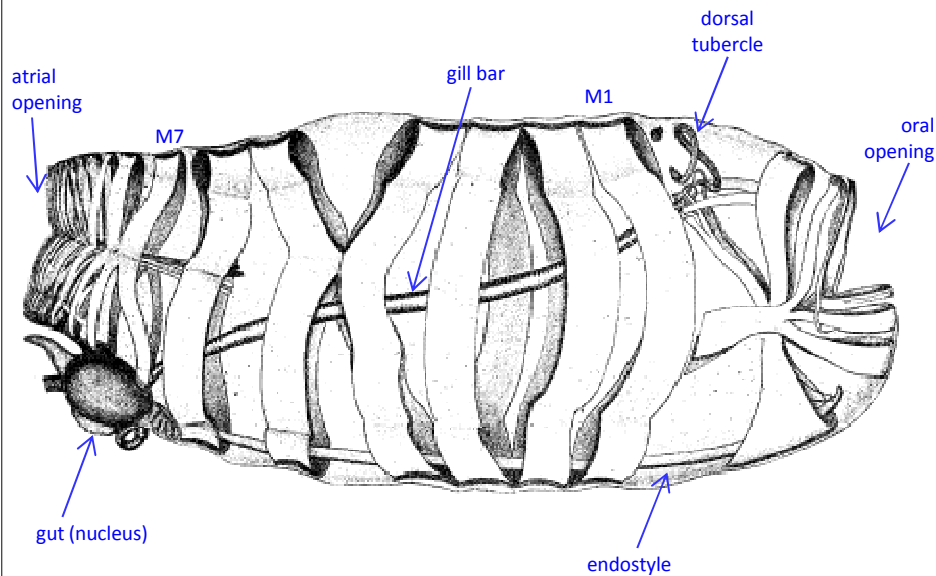
Thompson (1948)

Ihlea magalhanica

Apstein, 1894

Phylum Chordata
Order Salpa
Family Salpidae

Solitary form



Thompson (1948)

Solitary Form

Size

Up to 39 mm (without process)

Body

- Cylindrical
- Soft test
- Openings are terminal

Muscles

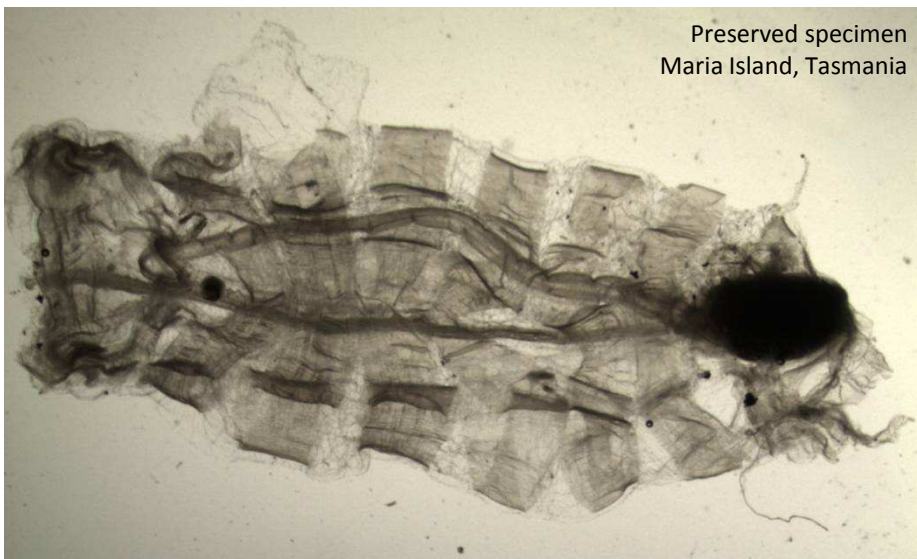
- 7 body muscles variously curved
- Very broad muscles, except M7 which divides ventrally
- M1-M4 appear continuous dorsally and ventrally
- M4-M5 touch laterally
- M5-M6 approach or touch dorsally

Source

van Couwelaar (2003)
 Thompson (1948)

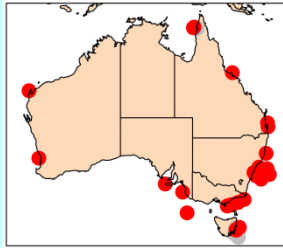
(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

Preserved specimen
 Maria Island, Tasmania



Thalia democratica

(Forskål, 1775)



Phylum Chordata
Order Salpida
Family Salpidae

Synonyms

Salpa democratica (Forskål, 1775)
Salpa mucronata (Forskål, 1775)
Salpa spinosa (Otto, 1823)
Dubreuillia cirrhosa (Lesson, 1830)
Salpa caboti (Desor, 1848)
Thalia democratica var. *orientalis*: (Tokioka, 1937)
Thalia democratica f. *typica* (Sewell, 1953)
Thalia democratica ssp. *democratica*: (Borgelt, 1968)

Aggregate form

Size
 1.8 – 18.2 mm

Body

- Oval
- Anterior end of body rounded, tapering to a pointed or rounded terminal process
- Test thick, bluntly pentagonal
- Both openings dorsal
- Atrial opening not central
- Posterior lateral protuberance on one side only
- Slight asymmetry
- Variable number of tubular process from mantle to test

Muscles

- 5 continuous body muscles
- M1-M3 and M4-M5 fused mid dorsally for short distance
- The two groups of muscle bands are separate dorsally
- Muscle structure similar to other *Thalia* aggregates, species differentiated by shape of body and projections

Gut

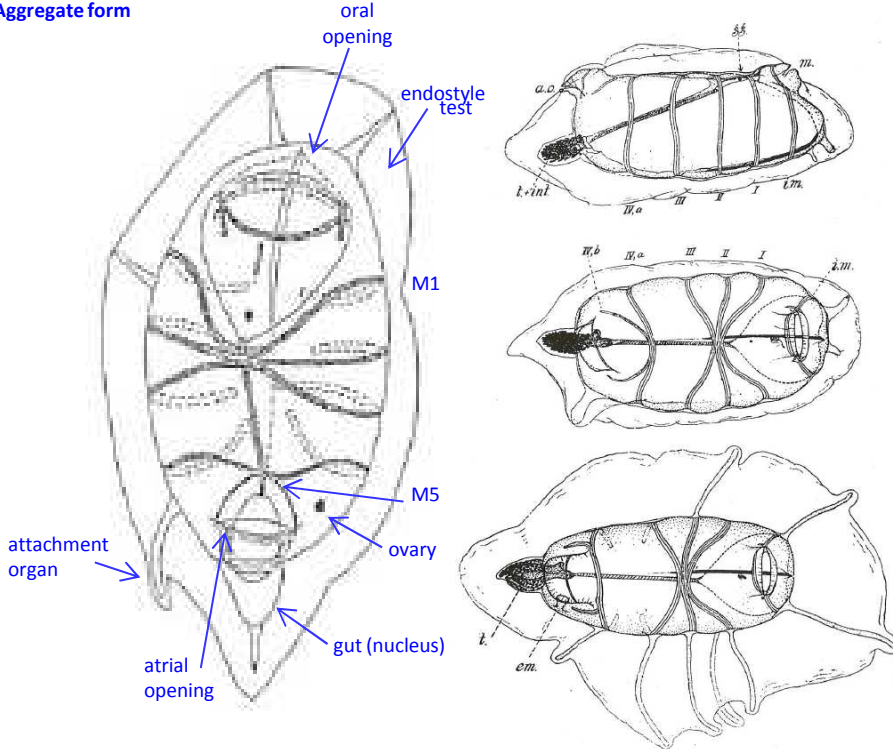
- More compact than in solitary form
- Endostyle confined to anterior half of body
- Nucleus has posterior projection (may not be visible)

Distribution

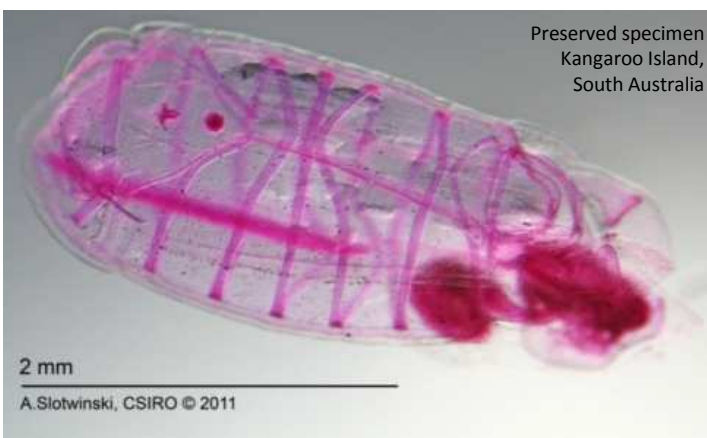
- Cosmopolitan, eurythermic species from warmer waters. Globally between 60°N - 40°S

Ecology

Aggregate form



Godeaux (1998); Thompson (1948)

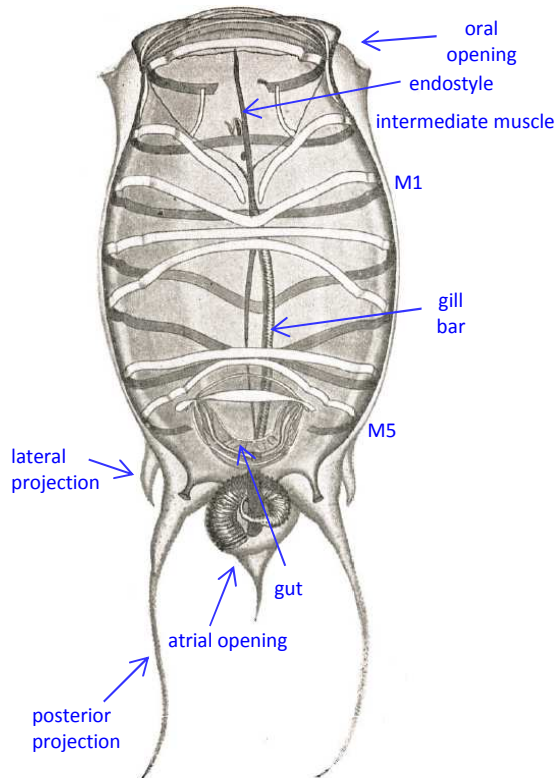


Thalia democratica

(Forskål, 1775)

Phylum Chordata
Order Salpida
Family Salpidae

Solitary form



Thompson (1948)

Solitary form

Size
 2.3 – 11.7 mm

Body

- Smooth test
- Lateral projections simple and not bifurcated
- All test projections are echinate

Muscles

- 5 body muscles in complete rings
- M5 may be narrowly interrupted ventrally
- M1-M3 and M4-M5 fused mid-dorsally over short distance
- Muscle structure similar to other *Thalia* solitaires, *T. democratica* differentiated by lateral projections

Gut

- Stomach partly extends into middle posterior projection

Source

Godeaux (1998)
 Thompson (1948)
 van Couwelaar (2003)

(Full reference available at <http://www.imas.utas.edu.au/zooplankton/references>)

