Arthropoda Selecta 17 (1–2): 81–85

A new species of *Pelicinus* from Barrow Island, Western Australia (Araneae: Oonopidae)

Новый вид *Pelicinus* из острова Барроу, Западная Австралия (Araneae: Oonopidae)

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KEY WORDS: taxonomy, morphology, spiders, Australasia.

КЛЮЧЕВЫЕ СЛОВА: таксономия, морфология, пауки, Австралазия.

ABSTRACT. *Pelicinus saaristoi* sp.n., the first species of *Pelicinus* to be recorded from the Australasian region, is described from north-western Australia.

РЕЗЮМЕ. Описан *Pelicinus saaristoi* sp.n. из северо-запада Австралии, первый представитель рода в Австралазии.

Introduction

The spider genus *Pelicinus* was first proposed by Simon [1891] for *P. marmoratus* Simon, 1891 from the Caribbean island of St Vincent. Only two other species are currently included within the genus: *P. mahei* (Benoit, 1979) from the Seychelles and Canary Islands, and *P. vernalis* (Bryant, 1945) from North America [Platnick, 2007]. The limits and relationships of the genus are poorly understood, but the morphology of the male palp suggests that the genus can be readily characterised. A fairly enlarged and rounded bulbus, a relatively short embolus with small, slender accessory sclerites and a conspicuous hump near the basal portion of the embolus [Saaristo, 2001: fig. 40B] are considered to be the main reasons for defining this genus at present. Recent collecting of small spiders through the aid of pitfall traps has revealed a plethora of unusual and unnamed oonopid spiders throughout Australia. Amongst some recently collected spiders was a new and interesting small species of Oonopidae herein described as a new species placed in the genus *Pelicinus*. Although this species is the first of the genus to be found in the Australasian region, we are confident that more will be found.

The specimens examined for this study are lodged in the Western Australian Museum, Perth (WAM). Measurements are in millimeters. The descriptions follow the protocol of the PBI Oonopidae (http://research.amnh.org/oonopidae) with some modifications.

The specimens were examined with a Leica MZ16A, and digital images were composed using the software program AutoMontage Pro Version 5.02 (p) utilizing multiple images taken with a Leica DFC 500 digital camera attached to the Leica microscope. Male palps and female genitalia were examined with an Olympus BH-2 compound microscope following immersion in clove oil, and illustrated with the use of a drawing tube. The map was prepared with ArcMap 9.1 (ESRI) using data stored in an Access database.

Oonopidae Simon, 1890

Pelicinus Simon, 1891

Type species: *Pelicinus marmoratus* Simon, 1891 by original designation.

Pelicinus saaristoi **sp.n.**
Figs 1–4.

MATERIAL EXAMINED. Holotype ♂, AUSTRALIA: *Western Australia*, Barrow Island, site 17, 20°47’38”S, 115°27’24”E, 24–29.IV.2005, wet pitfall trap, K. Edward & S. Callan (WAM T83647). Paratypes: 1 ♀, AUSTRALIA: *Western Australia*, Barrow Island, future construction village, 20°49’00”S, 115°26’16”E, 17–22.V.2006, wet pitfall trap, S. Callan *et al.* (WAM T83648); 1 ♀, Barrow Island, current airport, 20°52’01”S, 115°24’19”E, 24–29.IV.2005, wet pitfall trap, K. Edward & S. Callan (WAM T83649); 1 ♀, Barrow Island, new airport, site QUNA 1, 20°51’56.8”S, 115° 24’22”E, 25.VIII.–1.IX.2004, wet pitfall trap, K. Edward & L. Mould (WAM T73219).

ETYMOLOGY. This species is named for Michael Saaristo, whose outstanding contributions to the study of spiders and, in particular the Oonopidae, have been inspirational.

DIAGNOSIS. This species differs from all other members of the genus *Pelicinus* by the body covered with stout pinnate seta; by the narrow dorsal scutum, covering 1/2 to 3/4 of abdomen width, and by the presence of a stout, spur-like disto-lateral process on the fang base.

DESCRIPTION. Male holotype. Length: total 1.31, carapace 0.65, abdomen 0.74.

Carapace yellow, without any pattern; pyriform in dorsal view, pars cephalica slightly elevated in lateral view;

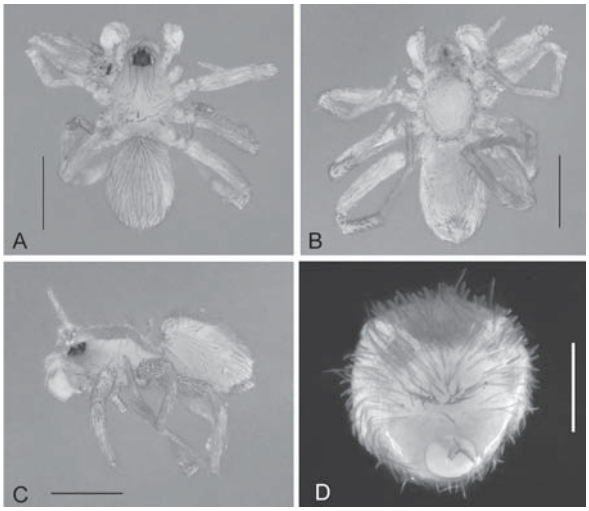

Fig. 1. *Pelicinus saaristoi* sp.n., male holotype: A — dorsal; B — ventral; C — lateral; D — abdomen anterior view. Scale lines: A–C — 0.5 mm; D — 0.25 mm.

Рис. 1. *Pelicinus saaristoi* sp.n., самец, голотип: A — сверху; B — снизу; C — сбоку; D — брюшко, спереди. Масштаб: A–C — 0,5 мм; D — 0,25 мм.

anteriorly narrowed to 0.49 times its maximum width; with rounded posterolateral corners, posterolateral edge unmodified; without spikes or posterolateral spikes; lateral margin rebordered, without denticles; elevated portion of pars cephalica smooth, surface sides smooth; clypeus curved downwards in frontal view and vertical in lateral view; clypeus high, ALE separated from edge of carapace by their radius or more, median projection absent; non-marginal pars cephalica setae and clypeus setae, stout and pinnate; posterior non-marginal pars thoracica setae absent; 6 eyes, well developed, all subequal; ALE circular, PME circular, PLE circular; from above view, posterior eye row straight; eye interdistances: ALE-ALE separated by ALE radius to ALE diameter, ALE-PLE separated by less than ALE radius, PME-PME touching for less than half their length, PLE-PME separated by less than PME radius.

Sternum yellow, unmodified, longer than wide; not fused to carapace; median concavity absent; smooth, without pits; anterior margin with continuous transverse groove, posterior hump absent, posterior margin not extending posteriorly of coxae IV, posterior border as sclerotized as anterior areas; setae sparse, needle-like, evenly scattered, originating from surface; stout setae near lateral borders; posterior border with a row of six stout setae.

Mouthparts chelicerae, endites and labium yellow; chelicerae slightly divergent, anterior face unmodified; fang directed medially, normal, without prominent basal process, tip unmodified; with stout spur-like distal process, laterally, at fang base (Fig. 3D); setae needle-like, evenly scattered; no visible specialized setae on cheliceral paturon inner margin. Labium triangular, not fused to sternum, with anterior margin indented at middle; labium with 1–2 setae on anterior margin; with 2–3 setae on lateral borders. Endites distally excavated, anteromedian tip unmodified, posteromedian part unmodified; 2–3 stout setae on posterior area.

Abdomen ovoid, without long posterior extension; dorsum with soft portions pale, without color pattern; book lung inconspicuous; pedicel tube very short, unmodified; scuto-pedicel region unmodified, scutum not extending far dorsal of pedicel (Fig. 1D); plumose hairs at pedicel absent; matted setae on anterior ventral abdomen in pedicel area absent; dorsal scutum weakly sclerotized; covering 1/2 to 3/4 of abdomen, strong narrowed at anterior and posterior ends; pale-orange, without color pattern; top surface smooth, sides surface smooth; anterior half without projecting denticles; dorsal scutum not fused to epigastric scutum; epigastric scutum weakly sclerotized, surrounding pedicel, unmodified, slightly indented above pedicel; postepigastric scutum weakly sclerotized; pale-orange, short, covering about 1/2 of abdominal length, fused to epigastric scutum, anterior margin unmodified, without posteriorly directed lateral apodemes; spinneret scutum present, weak incomplete ring; dorsal area setae present, stout, pinnate; postepigastric area setae present, needle-like; spinneret scutum with a fringe of stout setae.

Legs yellow, not darkened, femur IV not thickened, same size as femora I–III; spines absent; leg setae stout and pinnate; patella I + tibia I shorter than carapace.

Male epigastric region with sperm pore visible, at level of anterior spiracles, oval, unmodified; epigastric furrow insertion without omega-shaped insertions.

Palp normal, not strongly sclerotized; cymbium yellow, bulb pale, proximal segments yellow, embolus light, slightly darkened at retroposterior edge; trochanter normal; femur normal, two or more times as long as trochanter, without posteriorly rounded lateral dilation; attached to patella basally; patella not enlarged; tibia shorter than patella, not enlarged; tibia not enlarged; cymbium and bulb semi-fused with clearly defined seam between, cymbium not extending beyond distal tip of bulb; bulb 1 to 1.5 times as long as broad, globose on lateral view, elliptic on dorsal view (Figs. 2A, E); cymbium relatively complex with several different sized and shaped setae; laterally with longer setae; dorsal with shorter setae; all stout, pinnate; anterodorsal tip of cymbium with round depression from which arises patch of short, stout, pinnate hairs; posterior to this feature additional series of 4–5 short, stout, semi-clavate non-pinnate setae (Figs. 2A–E); embolus curved prolaterally; dorsally covered with sinuous ridges (Fig. 2C); spermatic opening inconspicuous (on base of internal duct visualization, expected to be on distal third of embolus; Fig. 2C, D); two short skinny accessory structures arising basally to embolus at pro- and retrolateral sides; prolateral broad lamellar process at base of embolus (Figs. 2B–E).

Female paratype (WAM T83648; except internal genitalia). As in male except as noted. Length: total 1.45; carpace 0.69; abdomen 0.96.

Carapace posterior eye row slightly recurved.

Palp without spines; ventral with longer and narrower setae; dorsally with stout and shorter setae; all clearly pinnate; anterodorsal tip as in male; no visible claw.

Abdomen postepigastric scutum very short, only around epigastric furrow, apparently not fused to epigastric scutum, anterior margin unmodified; no external visible or remarkable characters.

Internal genitalia (♀ paratype; WAM T83649) ventral view with no apparent apodemes or muscle attachments; large, broad "receptaculum" with apparent very strong posterior wall; anterior surface covered with small pores; relatively long, twisted, well-sclerotized duct (glandular duct/spermatic duct?) reaching to inverted triangular shaped sclerite (spermatheca?); anterior spiracles openings connected by strong sclerotized ridge (connection between this ridge and epigastric scutum unclear).

DISTRIBUTION. *Pelicinus saaristoi* sp.n. is known only from Barrow Island in north-western Western Australia (Fig. 4).

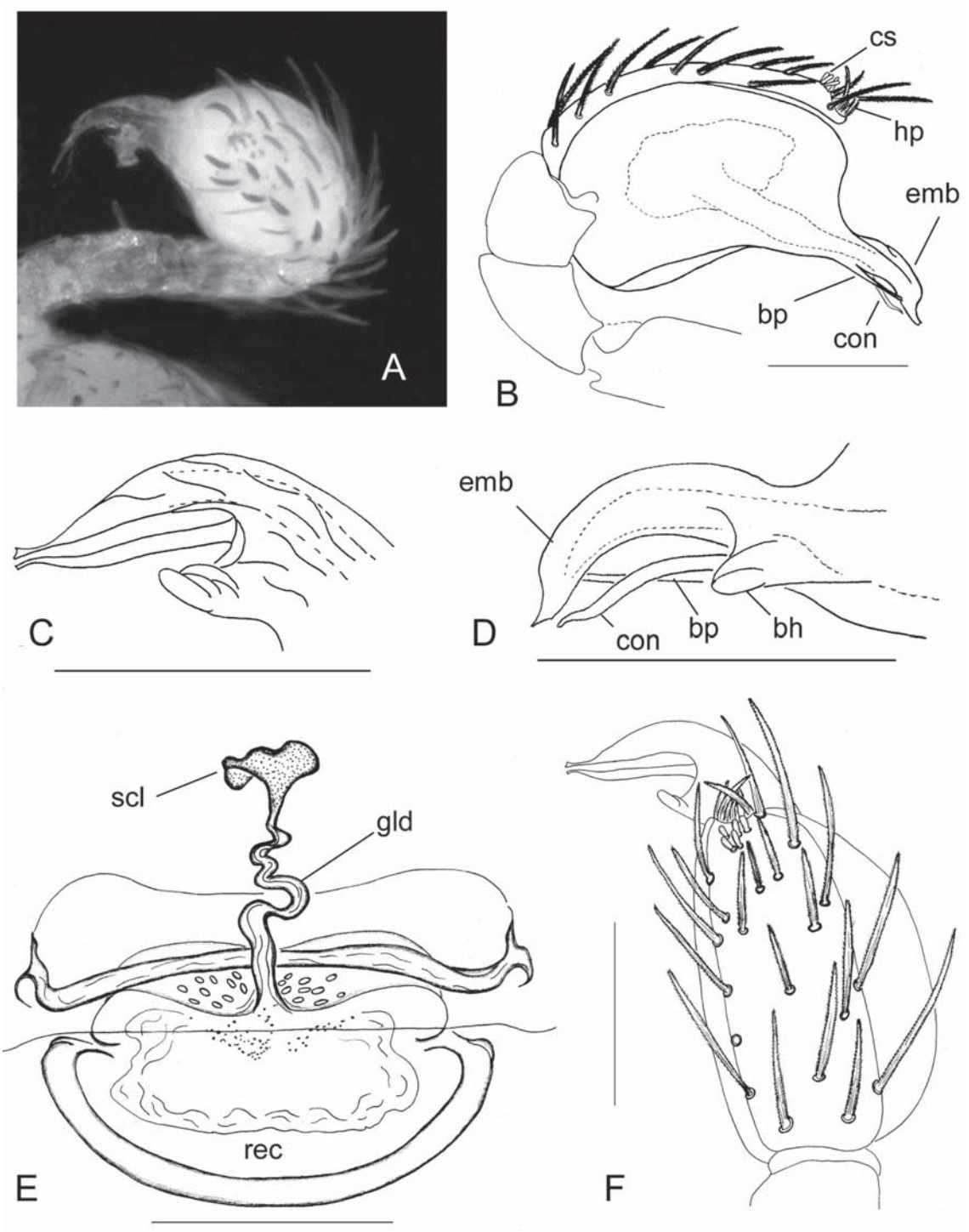

Fig. 2. *Pelicinus saaristoi* sp.n., male holotype (A–E) and female paratype (F, epigynum ventral (WAM T83649)): A — palp anterodorsal; B — retrolateral; C — embolus dorsal; D — embolus prolateral; E — palp dorsal. Abbreviation: bh — embolic basal hump; bp — basal process; con — conductor (?); cs — clavate setae; emb — embolus; gld — glandular duct (?); hp — hair patch; rec — receptaculum; scl — sclerite (?). Scale lines: 0.1 mm.

Рис. 2. *Pelicinus saaristoi* sp.n., самец, голотип (A–E) и самка, паратип (F, эпигина снизу (WAM T83649)): A — пальпа свпереди-сверху; B — ретролатерально; C — эмболюс, сверху; D — эмболюс, пролатерально; E — пальпа, сверху. Сокращения: bh — базальный бугорок; bp — базальный вырост; con — кондуктор (?); cs — булавовидные волоски; emb — эмболюс; gld — канал железы (?); hp — пучёк волосков; rec — рецептакула; scl — склерит (?). Масштаб 0

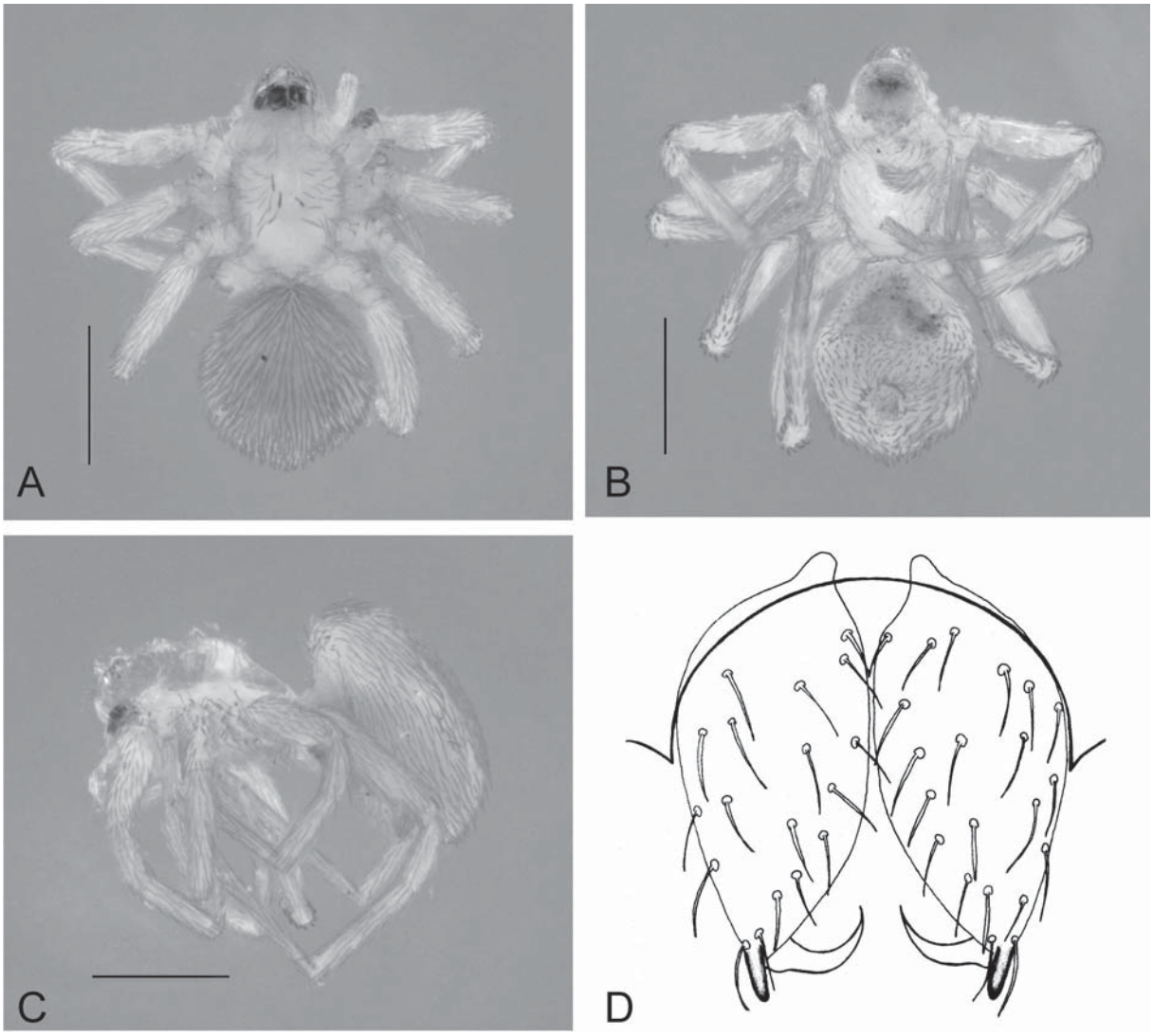

Fig. 3. *Pelicinus saaristoi* sp.n., female paratype (WAM T83648): A — dorsal; B — ventral; C — lateral; D — chelicerae, anterior view. Scale lines: A–C — 0.5 mm; D — 0.2 mm.

Рис. 3. *Pelicinus saaristoi* sp.n., самка, паратип (WAM T83648): A — сверху; B — снизу; C — сбоку; D — хелицеры, спереди. Масштаб: A–C — 0,5 мм; D — 0,2 мм.

DISCUSSION. The male genital characters of *Pelicinus* are quite similar to some other oonopid genera, most notably *Farqua* Saaristo, 2001, *Myrmopopaea* Reimoser, 1933 and *Silhouettella* Benoit, 1979 [Reimoser, 1933; Saaristo, 2001]. In these genera the male secondary genital structures are usually represented by a large rounded bulbus and a relatively short embolic set with one central stout embolus and, in some cases, slender accessory (conductor-like?) sclerites arising from the basal portion of the embolic set. Accessory structures were not depicted in the drawings of *Myrmopopaea jacobsoni* Reimoser, 1933 provided by Reimoser [1933], but we suspect that accessory structures are indeed present. Based upon genital characters, *Lionneta* Benoit, 1979 seems to be most similar to this group, mainly by the globose bulbus of the male palp, and the large elliptical receptaculum of the female genitalia. However in this genus the embolus is very long and slender, and the anterior leg segments are beset with paired ventral spines, which serves to distinguish *Lionneta* from other genera. *Pelicinus* differs from *Myrmopopaea* by the absence of the accessory structures on the embolic set [see Reimoser, 1933: fig. 3]; from *Silhouettella* by the absence of a hump on the anterior portion of the bulbus above the base of the embolic set (see Saaristo, 2001: 318, fig. 26); and from *Farqua* by the presence of less cylindrical and a stouter embolus, with a broad basal hump-like lamellar process [see Saaristo, 2001: fig. 47].

The internal female genitalia of *P. saaristoi* exhibit a remarkable, large receptaculum which is very similar to *Silhouettella loricatula* (Roewer, 1942) [Burger *et al*. 2006]; however, the lateral apodemes are totally absent. Other remarkable similarities between these two species include the presence a “pore field” on the receptaculum and the presence of a “paddle-like sclerite” on the anterior genital area.

Fig. 4. Distribution of *Pelicinus saaristoi* sp.n. in Barrow Island.

Рис. 4. Распространение *Pelicinus saaristoi* sp.n. на о-ве Барроу.

ACKNOWLEDGMENTS. The background work to this project was supported by the Australian Biological Resources Study, and is supported by the Planetary Biodiversity Inventory project "The Megadiverse, Microdistributed Spider Family Oonopidae" funded by the National Science Foundation. We thank Dr Norman I. Platnick for his support. The specimens were kindly provided by Jonathan Majer, Shae Callan, Karen Edward, Brad Durrant and Nadine Guthrie. We also thank Julianne Waldock for her assistance.

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