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New species of the open-holed trapdoor spider genus *Aname* (Araneae: Mygalomorphae: Anamidae) from arid Western Australia

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Abstract. The open-holed trapdoor spider genus *Aname* L. Koch is widely distributed across mainland Australia and Tasmania, and currently includes 34 named species. Many species are poorly known, and their descriptions based on female type material only render their identification difficult, as the best taxonomic characters are usually found on the adult male pedipalp and first leg. To better understand the diversity of *Aname* in Western Australia, we present descriptions of 11 new species primarily distributed in arid ecosystems: *A. baileyorum* sp. nov., *A. frostorum* sp. nov., *A. grothi* sp. nov., *A. lorica* sp. nov., *A. mcalpinei* sp. nov., *A. munyardae* sp. nov., *A. nitidimarina* sp. nov., *A. sinuata* sp. nov., *A. vernonorum* sp. nov., *A. watsoni* sp. nov. and *A. whitei* sp. nov. All species are described from adult males but we were only able to confidently associate females of *A. lorica*, *A. sinuata*, *A. watsoni* and *A. whitei*. DNA sequence data were obtained for six species and were used to test morphological species hypotheses and where possible to match females and juveniles with males. Haplotype networks for *A. lorica*, *A. sinuata* and *A. whitei*, demonstrate that there is significant genetic structure within these species, corresponding to geographically isolated populations. We also provide the first sequence data for specimens of *Aname mainae* Raven, 2000 collected from near the type locality in South Australia.

Keywords: Taxonomy, systematics, barcoding, haplotype networks

http://zoobank.org/References/34085643-A08A-4E3E-BB16-B5C5609FC3C9

Mygalomorph spiders, due to their slow maturation, habitat specialization and relatively poor dispersal ability, are of long-standing and continuing conservation significance in many regions of the world (e.g., Yen 1995; Pedersen & Loeschcke 2001; Bond et al. 2006; Starrett & Hedin 2007; Satler et al. 2013; Ferretti et al. 2014; Leavitt et al. 2015; Mason et al. 2016; Mendoza & Francke 2017; Rix et al. 2017, 2019). Observable loss of mygalomorph diversity has been documented in the temperate zone of southern Australia (Rix et al. 2017) but a lack of data for other parts of Australia hampers conservation assessments. The Pilbara bioregion is located in north-western Australia and contains a wide array of biota in diverse clades, with extremely high levels of endemism. Molecular studies of Pilbara invertebrates (Humphreys 2001; Finston et al. 2004; Finston & Johnson 2004; Harvey et al. 2008; Guthrie et al. 2010; Abrams et al. 2019) provide evidence of high levels of speciation, endemism, cryptic diversity and/or complex genetic patterns in different environments which, in part, may be a reflection of the great age of the Pilbara craton (Pepper et al. 2013). The Pilbara bioregion is one of the major biomes in north-western Australia, and a distinct unit within the Interim Biogeographic Regionalisation for Australia (IBRA) (Thackway & Cresswell 1995). A preliminary assessment of mygalomorph diversity in the Pilbara was presented by Castalanelli et al. (2014) using cytochrome *c* oxidase subunit I (*COI*) data, suggesting that several genera have radiated widely in the region, as well as in adjacent bioregions.

The most dominant trapdoor spider family in Australia is the Anamidae, which currently includes nine genera: *Aname* L. Koch, 1873, *Chenistonia* Hogg, 1901, *Hesperonatalius* Castalanelli, Huey, Hillyer & Harvey, 2017, *Kwonkan* Main, 1983, *Namea* Raven, 1984, *Proshermacha* Simon, 1908, *Swolnpes* Main & Framenau, 2009, *Teyl* Main, 1975 and *Teyloides* Main, 1985 (Castalanelli et al. 2017; Harvey et al. 2018). In the past these genera constituted a subfamily of the cosmopolitan Nemesiidae, but they were recently elevated to family-level, forming the Anamidae, which is endemic to Australia (Opatova et al. 2019).

Although *Namea* and *Teyloides* are not known to be present in Western Australia, the remaining seven genera form a diverse assemblage of spiders found throughout the region. The most speciose of these genera, *Aname* (Figs. 1–4), is found across most of Australia and currently contains 34 named species (Harvey et al. 2018), of which nine are recorded from Western Australia: *A. aragog* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012, *A. armigera* Rainbow & Pulleine, 1918, *A. ellenae* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012, *A. fuscocincta* Rainbow & Pulleine, 1918, *A. maculata* Rainbow & Pulleine, 1918, *A. mainae* Raven, 2000, *A. marae* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012, *A. mellosa* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012 and *A. villosa* Rainbow & Pulleine, 1918. However, many more species have been collected and await description (e.g., Castalanelli et al. 2014).

This study describes 11 new species of *Aname* from arid ecosystems of northern Western Australia. Most occur in the Pilbara bioregion, but one occurs on Barrow Island and Varanus Island, which represent a northern extension of the Carnarvon IBRA bioregion (Thackway & Cresswell 1995). While some of these species have been collected from few

Figures 1–4.—*Aname lorica*, sp. nov.: 1–2. Male from Varanus Island (WAM T147744); 3. Female from Varanus Island (WAM T147747); 4. Female from Barrow Island (WAM T110185).

localities and might represent short-range endemic species (Harvey 2002; Harvey et al. 2011), others are more widespread. To delimit species, we relied primarily on the morphology of adult males, e.g., pedipalp, first leg, and coloration. The taxonomic utility of these characters has been demonstrated in past studies on the Anamidae (e.g., Raven 1985a; Goloboff 1995; Main 2004; Indicatti & Lucas 2005; Main & Framenau 2009; Harvey et al. 2012; Passanha et al. 2014; Ferretti 2015; Indicatti et al. 2015; Bertani et al. 2017; Castalanelli et al. 2017; Indicatti et al. 2017). In addition, we provide multi-locus sequence data, including the *COI* barcoding gene, which has been used previously to assist in the delineation of mygalomorph species in the Pilbara region (Castalanelli et al. 2014). These data were primarily used to match females and juveniles with conspecific males.

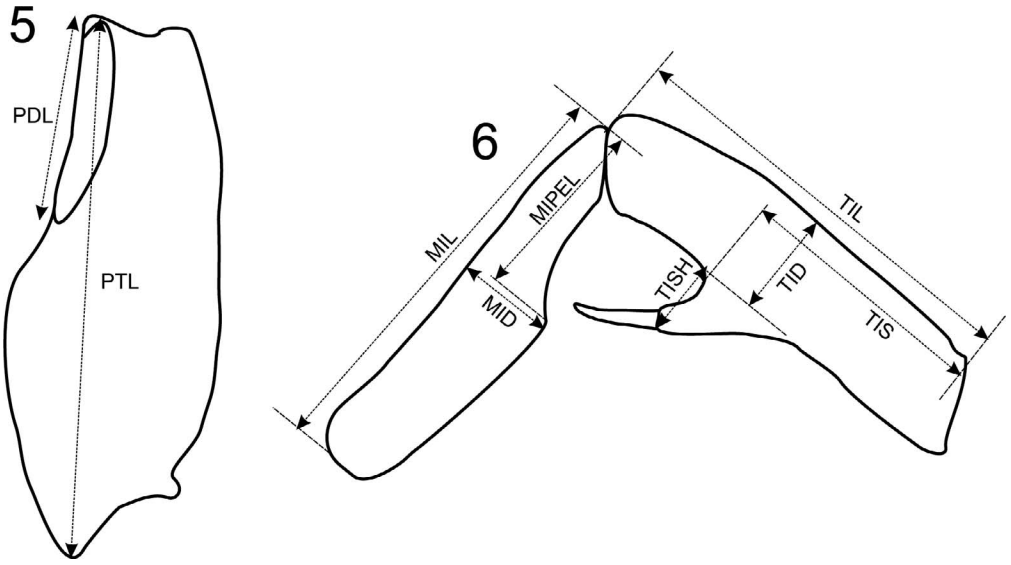
We also provide the first molecular data for specimens of *Aname mainae* collected from near the type locality in South Australia. This species, previously known as *Dekana diversicolor* Hogg, 1902 by Main (1982), but altered to *A. mainae* by Raven (2000), has been thought to be widespread across southern Australia (Main 1982). However, significant differences in morphological features such as the male pedipalp and first leg (Main 1982), as well as significant molecular variation (Huey & Harvey, unpublished data), suggest that the species is polytypic. The newly derived sequence data will help future efforts to characterise *A. mainae*.

METHODS

Morphology.—The specimens examined in this study are lodged in the Western Australian Museum, Perth (WAM), the Harry Butler Institute, Murdoch University, Perth (HBI) and the Queensland Museum, Brisbane (QM), and are preserved in 75% ethanol. Auto-montaged images were taken at different focal planes (ca. 20–30 images) with a Leica DFC500 digital camera attached to a Leica MZ16A stereo microscope, using Leica Application Suite (LAS) version 2.5.OR1 software. Female genitalia were mounted in Hoyer's solution on a microscope slide, and returned to ethanol after study.

Terminology follows Raven (1985 a,b). The following abbreviations are used: AME: anterior median eyes; ALE: anterior lateral eyes; PLE: posterior lateral eyes; PME: posterior median eyes; PMS: posterior median spinnerets; PLS: posterior median spinnerets.

To objectively, and accurately, document differences in the position of various morphological features on the male pedipalp and first leg, we present several measurements and ratios that complement those used by Coyle (1974, 1984, 1988). The pedipalpal tibia was measured along the ventral length (PTL) and the length of the depression (PDL), with the resulting ratio (PDL/PTL) being a proportion of the ventral face of the tibia that is occupied by the depression (Fig. 5). The tibia of leg I was measured along its dorsal length (TIL) and its depth excluding the spur (TID), with the resulting ratio (TIL/TID) being a measure of the overall robustness of the segment (Fig. 6). The position of the tibial spur was measured from the dorsal base of the tibia to the distal face of the spur (TIS). The position of the tibial spur was defined by the ratio TIS/TIL. The height of the spur was measured by the ratio of the maximum height of the spur, excluding the megaspine (TISH), divided by the depth of the tibia (TID). Similarly, metatarsus I was measured along its dorsal length (MIL) and depth (MID) (Fig. 6). The proximal excavation of the segment was measured from the base of the segment to the point where



Figures 5–6.—Schematic illustrations of a male *Aname* showing the measurements taken to quantify the position of major morphological features: 5. Pedipalpal tibia; 6. Tibia and metatarsus I. Abbreviations: PTL = pedipalpal tibia length; PDL = pedipalpal depression length; TIL = tibia I, dorsal length; TID = tibia I depth, excluding the spur; TIS = tibia I from dorsal base to the distal face of the spur; TISH = height of tibial spur, excluding the megaspine; MIL = metatarsus I, dorsal length; MID = metatarsus I depth; MIPEL = length of the proximal excavation of the segment.

the angle of the excavation noticeably changed (MIPEL). For comparative purposes, these ratios were also calculated from previously published illustrations and images of other *Aname* species (Table 1).

Morphological characters were scored using DELTA 1.4 (CSIRO, Canberra, Australia) (Dallwitz et al. 2010), which was also used to generate a natural language description that was subsequently edited further. The species are treated in alphabetical order.

Molecular methods.—Seven genes were selected for this study, three mtDNA genes (*COI*, 12S rRNA [12S], and 16S rRNA [16S]), and four nuDNA genes (18S rRNA [18S], 28S rRNA [28S], Histone H3 [H3] and elongation factor 1-gamma [EF-1γ]). These were the same genes used in Harvey et al. (2018) and all DNA extraction, amplification and sequencing methods follow the methods described therein. Sequences and workflows were managed in the Geneious software package (R9.0.5), using the LIMS Biocode plug-in (http://www.mooreabiocode.org).

Data analysis.—As well as the new species described here, representative sequences were selected from the only previously described species for which sequence data are available: *A. aragog*, *A. ellenae*, *A. mainae*, *A. marae*, *A. mellosa*, and *A. pallida*. All of these sequences had been previously published in Harvey et al. (2018), except for *A. mainae*, specimens of which were sourced from near the type locality in South Australia and matched to the female "allotype" via the morphology of the spermathecae (Main 1982). The tree was rooted using the outgroup species *Hesperonatalius maxwelli* Castalanelli, Huey, Hillyer & Harvey, 2017. This outgroup was chosen because Harvey et al. (2018) demonstrated that *Hesperonatalius* is closely related, and sister to *Aname*. Some of the new species described here had also been sequenced in previous publications (Castalanelli et al. 2014; Harvey et al. 2018), and GenBank was used as the source of these sequences.

Each gene was aligned using the MAAFT plug-in in Geneious (Katoh et al. 2002), using the default settings. Coding genes were screened for stop codons by translating alignments, and sequences that exhibited stop codons were discarded. Ribosomal gene alignments had ambiguously aligned regions removed using G Blocks (Castresana 2000; Talavera & Castresana 2007), via the web tool (online at http://molevol.cmima.csic.es/castresana/Gblocks_server.html), with the settings allowing for gaps and larger blocks. To ensure contamination from highly divergent specimens had not been included in gene alignments, individual gene trees were built using the RAxML plug-in within Geneious, version 7.2.8 (Stamatakis 2006), with 100 bootstraps and GTR+gamma as the substitution model. The optimal partitioning scheme for the concatenated alignment was identified using PartitionFinder, version 1.1 (Lanfear et al. 2012). The preliminary partitioning scheme provided to the program treated each locus independently, and each codon independently for coding genes. PartitionFinder identified a single partition, including all genes and codons, which was used to build a Maximum Likelihood tree using the RAxML plugin in Geneious, with 1,000 bootstraps and GTR+gamma as the substitution model. For the *COI* alignment, pairwise distances between specimens were calculated using MEGA7 (Kumar et al. 2016). The *COI* data were also used to explore intraspecific variation within three of the new species: *A. lorica*, *A. whitei* and *A. sinuata*. This was done by building TCS networks (Clement et al. 2002) using the program PopArt (online at http://popart.otago.ac.nz).

Table 1.—Ratios of morphological features of the male pedipalp and leg I: pedipalpal tibia length (PTL)/depression length (PDL); tibia I dorsal length (TIL)/depth excluding the spur (TID); tibial spur position measured from the dorsal base of the tibia to the distal face of the spur (TIS)/tibia I dorsal length (TIL); maximum height of the spur, excluding the megaspine (TISH)/depth of tibia I (TID); metatarsus I dorsal length (MIL)/depth (MID); and proximal excavation of the segment, measured from base of metatarsus I to the point where the angle of the excavation noticeably changed (MIPEL)/metatarsus I dorsal length (MIL) (see Figs. 5, 6).

Species	PDL/ PTL	TIL/ TID	TIS/ TIL	TISH/ TID	MIL/ MID	MIPEL/ MIL	Source
Aname aragog Harvey et al., 2012	0.59	3.82	0.54	0.55	4.07	0.43	Harvey et al., 2012: figs. 31, 32
Aname atra (Strand, 1913)	0.64	3.00	0.44	0.71	3.28	0.51	Main, 1982: fig. 2A; Raven, 1985: fig. 38
Aname baileyorum, sp. nov.	0.52	3.91	0.40	0.50	3.24	0.46	this study
Aname barrema Raven, 1985	0.73	3.33	0.46	0.67	2.59	0.52	Raven, 1985: figs. 40, 47; this study
Aname camara Raven, 1985	0.51	3.04	0.55	0.60	3.09	0.65	Raven, 1985: figs. 37, 54
Aname collinsorum Raven, 1985	0.69	4.31	0.51	0.91	3.21	0.44	Raven, 1985: figs. 41, 50–52; this study
Aname distincta Raven, 1985	0.51	3.30	0.51	0.70	3.06	0.46	Raven, 1985: figs. 36, 48
Aname diversicolor (Hogg, 1902)	0.49	3.73	0.49	0.73	3.54	0.35	Hogg, 1902: fig. 27
Aname ellenae Harvey et al., 2012	0.57	3.59	0.54	0.79	4.43	0.47	Harvey et al., 2012: figs. 40, 42
Aname frostorum, sp. nov.	0.57	4.25	0.67	0.76	4.74	0.48	this study
Aname grothi, sp. nov.	0.51	3.90	0.59	0.73	4.26	0.47	this study
Aname humptydoo Raven, 1985	0.54	5.18	0.59	0.88	4.89	0.30	Raven, 1985: figs. 44, 42
Aname inimica Raven, 1985	0.63	3.48	0.51	0.71	3.57	0.53	Raven, 1985: figs. 43, 53; this study
Aname kirrama Raven, 1984	0.64	2.76	0.40	0.43	3.93	0.47	Raven, 1984: figs. 67, 85; this study
Aname lorica, sp. nov.	0.60	4.44	0.54	0.73	4.53	0.41	this study
Aname mainae Raven, 2000	0.53	4.50	0.62	0.90	3.55	0.38	Main, 1982: figs. 2B, 3C
Aname marae Harvey et al., 2012	0.54	3.29	0.48	0.53	4.27	0.48	Harvey et al., 2012: figs. 50, 51
Aname mcalpinei, sp. nov.	0.58	3.80	0.62	0.55	5.09	0.50	this study
Aname mellosa Harvey et al., 2012	0.62	3.27	0.60	0.43	4.14	0.51	Harvey et al., 2012: figs. 16, 19
Aname munyardae, sp. nov.	0.44	4.52	0.44	0.70	4.15	0.42	this study
Aname nitidimarina, sp. nov.	0.49	3.66	0.53	0.80	3.31	0.53	this study
Aname pallida (L. Koch, 1873)	0.51	3.31	0.50	0.83	3.64	0.52	Raven, 1981: figs. 8, 10
Aname robertsorum Raven, 1985	0.57	3.78	0.56	0.84	4.07	0.51	Raven, 1985: figs. 39, 49
Aname sinuata, sp. nov.	0.60	3.39	0.60	0.76	4.24	0.58	this study
Aname vernonorum, sp. nov.	0.61	5.00	0.63	0.89	4.54	0.51	this study
Aname warialda Raven, 1985	0.71	3.80	0.54	0.80	3.79	0.45	Raven, 1985: figs. 35, 46
Aname watsoni, sp. nov.	0.64	3.36	0.53	0.65	3.49	0.47	this study
Aname whitei, sp. nov.	0.51	4.24	0.59	0.75	5.08	0.42	this study

RESULTS AND DISCUSSION

Genetic analysis.—The final concatenated analysis included 197 specimens, including at least one representative for seven of the 11 new species described here (Table 2). All species formed well supported clades, distinct from the other six already described *Aname* species for which genetic data were available or produced in this study (Fig. 7). Sequence data from six specimens of *A. mainae* collected from near the type location on the Eyre Peninsula were compared to all *COI* data available in Castalanelli et al. (2014) and other unpublished *Aname* sequences (results not shown). The result confirms that previously identified *A. mainae* in Castalanelli et al. (2014) do not represent this species, and that the species is likely restricted to the Eyre Peninsula and does not extend into Western Australia.

With such an incomplete data set (unpublished data suggests there are well over 100 undescribed species of *Aname* for which we have genetic data) the final topology is likely inaccurate and we will therefore not comment on the relationships among taxa. Genetic distances within species for *COI* were greatest in *A. sinuata* with a maximum p-distance value of 0.108, while between species, the minimum p-distance was 0.126 (Table 3). Three species showed significant intraspecific genetic structure: *A. sinuata*, *A. whitei*, and *A. lorica*. For all three, this genetic structure was spatially correlated (see Systematics section).

SYSTEMATICS

Family Anamidae Simon, 1889
Genus *Aname* L. Koch, 1873

Aname L. Koch 1873: 465. Type species: *Aname pallida* L. Koch, 1873, by monotypy.

Dekana Hogg 1902: 138 (synonymized by Raven 1981: 328). Type species: *Dekana diversicolor* Hogg, 1902, by original designation.

Sungenia Rainbow & Pulleine 1918: 162 (synonymized by Raven 1981: 328). Type species: *Chenistonia (Dekana) atra* Strand, 1913, by monotypy.

Dolichostermum Rainbow & Pulleine 1918: 168 (synonymized by Raven 1981: 328). Type species: *Dolichosternum attenuatum* Rainbow & Pulleine, 1918 (junior synonym of *Ixamatus distinctus* Rainbow, 1914), by monotypy.

Diagnosis.—Species of *Aname* can be distinguished from all other anamids by the presence of a prominent asetose ventral depression on the male pedipalpal tibia (e.g., Figs. 16, 40, 82) (see also Harvey et al. 2018).

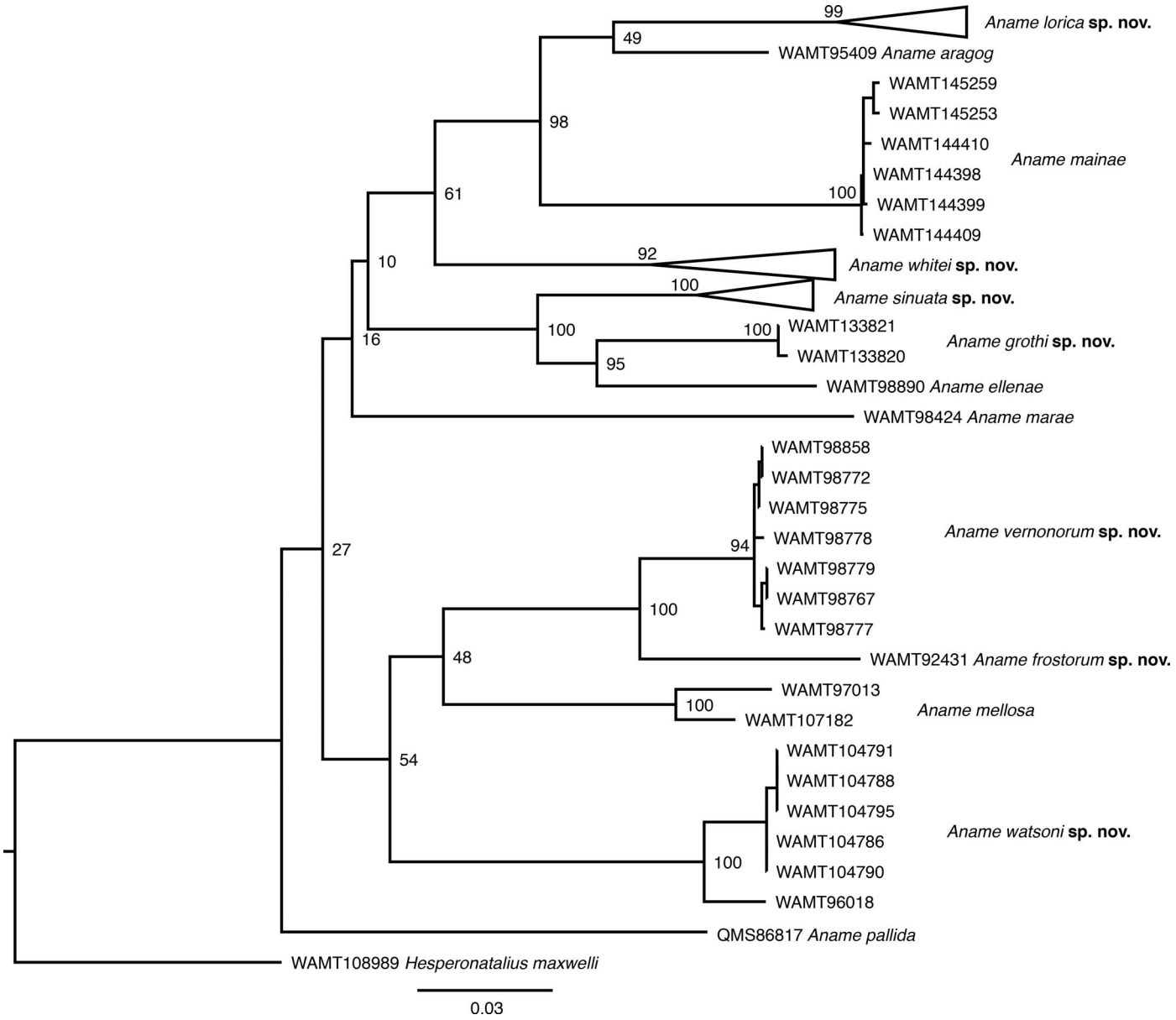


Figure 7.—Phylogenetic tree based on RAxML analysis. Labels displayed next to nodes represent bootstrap values, which are not shown within species. *Aname lorica*, *A. sinuata* and *A. whitei* are represented by collapsed triangles. They are expanded in Figs. 62, 117, 166.

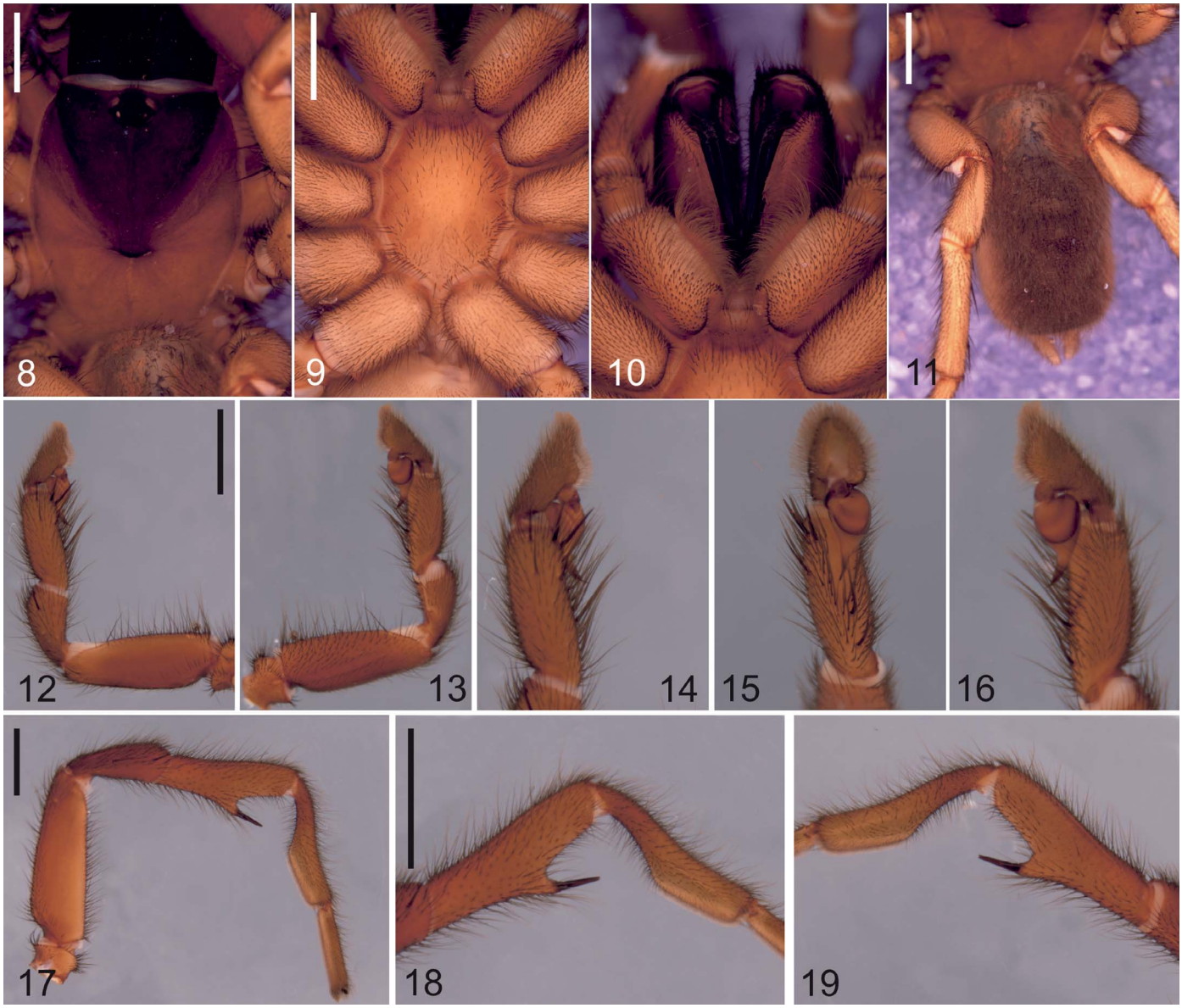
Remarks.—The difficulties faced by Harvey et al. (2012) in distinguishing putative new species of *Aname* from species for which only the female sex had been described has not changed. These species, which were listed by Harvey et al. (2012), do not occur within the range of the new species below and we are therefore confident that none of our new species are conspecific with any of these species.

Aname baileyorum sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/9D154906-FE23-49B9-8EDD-2D9892AE38BA
(Figs. 8–19)

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: 10.5 km NW of Bonney Downs Homestead, 22°07′04.2″S, 119°52′37″E, 8 August 2003–18 October 2004, pitfall trap, Department of Conservation and Land Management staff (WAM T109368).

Paratypes. AUSTRALIA: *Western Australia*: 3 ♂, same data as holotype (WAM T145069); 2 ♂, 26 km WNW of Bonney Downs Homestead, Pilbara Biological Survey site RHNE12, 22°05′07.1″S, 119°42′12.6″E, 8 August 2003–18 October 2004, wet pitfall trap, Department of Conservation and Land Management staff (WAM T109363).

Other material examined.—AUSTRALIA: *Western Australia*: 1 ♂, 36 km NW of Balfour Downs Homestead, Pilbara Biological Survey site BDRN11, 22°30′59″S, 120°39′34″E, 11 September 2005–14 August 2006, wet pitfall traps, Department of Conservation and Land Management staff (WAM



Figures 8–19.—*Aname baileyorum* sp. nov., holotype male (WAM T109368): 8. Cephalothorax, dorsal view; 9. Cephalothorax, ventral view; 10. Maxillae, labium and sternum, ventral view; 11. Abdomen, dorsal view; 12–16. Left pedipalp: 12. Prolateral view; 13. Retrolateral view; 14. Tibia and tarsus, prolateral view; 15. Tibia and tarsus, ventral view; 16. Tibia and tarsus, retrolateral view; 17–19. Left leg I: 17. Prolateral view; 18. Tibia and metatarsus I, prolateral view; 19. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

T109378); 2 ♂, 19 km W of intersection of Coongan River and Talga River, Pilbara Biological Survey site PHYC09, 20°53′44″S, 119°36′09″E, 31 July 2005–24 August 2006, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109365); 1 ♂, 14 km E of Meentheena Outcamp, Pilbara Biological Survey site NE03, 21°16′17.7" S, 120°35′06.9″E, 1 August 2003–13 October 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109370); 3 ♂, Mulga Downs Station, 16 km N of Cowra Line Camp, Pilbara Biological Survey site RHNW07, 22°13′18.2″S, 119°01′29.5″E, 14 August 2003–May 2004, wet pitfall traps (WAM T109377); 2 ♂, 1 juvenile, 27.5 km NNW of Nullagine, Pilbara Biological Survey site NW06, 21°38′39″S, 120°03′46.7″E, 4 August 2003–19 August 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109364); 2 ♂, Corunna Downs Station, 52.5 km N of Nullagine, Pilbara Biological Survey site NW11, 21°24′27.7″S, 120°04′16.7″E, 3 August 2003–20 October 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109372); 1 ♂, Wodgina, 25 km ENE, 21°05′43″S, 118°53′11″E, 23 September 2005–14 September 2006, wet pitfall traps, Department of Conservation and Land Management staff (WAM T97310); 1 ♂, ca. 18 km SS of Wodgina mine, 21°13′38.04″S, 118°50′00.09″E, 25 March–6 April 2010, P. Bolton (WAM T105212); 1 ♂, ca. 18 km NS of Wodgina

mine site, 21°07′06.03″S, 118°49′19.09″E, 28 March–4 May 2010, wet pitfall trap, P. Bolton (WAM T107006); 1 ♂, ca. 18 km NS of Wodgina mine site, 21°07′06.03″S, 118°49′19.09″E, 28 March–4 May 2010, wet pitfall trap, P. Bolton (WAM T107007); 1 ♂, Woodstock Station, site WS2, 21°36′42″S, 118°57′10″E, 10–17 February 1989, wet pitfall trap, *Acacia pyrifolia*/hard spinifex, J. Dell, R.A. How, J.M. Waldock (WAM T27352); 1 ♂, Woodstock Station, site WS3, 21°36′35″S, 118°57′44″E, 10–17 February 1989, wet pitfall trap, J. Dell, R.A. How, J.M. Waldock (WAM T27353); 1 ♂, Woodstock Station, site WS3, 21°36′35″S, 118°57′44″E, 10–17 February 1989, wet pitfall trap, hard spinifex sandplain, J. Dell, R.A. How, J.M. Waldock (WAM T27354); 1 ♂, Woodstock Station, site WS3, 21°36′35″S, 118°57′44″E, 10–17 February 1989, dry pitfall trap, hard spinifex sandplain, J. Dell, R.A. How, J.M. Waldock (WAM T27355); 1 ♂, Woodstock Station, site WS3, 21°36′35″S, 118°57′44″E, 23–30 March 1988, drift fence line, W.F. Humphreys (WAM T27356); 1 ♂, Woodstock Station, site WS3, 21°36′35″S, 118°57′44″E, 23–30 March 1988, wet pitfall trap, W.F. Humphreys (WAM T27357); 1 ♂, Woodstock Station, site WS5, 21°36′35″S, 118°59′16″E, 23–30 March 1988, wet pitfall trap, W.F. Humphreys (WAM T27360); 1 ♂, Woodstock Station, site WS5, 21°36′35″S, 118°59′16″E, 23–30 March 1988, dry pitfall (fence), W.F. Humphreys (WAM T27361); 1 ♂, Woodstock Station, site WS5, 21°36′35″S, 118°59′16″E, 10–17 February 1989, dry pitfall trap, J. Dell, R.A. How, J.M. Waldock (WAM T27362); 1 ♂, Woodstock Station, site WS6, 21°36′35″S, 119°01′17″E, 23–30 March 1988, dry pitfall trap, *Acacia orthocarpa*/spinifex, W.F. Humphreys (WAM T27363); 1 ♂, 5.5 km S of Yarrie Homestead, Pilbara Biological Survey site PHYE13, 20°43′25″S, 120°12′08″E, 5 July 2005–30 August 2006, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109376).

Etymology.—This species is named for the Bailey family (Kim, Leigh and Oscar), the first author's sister, brother-in-law and nephew.

Diagnosis.—Males of *A. baileyorum* differ from most other species of the genus by the position of the megaspur on leg I, which is situated somewhat medially (TIS/TIL = 0.40; Figs. 18, 19); most of the other species that have similar positions of less than 0.50 are distinguished by the position of the metatarsal proximal excavation in which MIL/MID is greater than 3.5 (*A. diversicolor*, *A. kirrama* Raven, 1985, *A. munyardae* and *A. marae*) (Table 1), or by the thickened tibia and metatarsus I in *A. atra* and *A. barrema* Raven, 1985). Females are unknown.

Description (male holotype).—Medium-sized anamid spider, total body length 16.90.

Color (in alcohol): Carapace pale yellow-brown posterior of fovea, with red-brown caput; leg I red-brown, legs II to IV uniformly yellow-brown; chelicerae uniformly dark red-brown; abdomen dorsally grey-brown, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 8): 6.19 long, 4.99 wide, 1.24 × longer than broad; covered with sparse fine setae, very slender silver setae also present; with brown bristles dorsally, clypeal edge: indented medially, with 3 bristles, and 2 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row slightly recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.61 long, 1.16 wide; eye diameters: AME 0.31, ALE 0.37, PME 0.25, PLE 0.28; separation: AME-ALE 0.04, PME-PLE 0.06, ALE-PLE 0.09, AME-PME 0.05, AME-AME 0.22, PME-PME 0.58. Chelicerae with white and black short setae sparsely distributed, 1 well-defined prolateral strip dense, long, and brown; shortened thickened setae on anterior face of paturon; promargin with 11 or 10 teeth, retromargin with 4 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 10): with ca. 110 cuspules; located on the basal half. Sternum (Fig. 9): 3.75 long, 3.19 wide; 1.18 × longer than broad; oval in shape, posteriorly pointed; with bristles over entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; anterior and median pairs located near edge of sternum; posterior pair elliptical.

Pedipalp (Figs. 12–16): Measurements: femur 3.51, patella 2.03, tibia 2.44, tarsus 2.00. Spines: femur 0; patella p2; tibia basal third: v2, apical quarter: v3 p2; tibia without patch of short retrolateral spines; tarsus densely setose; bulb ovoid; embolus rather short, only slightly curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.52.

Legs: Leg formula 4=123. Tibia I with large megaspur (Figs. 17–19); TIL/TID 3.91; TIS/TIL 0.40; TISH/TID 0.50; metatarsus incrassate; MIL/MID 3.24; MIPEL/MIL 0.46. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 5.44, patella 3.36, tibia 4.24, metatarsus 2.76, tarsus 3.63, total 19.43. Leg II: femur 4.98, patella 2.90, tibia 3.51, metatarsus 3.65, tarsus 2.44, total 17.48. Leg III: femur 4.11, patella 2.23, tibia 2.44, metatarsus 2.94, tarsus 2.31, total 14.03. Leg IV: femur 5.26, patella 2.89, tibia 4.06, metatarsus 4.81, tarsus 2.56, total 19.59. Spination: Leg I: femur p2, d2, patella p2, tibia 0, metatarsus 0, tarsus 0; II: femur d4, tibia p1, v4, metatarsus v5, tarsus 0; III: femur d4, patella p2, tibia 9, metatarsus 14, tarsus 0; IV: femur d3, patella 0, tibia 9, metatarsus 19, tarsus 0.

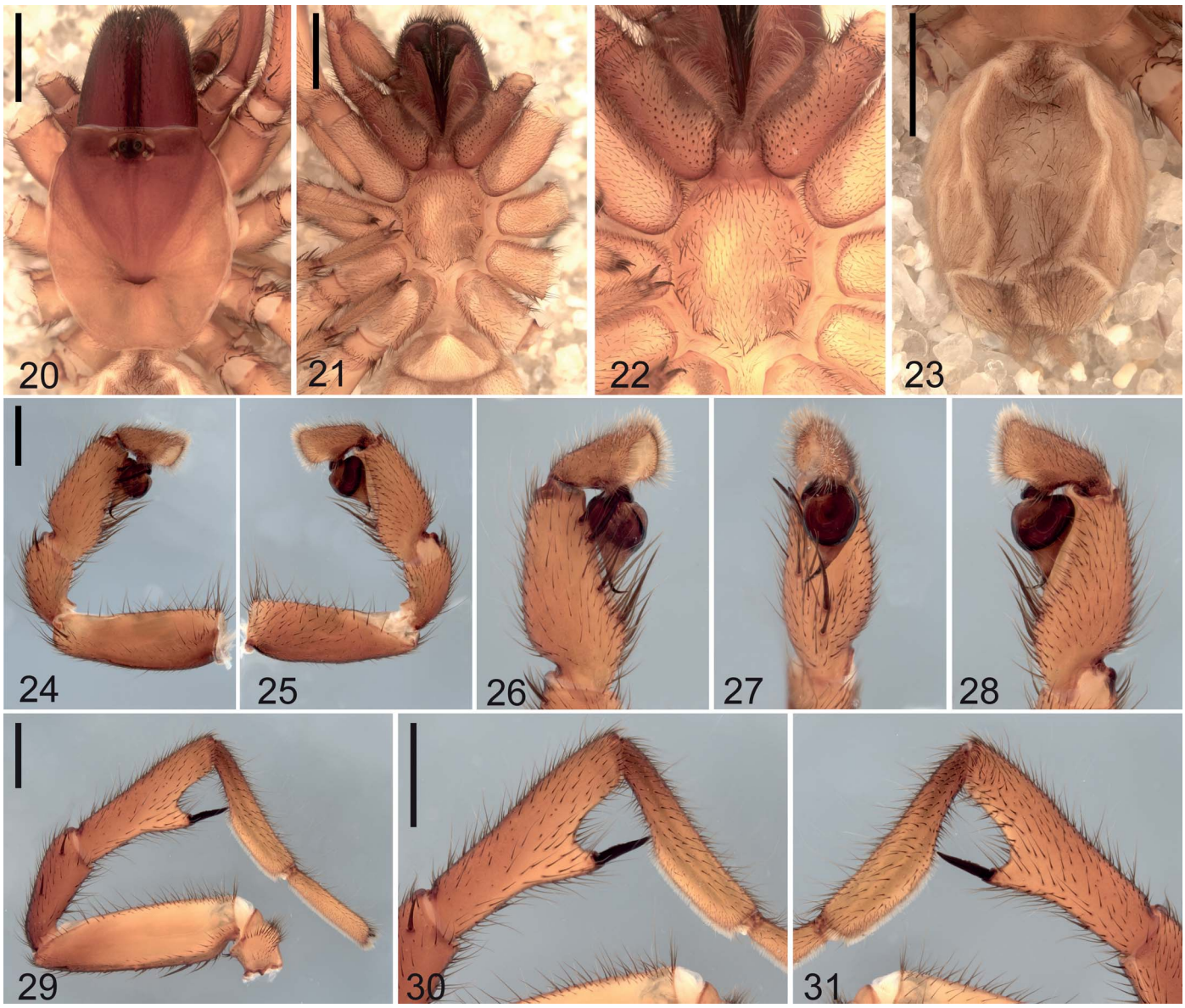
Abdomen: 7.28 long, 4.44 wide, 1.64 × longer than broad; densely pilose (Fig. 11); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Variation: $n = 10$; carapace 6.19–7.81 long, 5.06–6.25 wide; femur I 4.94–6.49; metatarsus I 3.69–4.51, femur IV 5.06–6.03; carapace color ranged from light red-brown to darker brown; palp tibia spines varied from v1–4 and p1–3, femur I spines v0–1.

Distribution.—*Aname baileyorum* has been collected throughout the eastern Pilbara IBRA bioregion of Western Australia (Fig. 167).

Remarks.—Adult males have been collected between February and May, with most from pitfall traps. Numerous specimens were collected during the Pilbara Biodiversity Survey (McKenzie et al. 2009).

Sequence data.—Molecular data are not available for this species.



Figures 20–31.—*Aname frostorum* sp. nov., holotype male (WAM T97315): 20. Cephalothorax, dorsal view; 21. Cephalothorax, ventral view; 22. Maxillae, labium and sternum, ventral view; 23. Abdomen, dorsal view; 24–28. Left pedipalp: 24. Prolateral view; 25. Retrolateral view; 26. Tibia and tarsus, prolateral view; 27. Tibia and tarsus, ventral view; 28. Tibia and tarsus, retrolateral view; 29–31. Left leg I: 29. Prolateral view; 30. Tibia and metatarsus I, prolateral view; 31. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

Aname frostorum sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/AB6579C8-83D6-467D-8B4F-18C5EF0C3A99
(Figs. 20–31)

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: 11 km SSS of Whim Creek Hotel, Pilbara Biological Survey site DRE10, 20°55′11.4″S, 117°51′40.6″E, wet pitfall traps, 11 July 2003–May 2004, Department of Conservation and Land Management staff (WAM T97315).

Paratypes. AUSTRALIA: *Western Australia*: 5 ♂, same data as holotype (WAM T92431, T143491).

Etymology.—This species is named for the Frost family (Jillian, Simon, Nina, Clara and Annabel), and the first author's wife's maiden name.

Diagnosis.—Males of *A. frostorum* most closely resemble those of *A. mcalpinei* by the stout pedipalpal tibia (Figs. 26–28). They differ from *A. mcalpinei* by the shorter embolus (Figs. 26–28) and fewer spines on the pedipalpal tibia (Figs. 27, 28). Females are unknown.

Description (male holotype).—Medium-sized anamid spider, total body length 12.90.

Color (in alcohol): Carapace anterior red-brown fading posteriorly to a light brown; leg I red-brown, legs II to IV uniformly yellow-brown; chelicerae uniformly dark red-

brown; abdomen dorsally pale creamy-yellow, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 20): 5.13 long, 4.00 wide, 1.28 × longer than broad, sparse fine setae, silver setae absent; without dorsal bristles, clypeal edge: straight, with 6 bristles, and 1 on anterior face of eye tubercle; fovea procurved. Eyes: from above, anterior eye row procurved, posterior eye row recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.60 long, 1.13 wide; eye diameters: AME 0.27, ALE 0.31, PME 0.19, PLE 0.29; separation: AME-ALE 0.04, PME-PLE 0.02, ALE-PLE 0.08, AME-PME 0.10, AME-AME 0.13, PME-PME 0.50. Chelicerae with black short setae sparsely distributed, 1 well-defined prolateral strip dense, long, and brown or black; shortened thickened setae on anterior face of paturon; promargin with 9 teeth, retromargin with 3 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 22): with ca. 60 cuspules; located on the basal two-thirds. Sternum (Fig. 22): 2.75 long, 1.75 wide; oval in shape, posteriorly pointed; 1.57 × longer than broad; with bristles on posterior margin, with setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior. Anterior pair located near edge of sternum; posterior pair elliptical.

Pedipalp (Figs. 24–28): Measurements: femur 5.69, patella 2.77, tibia 3.61, tarsus 2.46. Spines: femur 1 apico-prolateral; patella 1 apico-prolateral; tibia basal third: v2, apical half: v3; tibia without patch of short retrolateral spines; tarsus densely setose; bulb squat; embolus short and strongly curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.57.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 29–31); TIL/TID 4.25; TIS/TIL 0.67; TISH/TID 0.76; metatarsus incrassate; MIL/MID 4.74; MIPEL/MIL 0.48. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 4.08, patella 2.61, tibia 3.31, metatarsus 2.77, tarsus 2.00, total 14.76. Leg II: femur 3.61, patella 2.15, tibia 2.69, metatarsus 2.85, tarsus 2.00, total 13.30. Leg III: femur 3.00, patella 1.69, tibia 1.85, metatarsus 3.00, tarsus 1.85, total 11.38. Leg IV: femur 4.00, patella 1.85, tibia 3.31, metatarsus 3.61, tarsus 2.31, total 15.07. Spination: Leg I: femur p1, patella p2, tibia v2, metatarsus 0, tarsus 0; II: femur p3, d3, patella p2, tibia p1, v4, metatarsus v4, tarsus 0; III: femur p3, d2, patella p2, d2, tibia 13, metatarsus 19, tarsus 0; IV: femur p3, d1, patella 0, tibia 9, metatarsus 15, tarsus 0.

Abdomen: 4.88 long, 3.63 wide, 1.57 × longer than broad; densely pilose (Fig. 23); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Distribution.—This species has been collected from a single location in the Pilbara IBRA bioregion of Western Australia (Fig. 168).

Remarks.—Adult males have been collected using pitfall traps in May during the Pilbara Biodiversity Survey (McKenzie et al. 2009).

Sequence data.—DNA sequences were successfully obtained from one specimen of *A. frostorum* (Table 2).

Aname grothi sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/2821F575-E9BC-490C-A764-71022E4FF144
(Figs. 32–43)

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: Great Sandy Desert, 90 km SW of Wangkatjungka, 19°32′30″S, 125°24′06″E, 19 July 2014, dry pitfalls, S. van Barneveld (WAM T133820).

Paratype. AUSTRALIA: *Western Australia*: 1 ♂, same data as holotype (WAM T133821).

Etymology.—This species is named for Professor David Groth who provided positive feedback throughout the first author's Ph.D. candidature, pushing to publish and always wanting to have a chat in the laboratory.

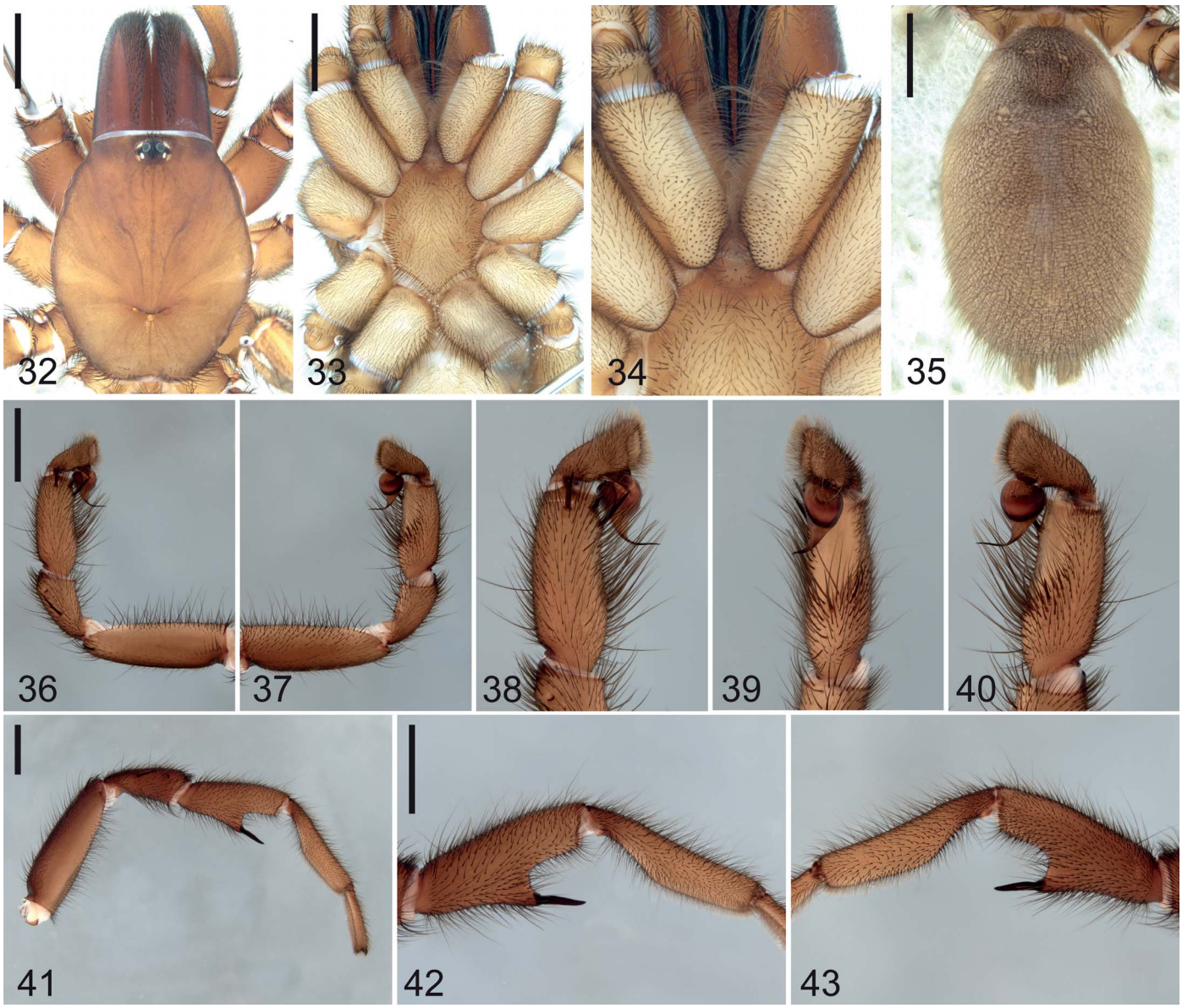
Diagnosis.—Males of *A. grothi* most closely resemble those of *A. ellenae* from north-western Australia, *A. camara* Raven, 1985 from central Queensland and *A. inimica* Raven, 1985 from north-eastern New South Wales as all have a similar shaped embolus that curves prolaterally from the bulb. *Aname grothi* differs from *A. ellenae* by the less prominent spur of tibia I (Figs. 42, 43). *Aname grothi* differs from *A. camara* as metatarsus I has a less well-developed prominence (Figs. 42, 43); the spur on tibia I is situated more distally than in *A. camara* (Figs. 42, 43); and the pedipalpal tibial concavity is shorter in *A. grothi* (Figs. 39, 40). *Aname grothi* differs from *A. inimica* by the less prominent spur on tibia I (Figs. 42, 43) and the presence of a median claw on leg I. Females are unknown.

Description (male holotype).—Medium-sized anamid spider, total body length 18.30.

Color (in alcohol): Carapace uniformly yellow-brown with anterior brown band; leg I red-brown, legs II to IV uniformly yellow-brown; chelicerae deep red-brown; abdomen dorsally grey-brown, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 32): 6.85 long, 5.50 wide, 1.25 × longer than broad, sparse fine setae, very slender silver setae sparsely present; with brown bristles dorsally, clypeal edge: straight, with 6 bristles, and 10 on anterior face of eye tubercle; fovea procurved. Eyes: from above, anterior eye row procurved, posterior eye row recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.64 long, 1.07 wide; eye diameters: AME 0.30, ALE 0.36, PME 0.15, PLE 0.25; separation: AME-ALE 0.02, PME-PLE 0.00, ALE-PLE 0.09, AME-PME 0.08, AME-AME 0.64, PME-PME 0.74. Chelicerae with 2 well-defined rows of short black spines; rastellum absent; promargin with 7 teeth, retromargin with 4 teeth. Labium: fused to sternum; with 1 cuspule; Maxillae (Fig. 34): with ca.110 cuspules; located in the basal half. Sternum (Fig. 33): 3.40 long, 2.82 wide; 1.21 × longer than broad; oval in shape, posteriorly pointed; with bristles over entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elongate and slightly curved; posterior pair elliptical.

Pedipalp (Figs. 36–40): Measurements: femur 3.79, patella 2.06, tibia 2.70, tarsus 1.58. Spines: femur 0; patella p2; tibia p3 (distal); tibia without patch of short retrolateral spines; tarsus densely setose; bulb globular; embolus about same



Figures 32–43.—*Aname grothi* sp. nov., holotype male (WAM T133820): 32. Cephalothorax, dorsal view; 33. Cephalothorax, ventral view; 34. Maxillae, labium and sternum, ventral view; 35. Abdomen, dorsal view; 36–40. Left pedipalp: 36. Prolateral view; 37. Retrolateral view; 38. Tibia and tarsus, prolateral view; 39. Tibia and tarsus, ventral view; 40. Tibia and tarsus, retrolateral view; 41–43. Left leg I: 41. Prolateral view; 42. Tibia and metatarsus I, prolateral view; 43. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

length as bulb, gently curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.51.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 41–43); TIL/TID 3.90; TIS/TIL 0.59; TISH/TID 0.73; metatarsus incrassate; MIL/MID 4.26; MIPEL/MIL 0.47. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 5.61, patella 3.59, tibia 4.00, metatarsus 4.43, tarsus 2.50, total 20.13. Leg II: femur 4.97, patella 4.22, tibia 3.16, metatarsus 3.79, tarsus 2.58, total 18.72. Leg III: femur 4.60, patella 2.61, tibia 3.00, metatarsus 3.98, tarsus 2.62, total 16.81. Leg IV: femur 5.75, patella 3.12, tibia 4.10, metatarsus 5.20, tarsus 2.71, total 20.88. Spination: Leg I: femur d2, patella p2, tibia 0, metatarsus 0, tarsus 0; II: femur d5, patella p2, tibia p1, v5, metatarsus p1, v5, tarsus 0; III: femur d6, patella p2, r1, tibia 10, metatarsus 18, tarsus 0; IV: femur d3, r2, patella v1, tibia 8, metatarsus 17, tarsus 0.

Abdomen: 8.00 long, 4.90 wide, 1.63 × longer than broad; densely pilose (Fig. 35); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Variation: $n = 1$; carapace 5.98 long, 5.20 wide; femur I 5.41; metatarsus I 4.23; femur IV 5.19.

Distribution.—*Aname grothi* has been collected in the northern Great Sandy Desert IBRA bioregion of northwestern Australia (Fig. 168).

Remarks.—Adult males have been collected in July from pitfall traps.

Sequence data.—DNA sequences were available for the two known specimens of *A. grothi* (Table 2), with an intraspecific p-distance of 0.006 at *COI* (Table 3).

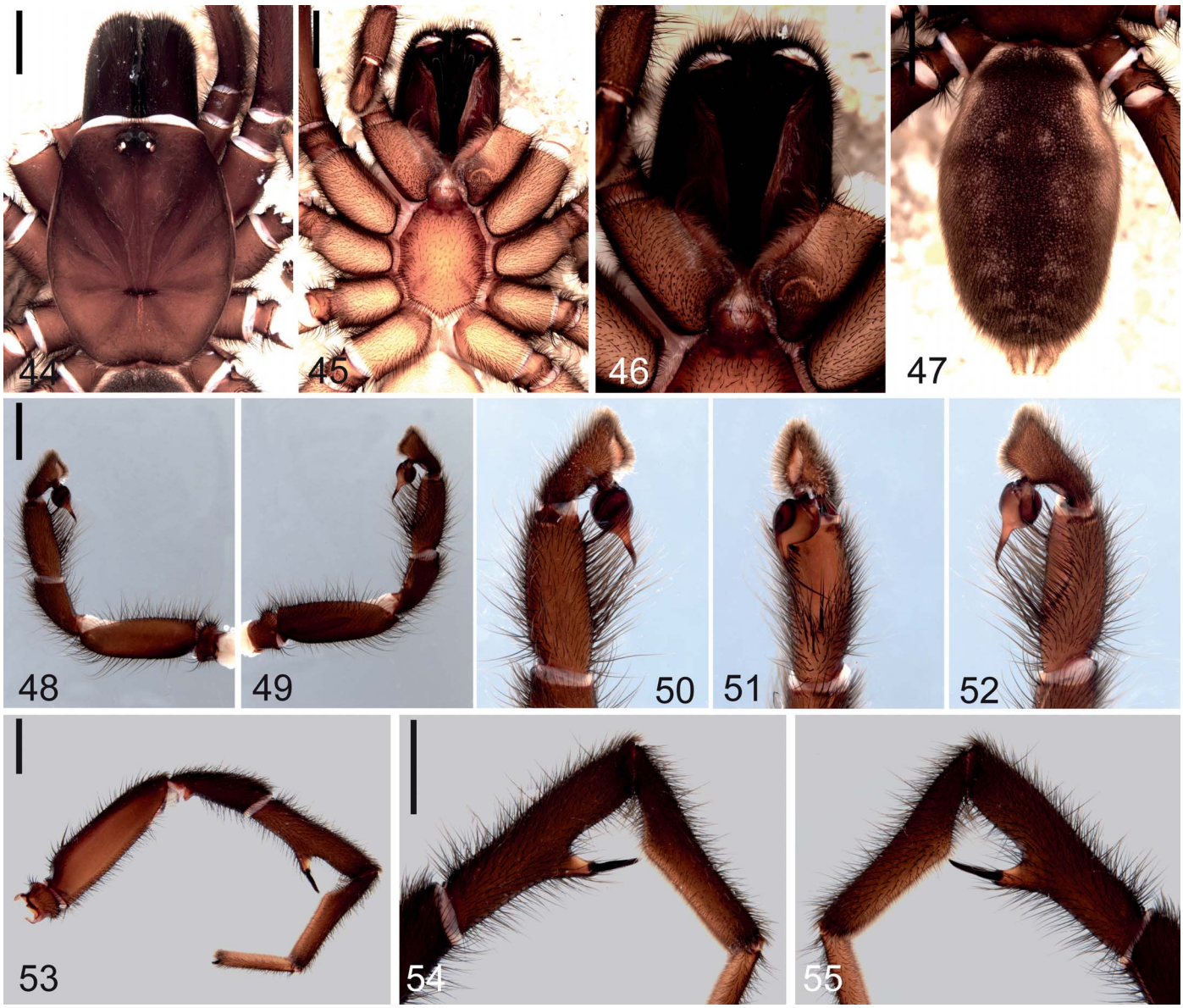
Aname lorica sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/08B4394B-9F5B-4035-9D14-C1113ACF5423
(Figs. 1–4, 44–61)

Aname 'MYG079': Castalanelli et al. 2014: 380, fig. 3.

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: Barrow Island, 20°43′31″S, 115°28′18″E, 31 March 2011, pitfall trap, D. Keirle, S. Werner (WAM T113810).

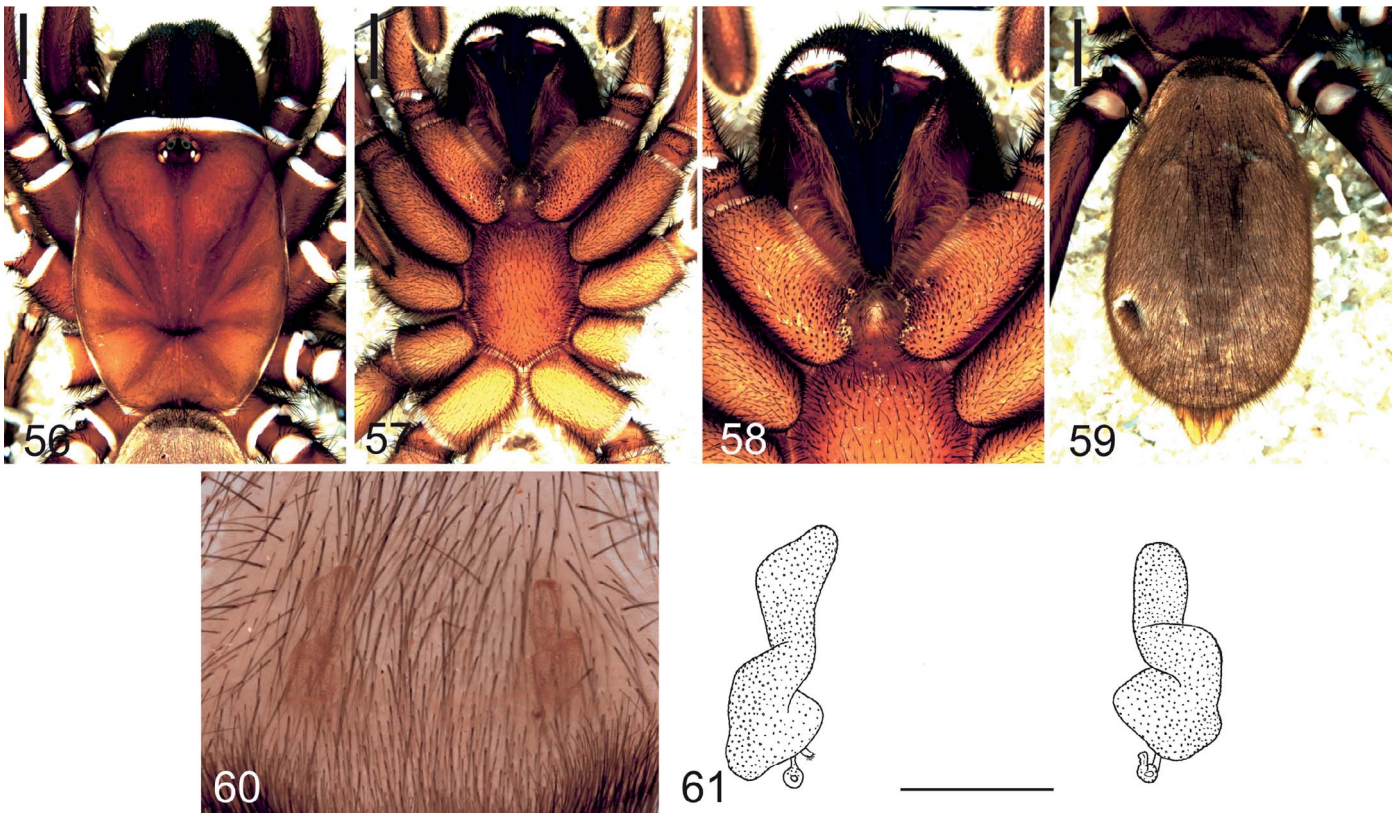
Paratypes. AUSTRALIA: *Western Australia*: 1 ♂, Barrow Island, 20°41′32″S, 115°25′4″E, 15 April 2011, funnel trap, J. Tatler (WAM T113826); 1 ♂, Barrow Island, 20°43′39″S, 115°28′30″E, 16 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102041); 1 ♀, Barrow Island, 0.7 km SW of Mattress Point, 20°44′51″S, 115°28′12″E, 18 November 2010, from burrow, R. Teale, M. Greenham (WAM T110193).

Other material examined.—AUSTRALIA: *Western Australia*: 1 ♂, Barrow Island, 20°43′32″S, 115°28′22″E, 1 April 2011, funnel trap, D. Keirle (WAM T113809); 1 ♂, Barrow Island, 20°43′34″S, 115°28′24″E, 29 March 2011, pitfall trap, D. Keirle (WAM T113812); 1 ♂, Barrow Island, 20°43′41″S, 115°28′21″E, 1 April 2011, pitfall trap, D. Keirle (WAM T113811); 1 ♂, Barrow Island, 20°47′21″S, 115°27′37″E, 14 April 2011, funnel trap, D. Keirle (WAM T113823); 1 ♂, Barrow Island, 20°47′21″S, 115°27′37″E, 14 April 2011, funnel trap, D. Keirle (WAM T113825); 1 ♂, Barrow Island, 20°47′21″S, 115°27′41″E, 14 April 2011, pitfall trap, D. Keirle (WAM T113827); 1 ♂, Barrow Island, 20°47′21″S, 115°27′37″E, 14 April 2011, funnel trap, D. Keirle (WAM T113824); 1 ♂, Barrow Island, 20°47′22″S, 115°27′35″E, 14 April 2011, pitfall trap, D. Keirle (WAM T113831); 1 ♂, Barrow Island, 20°47′25″S, 115°27′32″E, 14 April 2011, pitfall trap, D. Keirle (WAM T113829); 1 ♂, Barrow Island, 20°47′25″S, 115°27′32″E, 14 April 2011, pitfall trap, D. Keirle (WAM T113830); 1 ♂, Barrow Island, 20°47′25″S, 115°27′32″E, 16 April 2011, pitfall trap, D. Keirle (WAM T113828); 1 ♂, Barrow Island, 20°49′26″S, 115°26′36″E, 31 March 2011, pitfall trap, J. Tatler (WAM T113815); 1 ♂, Barrow Island, 20°49′32″S, 115°26′43″E, 26 March 2012, pitfall trap, R. Teale, M. Delaney (WAM T122890); 1 ♂, Barrow Island, 20°49′32″S, 115°26′43″E, 25 March 2012, pitfall trap, R. Teale, M. Delaney (WAM T122889); 1 ♂, Barrow Island, 20°49′33″S, 115°26′40″E, 31 March 2011, pitfall trap, J. Tatler (WAM T113817); 1 ♂, Barrow Island, 20°49′33″S, 115°26′40″E, 2 April 2011, pitfall trap, J. Tatler (WAM T113816); 1 ♂, Barrow Island, 20°49′34″S, 115°26′48″E, 31 March 2011, pitfall trap, J. Tatler, P. Brooshooft (WAM T113821); 1 ♂, Barrow Island, 20°49′35″S, 115°26′37″E, 31 March 2011, pitfall trap, J. Tatler (WAM T113819); 1 ♂, Barrow Island, 20°49′35″S, 115°26′37″E, 2 April 2011, pitfall trap, J. Tatler (WAM T113820); 1 ♂, Barrow Island, 20°49′37″S, 115°26′48″E, 1 April 2011, funnel trap, D. Keirle (WAM T113807); 1 ♂, Barrow Island, 20°49′37″S, 115°26′48″E, 1 April 2011, funnel trap, D. Keirle (WAM T113808); 1 ♂, Barrow Island, 20°49′37″S, 115°26′48″E, 2 April 2011, funnel trap, D. Keirle (WAM T113822); 1 ♂, Barrow Island, 20°49′37″S, 115°26′48″E, 1 April 2011, funnel trap, D. Keirle (WAM T113806); 1 ♂, Barrow Island, 20°51′58″S, 115°24′28‴E, 1 April 2011, pitfall trap, J. Tatler (WAM T113818); 1 ♂, Barrow Island, 20°51′59″S, 115°24′27″E, 1 April 2011, pitfall trap, J. Tatler (WAM T113814); 1 ♂, Barrow Island, 20°51′59″S, 115°24′27″E, 1 April 2011, pitfall trap, J. Tatler (WAM T113813); 1 ♂, Barrow Island, 20°51′60″S, 115°24′21″E, 26 March 2012, pitfall trap, R. Teale, M. Delaney (WAM T122900); 1 ♂, Barrow Island, 20°51′60″S, 115°24′21″E, 25 March 2012, pitfall trap, R. Teale, M. Delaney (WAM T122899); 1 ♂, Barrow Island camp mess, kitchen [= Main Camp kitchen], 20°49′35″S, 115°26′44″E, 2 April 2009, J. Sherborne (WAM T96992); 1 ♀, Barrow Island, 1.2 km W of Surf Point, 115°27′18″E, 23 November 2010, from burrow, R. Teale, M. Greenham (WAM T110189); 1 ♀, Barrow Island, 1.2 km W of Surf Point, 20°40′55″S, 115°27′18″E, 23 November 2010, from burrow, R. Teale, M. Greenham (WAM T110185); 1 ♂, Barrow Island, 20°47′34‴S, 115°27′24″E, 12 April 2013, dry pitfall trap, C. Cole, S. Schmidt (WAM T131709); 1 ♂, Barrow Island, 20°47′36.96″S, 115°27′25.2″E, 18 March 2013, funnel trap, T. Sachse, S. Schmidt (WAM T131617); 1 ♂, Barrow Island, 20°47′37″S, 115°27′27″E, 13 April 2013, dry pitfall trap, C. Cole, S. Schmidt (WAM T131710); 1 ♂, Barrow Island, 20°47′37″S, 115°27′27″E, 20 March 2013, dry pitfall trap, T. Sachse, S. Schmidt (WAM T131623); 1 ♂, Barrow Island, 20°47′37″S, 115°27′27″E, 25 March 2013, dry pitfall trap, T. Sachse, S. Schmidt (WAM T131622); 1 ♂, Barrow Island, 20°43′33″S, 115°28′23″E, 16 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102055); 1 ♂, Barrow Island, 20°43′33″S, 115°28′23″E, 15 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102045); 1 ♀, Barrow Island, 20°43′34″S, 115°28′24″E, 14 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102051); 1 ♂, Barrow Island, 20°43′34″S, 115°28′24″E, 16 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102050); 1 ♂, Barrow Island, 20°43′34″S, 115°28′24″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102046); 1 ♂, Barrow Island, 20°43′34″S, 115°28′24″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102058); 1 ♂, Barrow Island, 20°43′34″S, 115°28′24″E, 16 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102052); 1 ♂, Barrow Island, 20°43′34″S, 115°28′24″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102038); 1 ♂, Barrow Island, 20°43′39″S, 115°28′30″E, 16 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102060); 1 ♂, Barrow Island, 20°43′43″S, 115°28′26″E, 14 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102064); 1 ♂, Barrow Island, 20°49′26″S, 115°26′36″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102037); 1 ♂, Barrow Island, 20°49′32″S, 115°26′43″E, 13 April 2010, pitfall



Figures 44–55.—*Aname lorica* sp. nov., holotype male (WAM T113810): 44. Cephalothorax, dorsal view; 45. Cephalothorax, ventral view; 46. Maxillae, labium and sternum, ventral view; 47. Abdomen, dorsal view; 48–52. Left pedipalp: 48. Prolateral view; 49. Retrolateral view; 50. Tibia and tarsus, prolateral view; 51. Tibia and tarsus, ventral view; 52. Tibia and tarsus, retrolateral view; 53–55. Left leg I: 53. Prolateral view; 54. Tibia and metatarsus I, prolateral view; 55. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102061); 1 ♂, Barrow Island, 20°49′32″S, 115°26′43″E, 13 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102059); 1 ♂, Barrow Island, 20°49′33″S, 115°26′40″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102062); 1 ♂, Barrow Island, 20°49′33″S, 115°26′48″E, 16 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102048); 1 ♂, Barrow Island, 20°49′33″S, 115°26′40″E, 14 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102049); 1 ♂, Barrow Island, 20°49′35″S, 115°26′38″E, 16 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102043); 1 ♂, Barrow Island, 20°49′35″S, 115°26′38″E, 15 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102063); 1 ♂, Barrow Island, 20°49′36″S, 115°26′48″E, 14 April 2010, funnel trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102057); 1 ♂, Barrow Island, 20°51′56″S, 115°24′26″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102053); 1 ♂, Barrow Island, 20°51′56″S, 115°24′26″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102056); 1 juvenile, Barrow Island, 20°51′58″S, 115°24′28″E, 15 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102039); 1 ♂, Barrow Island, 20°51′60″S, 115°24′21″E, 16 April 2010, pitfall trap, D. Keirle, C. Cole, T. Sachse, P. Runham (WAM T102054); 1 ♂, Barrow Island, 20°47′04″S, 115°27′51″E, 12 April 2013, funnel trap, C. Cole, S. Schmidt (WAM T131708); 1 ♂, Barrow Island,



Figures 56–61.—*Aname lorica* sp. nov., paratype female (WAM T110193): 56. Cephalothorax, dorsal view; 57. Cephalothorax, ventral view; 58. Maxillae, labium and sternum, ventral view; 59. Abdomen, dorsal view; 60. Spermathecae, dorsal view; 61. Spermathecae, dorsal view, line drawing. Scale lines = 2 mm (Figs. 56–59), 0.5 mm (Fig. 61).

20°43′39.36″S, 115°28′26.4″E, 20 March 2013, dry pitfall trap, T. Sachse, S. Schmidt (WAM T131620); 1 ♂, Barrow Island, 20°41′30″S, 115°25′12″E, 17 April 2013, funnel trap, C. Cole, S. Schmidt (WAM T131712); 1 ♂, Barrow Island, 20°41′31.56″S, 115°25′04.8″E, 24 March 2013, funnel trap, T. Sachse, S. Schmidt (WAM T131616); 1 ♂, Barrow Island, 20°41′34.08″S, 115°25′08.4″E, 23 March 2013, funnel trap, T. Sachse, S. Schmidt (WAM T131619); 1 ♂, Barrow Island, 20°41′37″S, 115°25′12″E, 15 April 2013, dry pitfall trap, C. Cole, S. Schmidt (WAM T131711); 1 juvenile (penultimate ♂), Barrow Island, 2.9 km WSW of Surf Point, 20°41′04″S, 115°26′21″E, 18 November 2010, from burrow, R. Teale, M. Greenham (WAM T110188); 1 juvenile, Barrow Island, 250 m SW of Terminal Tanks, 20°47′23″S, 115°27′21″E, 22 November 2003, from Y-shaped burrow, R. Teale, G. Harold (WAM T74214); 1 ♀, Barrow Island, 250 m SW of Terminal Tanks, 20°47′23″S, 115°27′21″E, 22 November 2003, from Y-shaped burrow, ca. 50 cm deep, R. Teale, G. Harold (WAM T74216); 1 ♀, Barrow Island, 250 m SW of Terminal Tanks, site BIHT11, 20°47′23″S, 115°27′21″E, 22 November 2003, R. Teale, G. Harold (WAM T74215); 1 juvenile, Barrow Island, ca. 250 m SW of Terminal Tanks, site BIHT14, 20°47′20″S, 115°27′19″E, 29 November 2003, R. Teale (WAM T74219); 1 juvenile, Barrow Island, 5.4 km NNW of Terminal Tanks, 20°43′47″S, 115°27′23″E, 22 November 2010, from burrow, R. Teale, M. Greenham (WAM T110213); 1 ♀, Barrow Island, 5.4 km NNW of Terminal Tanks, 20°43′47″S, 115°27′23″E, 22 November 2010, from burrow, R. Teale, M. Greenham (WAM T110194); 1 juvenile (penultimate ♂), Barrow Island, ca. 250 m SW of Terminal Tanks, 20°47′20″S, 115°27′17″E, 29 November 2003, R. Teale (WAM T74220); 1 ♂, Barrow Island, 20°49′23.52″S, 115°26′20.4″E, 23 March 2013, funnel trap, T. Sachse, S. Schmidt (WAM T131614); 1 ♂, Barrow Island, 20°49′35″S, 115°26′37″E, 11 April 2013, dry pitfall trap, C. Cole, S. Schmidt (WAM T131707); 1 juvenile, Barrow Island, ca. 3 km SW of Town Point, Gorgon Gas Plant Treatment site, 20°47′37″S, 115°26′27″E, 4 July 2008, from burrow, K. Edwards, N. Gunawardene (WAM T92157); 1 ♂, Barrow Island, S edge of Gas Treatment Plant, 20°47′21.9″S, 115°27′35.4″E, 15 April 2012, pitfall trap, S. Schmidt, J. Cairnes (WAM T129496); 1 ♂, Barrow Island, WAPET Camp, 20°49′12″S, 115°26′24″E, 30 April 2001, C. Vance (WAM T44187); 1 ♂, Barrow Island, NW edge of WAPET Landing, 20°43′33.8″S, 115°28′18.5″E, 18 April 2012, S. Schmidt, J. Cairnes (WAM T129499); 1 juvenile, Barrow Island, outside S edge of LNG plant, 20°47′25″S, 115°27′31″E, 18 November 2010, from burrow, T. Sachse, C. Cole (WAM T110200); 1 juvenile, Barrow Island, outside S edge of LNG plant, 20°47′25″S, 115°27′31″E, 18 November 2010, from burrow, T. Sachse, C. Cole (WAM T110190); 1 juvenile, Barrow Island, outside S edge of LNG plant, 20°47′25″S, 115°27′31″E, 18 November 2010, from burrow, T. Sachse, C. Cole (WAM T110191); 1 juvenile, Barrow Island, S side of Terminal Creek, E of road, 20°48′28″S, 115°27′02″E, 22 November 2003, from Y-shaped burrow, R. Teale, G. Harold (WAM T74217); 1 juvenile, Barrow Island, S side of Terminal

Table 2.—Specimens sequenced for the molecular phylogenetic analysis (see Figs. 7, 62, 117, 166). Unless stated otherwise, the locations are situated in Western Australia, and specimens are lodged in the Western Australian Museum (WAM) and Queensland Museum (QM).

Registration No., Gender	Locality
***Aname aragog* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012**	
WAM T95409, Female	Jimblebar mine site, 35 km E of Newman, 23°22′44″S, 120°15′27″E
***Aname ellenae* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012**	
WAM T98890, Holotype male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
***Aname mainae* Raven, 2000**	
WAM T144398, Female	South Australia: Corner of Flinders Highway. and Talia Caves Road, 33°17′25″S, 134°49′23″E
WAM T144399, Female	South Australia: Corner of Flinders Highway and Talia Caves Road, 33°17′25″S, 134°49′23″E
WAM T144409, Juvenile	South Australia: Port Kenny, old tip site, Flinders Highway, 33°09′29.5″S, 134°40′19.7″E
WAM T144410, Juvenile	South Australia: Port Kenny, old tip site, Flinders Highway, 33°09′29.5″S, 134°40′19.7″E
WAM T145259, Female	South Australia: Kimba-Cleve Road, 33°28′19″S, 136°25′40″E
WAM T145253, Female	South Australia: Rudall Conservation Park, 33°39′17″S, 136°19′22″E
***Aname marae* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012**	
WAM T98424, Holotype male	Tom Price powerlines, 4 km NW of Tom Price, 22°41′10″S, 117°44′56″E
***Aname mellosa* Harvey, Framenau, Wojcieszek, Rix & Harvey, 2012**	
WAM T97013, Paratype male	Jinayri, ca. 65 km NW of Newman, 22°51′10″S, 119°16′34″E
WAM T107182, Male	Fortescue Marsh, 22°18′26.28″S, 119°12′57.24″E
***Aname pallida* L. Koch, 1873**	
QM S86817, Female	Queensland: Prosperine, Thompson Creek, 20°30′S, 148°34′E
***Aname frostorum* sp. nov.**	
WAM T92431, Paratype male	11 km SSE. of Whim Creek Hotel, Pilbara Biological Survey site DRE10, 20°55′11.4″S, 117°51′40.6″E
***Aname grothi* sp. nov.**	
WAM T133820, Holotype male	Great Sandy Desert, 90 km SW of Wangkatjungka, 19°32′30″S, 125°24′06″E
WAM T133821, Paratype male	Great Sandy Desert, 90 km SW of Wangkatjungka, 19°32′30″S, 125°24′06″E
***Aname lorica* sp. nov.**	
WAM T113810, Holotype male	Barrow Island, 20°43′31″S, 115°28′18″E
WAM T102041, Paratype male	Barrow Island, 20°43′39″S, 115°28′30″E
WAM T110193, Paratype female	Barrow Island, 0.7 km SW of Mattress Point, 20°44′51″S, 115°28′12″E
WAM T113826, Paratype male	Barrow Island, 20°41′32″S, 115°25′4″E
WAM T74214, Juvenile	Barrow Island, 250 m SW of Terminal Tanks, 20°47′23″S, 115°27′21″E
WAM T74216, Female	Barrow Island, 250 m SW of Terminal Tanks, 20°47′23″S, 115°27′21″E
WAM T74217, Juvenile	Barrow Island, S side of Terminal Creek, E of road, 20°48′28″S, 115°27′02″E
WAM T74218, Juvenile	Barrow Island, S side of Terminal Creek, E of road, 20°48′24″S, 115°27′01″E
WAM T74220, Juvenile	Barrow Island, ca. 250 m SW of Terminal Tanks, 20°47′20″S, 115°27′17″E
WAM T92157, Juvenile	Barrow Island, ca. 3 km SW of Town Point, Gorgon Gas Plant Treatment site, 20°47′37″S, 115°26′27″E
WAM T96992, Male	Barrow Island camp mess, kitchen [= Main Camp kitchen], 20°49′35″S, 115°26′44″E
WAM T102037, Male	Barrow Island, 20°49′26″S, 115°26′36″E
WAM T102038, Male	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T102039, Juvenile	Barrow Island, 20°51′58″S, 115°24′28″E
WAM T102043, Male	Barrow Island, 20°49′35″S, 115°26′38″E
WAM T102045, Male	Barrow Island, 20°43′33″S, 115°28′23″E
WAM T102046, Male	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T102048, Male	Barrow Island, 20°49′33″S, 115°26′48″E
WAM T102049, Male	Barrow Island, 20°49′33″S, 115°26′40″E
WAM T102050, Male	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T102051, Juvenile	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T102052, Male	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T102053, Male	Barrow Island, 20°51′56″S, 115°24′26″E
WAM T102054, Male	Barrow Island, 20°51′60″S, 115°24′21″E
WAM T102055, Male	Barrow Island, 20°43′33″S, 115°28′23″E
WAM T102056, Male	Barrow Island, 20°51′56″S, 115°24′26″E
WAM T102057, Male	Barrow Island, 20°49′36″S, 115°26′48″E
WAM T102058, Male	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T102059, Male	Barrow Island, 20°49′32″S, 115°26′43″E
WAM T102060, Male	Barrow Island, 20°43′39″S, 115°28′30″E
WAM T102061, Male	Barrow Island, 20°49′32″S, 115°26′43″E
WAM T102062, Male	Barrow Island, 20°49′33″S, 115°26′40″E
WAM T102063, Male	Barrow Island, 20°49′35″S, 115°26′38″E
WAM T102064, Male	Barrow Island, 20°43′43″S, 115°28′26″E
WAM T110188, Female	Barrow Island, 2.9 km WSW of Surf Point, 20°41′04″S, 115°26′21″E
WAMT110189, Female	Barrow Island, 1.2 km W of Surf Point, 20°40′56″S 115°27′18″E
WAM T110190, Juvenile	Barrow Island, outside E edge of LNG plant, 20°47′25″S, 115°27′31″E
WAM T110191, Juvenile	Barrow Island, outside E edge of LNG plant, 20°47′25″S, 115°27′31″E

Table 2.—Extended.

12S	16S	18S	28S	CO1	EF1	H3
KY214181	KY241234	KY241250	KY241265	KJ745403	MG800219	KY241287
KY214186	KY241238	KY241255	KY241270	JQ772138		KY241291
MN634938	MN634859		MN634735	MN635077		MN635092
MN634939	MN634860		MN634736	MN635078		MN635091
MN634941	MN634861		MN634740	MN635080		MN635090
MN634943	MN634862		MN634739	MN635079		MN635089
MN634940	MN634858		MN634738	MN635082		MN635087
MN634942	MN634857		MN634737	MN635081		MN635088
KY214185		KY241254	KY241269	JQ772144		KY241290
KY214184	KY241237	KY241253	KY241268	JQ772134		
MG799892	MG799958	MG800030	MG800107	KJ744651	MG800231	MG800294
KY214179	KY241230			KY241278		KY241283
MN634950						
MN634958	MN634775	MN634925	MN634748	MN635075		MN635127
MN634959	MN634774	MN634926	MN634749	MN635076		MN635126
MN634946	MN634856	MN634936	MN634732	KJ744810		MN635097
MN634947	MN634791	MN634934	MN634734	KJ744410		MN635095
				KJ744716		
MN634945	MN634841	MN634935	MN634733	KJ744825	MN635140	MN635093
	MN634810			KJ745226		
				KJ745227		
	MN634804			KJ745228		
	MN634803			KJ745229		MN635096
	MN634807			KJ745230		
	MN634805			KJ745366		
	MN634944			MN635038		
	MN634813			KJ744406		
	MN634850			KJ744407		
	MN634814			KJ744408		
	MN634792			KJ744411		
	MN634847			KJ744413		
	MN634843			MN635051		
	MN634789			KJ744415		
	MN634790			KJ744416		
	MN634846			KJ744417		
	MN634848			KJ744418		
	MN634796			KJ744419		
	MN634853			KJ744420		
	MN634798			KJ744421		
	MN634842			KJ744422		
	MN634801			KJ744423		
	MN634797			KJ744424		
	MN634852			KJ744425		
	MN634799			KJ744426		
	MN634836			KJ744427		
	MN634837			KJ744428		
	MN634835			KJ744429		
	MN634825			KJ744430		
	MN634838			KJ744431		MN635094
	MN634818			KJ744712		
	MN634819			KJ744713		
	MN634823			KJ744714		
	MN634822			KJ744715		

Table 2.—Continued.

Registration No., Gender	Locality
WAM T110200, Juvenile	Barrow Island, outside E edge of LNG plant, 20°47′25″S, 115°27′31″E
WAM T113806, Male	Barrow Island, 20°49′37″S, 115°26′48″E
WAM T113807, Male	Barrow Island, 20°49′37″S, 115°26′48″E
WAM T113808, Male	Barrow Island, 20°49′37″S, 115°26′48″E
WAM T113809, Male	Barrow Island, 20°43′32″S, 115°28′22″E
WAM T113811, Male	Barrow Island, 20°43′41″S, 115°28′21″E
WAM T113812, Male	Barrow Island, 20°43′34″S, 115°28′24″E
WAM T113813, Male	Barrow Island, 20°43′41″S, 115°28′21″E
WAM T113814, Male	Barrow Island, 20°51′59″S, 115°24′27″E
WAM T113815, Male	Barrow Island, 20°49′26″S, 115°26′36″E
WAM T113816, Male	Barrow Island, 20°49′33″S, 115°26′40″E
WAM T113817, Male	Barrow Island, 20°49′33″S, 115°26′40″E
WAM T113818, Male	Barrow Island, 20°51′58″S, 115°24′28″E
WAM T113819, Male	Barrow Island, 20°49′35″S, 115°26′37″E
WAM T113820, Male	Barrow Island, 20°49′35″S, 115°26′37″E
WAM T113821, Male	Barrow Island, 20°49′34″S, 115°26′48″E
WAM T113822, Male	Barrow Island, 20°49′37″S, 115°26′48″E
WAM T113823, Male	Barrow Island, 20°47′21″S, 115°27′37″E
WAM T113824, Male	Barrow Island, 20°47′21″S, 115°27′37″E
WAM T113825, Male	Barrow Island, 20°47′21″S, 115°27′37″E
WAM T113827, Male	Barrow Island, 20°47′21″S, 115°27′41″E
WAM T113828, Male	Barrow Island, 20°47′25″S, 115°27′32″E
WAM T113829, Male	Barrow Island, 20°47′25″S, 115°27′32″E
WAM T113830, Male	Barrow Island, 20°47′25″S, 115°27′32″E
WAM T113831, Male	Barrow Island, 20°47′22″S, 115°27′35″E
WAM T122889, Male	Barrow Island, 20°49′32″S, 115°26′43″E
WAM T122890, Male	Barrow Island, 20°49′32″S, 115°26′43″E
WAM T122891, Male	Barrow Island, 20°50′10″S, 115°25′21″E
WAM T122894, Male	Barrow Island, 20°50′59″S, 115°24′58″E
WAM T122900, Male	Barrow Island, 20°51′60″S, 115°24′21″E
WAM T124686, Female	Varanus Island, 20°38′51.65″S, 115°34′15.09″E
WAM T124687, Female	Varanus Island, 20°39′26.88″S, 115°34′38.60″E
WAM T124688, Juvenile	Varanus Island, 20°39′20.22″S, 115°34′35.77″E
WAM T124689, Female	Varanus Island, 20°39′20.22″S, 115°34′35.77″E
WAM T124690, Female	Varanus Island, 20°39′26.88″S, 115°34′38.60″E
WAM T124691, Juvenile	Varanus Island, 20°39′20.22″S, 115°34′35.77″E
WAM T124701, Female	Varanus Island, 20°38′57.80″S, 115°34′35.40″E
WAM T124702, Juvenile	Varanus Island, 20°38′57.80″S, 115°34′35.40″E
WAM T124703, Juvenile	Varanus Island, 20°39′20.22″S, 115°34′35.77″E
WAM T131614, Male	Barrow Island, 20°49′23.52″S, 115°26′20.4″E
WAM T131616, Male	Barrow Island, 20°41′31.56″S, 115°25′04.8″E
WAM T131617, Male	Barrow Island, 20°47′36.96″S, 115°27′25.2″E
WAM T131619, Male	Barrow Island, 20°41′34.08″S, 115°25′08.4″E
WAM T131620, Male	Barrow Island, 20°43′39.36″S, 115°28′26.4″E
WAM T131622, Male	Barrow Island, 20°47′37″S, 115°27′27″E
WAM T131623, Male	Barrow Island, 20°47′37″S, 115°27′27″E
WAM T131707, Male	Barrow Island, 20°49′35″S, 115°26′37″E
WAM T131708, Male	Barrow Island, 20°47′04″S, 115°27′51″E
WAM T131709, Male	Barrow Island, 20°47′34″S, 115°27′24″E
WAM T131710, Male	Barrow Island, 20°47′37″S, 115°27′27″E
WAM T131711, Male	Barrow Island, 20°41′37″S, 115°25′12″E
WAM T131712, Male	Barrow Island, 20°41′30″S, 115°25′12″E
***Aname sinuata* sp. nov.**	
WAM T100081, Holotype male	Cape Lambert Port, 5.5 km NNE of Wickham, 20°39′11″S, 117°07′58″E
WAM T74238, Paratype male	Dampier Salt Biological, 23 km W of Karratha, 20°45′58″S, 116°37′25″E
WAM T74241, Paratype male	Dampier Salt Biological, 23 km W of Karratha, 20°45′58″S, 116°37′25″E
WAM T74247, Paratype male	Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E
WAM T74251, Paratype male	Dampier Salt Biological, 23 km W of Karratha, 20°45′58″S, 116°37′25″E
WAM T74248, Male	Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E
WAM T74249, Male	Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E
WAM T74250, Male	Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E
WAM T82303, Male	Dampier Salt Biological, 13.7 km WSW of Karratha, 20°46′50″S, 116°38′25″E
WAM T82304, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB18 B7), 20°46′50″S, 116°38′25″E

Table 2.—Continued, extended.

12S	16S	18S	28S	CO1	EF1	H3
				KJ744719		
	MN634833			KJ744806		
	MN634821			KJ744807		
	MN634784			KJ744808		
	MN634785			KJ744809		
	MN634851			KJ744811		
	MN634832			KJ744812		
	MN634831			KJ744813		
	MN634817			KJ744814		
	MN634840			KJ744815		
	MN634830			KJ744816		
	MN634829			KJ744817		
	MN634816			KJ744818		
	MN634828			KJ744819		
	MN634780			KJ744820		
	MN634839			KJ744821		
	MN634800			KJ744822		
	MN634806			KJ744823		
	MN634781			MN635046		
	MN634854			KJ744824		
	MN634820			KJ744826		
	MN634782			KJ744827		
	MN634783			KJ744828		
	MN634787			KJ744829		
	MN634786			KJ744830		
	MN634788			MN635047		
	MN634794			MN635048		
	MN634793			MN635049		
	MN634795			MN635039		
	MN634834			MN635058		
				MN635059		
				MN635060		
				MN635061		
				MN635062		
				MN635066		
				MN635063		
				MN635067		
				MN635064		
				MN635065		
	MN634845			MN635057		
	MN634827			MN635054		
	MN634826			MN635040		
	MN634824			MN635053		
	MN634849			MN635055		
	MN634811			MN635041		
	MN634812			MN635042		
	MN634808			MN635043		
	MN634855			MN635050		
	MN634809			MN635044		
	MN634802			MN635045		
	MN634815			MN635052		
	MN634844			MN635056		
MN634955	MN634759	MN634922	MN634742	MN635072		MN635105
MN634952	MN634773	MN634923	MN634743	KJ745231		MN635106
				KJ745232		
MN634951	MN634768	MN634920	MN634741	KJ745233		MN635102
MN634953	MN634771	MN634919	MN634744	KJ745237	MN635132	MN635103
				KJ745234		
	MN634769			KJ745235		MN635104
	MN634770			KJ745236		
	MN634772			KJ745287		
	MN634762			KJ745288		

Table 2.—Continued.

Registration No., Gender	Locality
WAM T82305, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB18 B2), 20°46′50″S, 116°38′25″E
WAM T82306, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB07 B1), 20°46′50″S, 116°38′26″E
WAM T82307, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB19 B9), 20°46′49″S, 116°38′26″E
WAM T82308, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB07 P4), 20°46′50″S, 116°38′26″E
WAM T82309, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB19 B10), 20°46′49″S, 116°38′26″E
WAM T82310, Male	Dampier Salt Biological, 13.7 km WSW of Karratha (DSB19 B8), 20°46′49″S, 116°38′26″E
WAM T93314, Male	South Hedland, 8 Roberts Street, 20°23′S, 118°36′E
WAM T98900, Male	Aquila Onslow, 17.9 km SW of Onslow, 21°44′34″S, 114°58′45″E
WAM T129020, Male	Cape Lambert, 3 km N of Wickham, 20°38′56″S, 117°08′47″E
WAM T129021, Male	Cape Lambert, 3 km N of Wickham, 20°38′56″S, 117°08′47″E
***Aname vernonorum* sp. nov.**	
WAM T98858, Holotype male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
WAM T98767, Paratype male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
WAM T98772, Paratype male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
WAM T98775, Male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
WAM T98777, Male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
WAM T98779, Male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
WAM T98778, Male	Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E
***Aname watsoni* sp. nov.**	
WAM T104786, Holotype male	8 km W of Newman, 23°23′01.35″S, 119°38′52.06″E
WAM T96018, Paratype female	Jimblebar, ca. 35 km E of Newman, 23°22′52″S, 120°10′24″E
WAM T104788, Paratype male	Orebody 35, ca. 8 km W of Newman, site 14–P7, 23°22′59.65″S, 119°38′52.56″E
WAM T104791, Paratype male	Orebody 35, ca. 8 km W of Newman, site 10–P4, 23°24′00.18″S, 119°39′07.96″E
WAM T104795, Paratype male	Orebody 35, ca. 8 km W of Newman, site 10–P6, 23°23′59.65″S, 119°39′07.47″E
WAM T104790, Male	Orebody 35, ca. 8 km W of Newman, site 14–P1, 23°23′01.31″S, 119°38′52.01″E
***Aname whitei* sp. nov.**	
WAM T95403, Holotype male	Jimblebar mine site, 35 km E of Newman, 23°23′40″S, 120°09′13″E
WAM T93987, Paratype female	Jimblebar, 35 km E of Newman, 23°23′27″S, 120°05′42″E
WAM T96019, Paratype female	Jimblebar, ca. 35 km E of Newman, 23°22′42″S, 120°15′27″E
WAM T96020, Paratype female	Jimblebar, ca. 35 km E of Newman, 23°22′54″S, 120°10′25″E
WAM T96021, Paratype female	Jimblebar, ca. 35 km E of Newman, 23°23′39″S, 120°09′20″E
WAM T96022, Paratype female	Jimblebar, ca. 35 km E. of Newman. 23°22′53″S, 120°10′26″E
WAM T96023, Paratype female	Jimblebar, ca. 35 km E. of Newman 23°22′42″S, 120°15′27″E
WAM T97034, Juvenile	Jinayri, ca. 65 km NW of Newman 22°44′00″S, 119°24′24″E
WAM T102161, Male	Davidson Creek, ca. 75 km E of Newman, 23°31′29.81″S, 120°38′28.26″E
WAM T103174, Juvenile	Area C, 81.6 km NW of Newman, 22°57′59″S, 119°03′21″E
WAM T103179, Juvenile	Area C, 98 km NW of Newman, 23°00′28″S, 118°51′11″E
WAM T103180, Juvenile	Area C, 98 km NW of Newman, 23°00′28″S, 118°51′13″E
WAM T103183, Juvenile	Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′57″E
WAM T103185, Juvenile	Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′56″E
WAM T103190, Juvenile	Area C, 86.4 km NW of Newman, 22°56′55″S, 119°00′57″E
WAM T103194, Juvenile	Area C, 86.4 km NW of Newman, 22°56′52″S, 119°00′56″E
WAM T103204, Juvenile	Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E
WAM T103205, Juvenile	Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E
WAM T103207, Juvenile	Area C, 84.1 km NW of Newman, 22°57′16″S, 119°02′30″E
WAM T103208, Juvenile	Area C, 81.6 km NW of Newman, 22°58′03″S, 119°03′19″E
WAM T103214, Juvenile	Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E
WAM T103215, Juvenile	Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′57″E
WAM T103220, Juvenile	Area C, 81.6 km NW of Newman, 22°58′03″S, 119°03′21″E
WAM T103222, Juvenile	Area C, 84.6 km NW of Newman, 22°57′11″S, 119°01′51″E
WAM T103224, Juvenile	Area C, 85.7 km NW of Newman, 22°56′56″S, 119°01′29″E
WAM T103225, Juvenile	Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E
WAM T103231, Juvenile	Area C, 85.7 km NW of Newman, 22°56′55″S, 119°01′29″E
WAM T103232, Juvenile	Area C, 86.4 km NW of Newman, 22°56′52″S, 119°00′56″E
WAM T103236, Juvenile	Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′56″E
WAM T103238, Juvenile	Area C, 84.1 km NW of Newman, 22°57′16″S, 119°02′29″E
WAM T103243, Juvenile	Area C, 74.9 km NW of Newman, 22°55′01″S, 119°11′30″E
WAM T103244, Juvenile	Area C, 81.6 km NW of Newman, 22°57′58″S, 119°02′51″E
WAM T103250, Juvenile	Area C, 84.1 km NW of Newman, 22°57′16″S, 119°02′26″E
WAM T103260, Juvenile	Area C, 81.6 km NW of Newman, 22°57′58″S, 119°02′52″E
WAM T105898, Juvenile	Area C, 97.6 km NW of Newman, 23°00′39″S, 118°51′38″E
WAM T107960, Male	Koodaideri, 120.2 km NW of Newman, 22°29′43″S, 119°01′27″E
WAM T107973, Juvenile	Koodaideri, 103.8 km NW of Newman, 22°35′13″S, 119°09′19″E

Table 2.—Continued, extended.

12S	16S	18S	28S	CO1	EF1	H3
	MN634761			KJ745289		
	MN634764			KJ745290		
	MN634763			KJ745291		
	MN634766			KJ745292		
	MN634765			KJ745293		
	MN634767			KJ745294		MN635101
MN634954	MN634760	MN634921	MN634746	KJ745375	MN635133	MN635100
MG799888	MG799954	MG800026	MG800103	KJ745494	MG800227	MG800291
MN634957	MN634758	MN634924	MN634745	MN635073	MN635131	MN635099
MN634956	MN634757	MN634918	MN634747	MN635074		MN635098
MN634949						
MG799887	MG799953	MG800025	MG800102	MG800161	MG800226	MG800290
MN634948	MN634752	MN634932	MN634751	MN635084	MN635141	MN635130
	MN634754			MN635085		MN635129
	MN634753			MN635086		
	MN634755					MN635128
	MN634756					
	MN634777			MN635068		
MN634960	MN634776	MN634929	MN634750	KJ745407		MN635125
				MN635069		
				MN635070		
	MN634779			MN635071		
	MN634778					
	MG799947	MG800019	MG800096	KJ745399	MG800217	MG800284
						MN635123
	MN634917	MN634930	MN634727	KJ745408	MN635138	MN635120
						MN635124
						MN635122
				KJ745409		MN635119
				KJ745410		MN635118
	MN634913			KJ745444		MN635117
	MN634916	MN634933	MN634730	KJ744436	MN635137	MN635121
	MN634865			KJ744490		
	MN634896			KJ744493		
	MN634897			KJ744494		
	MN634877			KJ744495		
	MN634876			KJ744496		
	MN634892			KJ744498		
	MN634882			KJ744501		
	MN634867			KJ744509		
	MN634866			KJ744510		
	MN634868			KJ744512		
	MN634869			KJ744513		
	MN634863			KJ744516		
	MN634864			KJ744517		
	MN634881			KJ744522		
	MN634880			KJ744524		
	MN634879			KJ744526		
	MN634878			KJ744527		
	MN634873			KJ744533		
	MN634874			KJ744534		
	MN634875			KJ744538		
	MN634872			KJ744539		
	MN634889			KJ744543		
	MN634890			KJ744544		
	MN634895			KJ744548		
	MN634887			KJ744555		
	MN634898					MN635116
	MN634911	MN634937	MN634731			MN635112
	MN634915			KJ744670		MN635111

Table 2.—Continued.

Registration No., Gender	Locality
WAM T113584, Juvenile	South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E
WAM T113585, Juvenile	South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E
WAM T113586, Juvenile	South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E
WAM T113587, Juvenile	South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E
WAM T113645, Juvenile	113.3 km NW of Newman, 22°47′57.18″S, 118°48′05.35″E
WAM T116771, Juvenile	Mudlark, 113 km W of Newman, 23°02′17″S, 118°40′57″E
WAM T116780, Juvenile	Mudlark, 111 km W of Newman, 23°03′08″S, 118°40′42″E
WAM T116819, Juvenile	Mudlark, 102 km W of Newman, 23°05′53″S, 118°46′26″E
WAM T116834, Juvenile	Mudlark, 102 km W of Newman, 23°06′24″S, 118°46′23″E
WAM T116842, Juvenile	Mudlark, 88 km WNW of Newman, 23°02′11″S, 118°56′50″E
WAM T116843, Juvenile	Mudlark, 88 km WNW of Newman, 23°02′11″S, 118°56′50″E
WAM T116863, Juvenile	Mudlark, 121 km W of Newman, 23°04′53″S, 118°35′03″E
WAM T118822, Juvenile	Koodaideri, 118 km NW of Newman, 22°30′00″S, 119°02′50″E
WAM T119998, Juvenile	74.6 km NW of Newman, 22°46′25″S, 119°21′04″E
WAM T122814, Juvenile	108.6 km NW of Newman, 22°56′34″S, 118°46′14″E
WAM T122820, Female	111.6 km NW of Newman, 22°53′30″S, 118°45′50″E
WAM T122832, Female	127.3 km NW of Newman, 22°51′37″S, 118°36′16″E
WAM T122875, Female	104 km NW of Newman, 22°57′57″S, 118°48′04″E
WAM T126248, Juvenile	118.2 km NW of Newman, 22°36′19″S, 118°55′05″E
WAM T126256, Juvenile	118.2 km NW of Newman, 22°36′19″S, 118°55′09″E
WAM T126258, Juvenile	118.2 km NW of Newman, 22°36′19″S, 118°55′09″E
WAM T126261, Female	118.3 km NW of Newman, 22°36′40″S, 118°54′26″E
WAM T126266, Female	118.3 km NW of Newman, 22°36′40″S, 118°54′26″E
WAM T126270, Female	114 km NW of Newman, 22°36′52″S, 118°57′18″E
WAM T126274, Juvenile	114 km NW of Newman, 22°36′52″S, 118°57′18″E
WAM T126277, Juvenile	114 km NW of Newman, 22°36′52″S, 118°57′18″E
WAM T126285, Juvenile	116.4 km NW of Newman, 22°38′44″S, 118°54′10″E
WAM T126286, Juvenile	116.4 km NW of Newman, 22°38′44″S, 118°54′10″E
WAM T127202, Juvenile	78.2 km NW of Newman, 23°01′11″S, 119°03′36″E
WAM T127211, Juvenile	78.2 km NW of Newman, 23°01′14″S, 119°03′37″E
***Hesperonatalius maxwelli* Castalanelli, Huey, Hillyer and Harvey, 2017**	
WAM T108989, Paratype male	Lake MacLeod, 24°28′33.9″S, 113°31′32.7″E

Creek, S of road, 20°48′24″S, 115°27′01″E, 22 November 2003, from Y-shaped burrow, R. Teale, G. Harold (WAM T74218); 1 ♂, Barrow Island, SS edge of Gas Treatment Plant, 20°47′34.1″S, 115°27′23.9″E, 12 April 2012, pitfall trap, S. Schmidt, J. Cairnes (WAM T129497); 1 ♂, Barrow Island, 20°50′59″S, 115°24′58″E, 25 March 2012, from burrow, R. Teale, M. Delaney (WAM T122894); 1 ♂, Barrow Island, 20°50′10″S, 115°25′21″E, 25 March 2012, from burrow, R. Teale, M. Delaney (WAM T122891); 1 ♂, Barrow Island, W edge of WAPET Landing, near access road, 20°43′41.4″S, 115°28′20.5″E, 14 April 2012, pitfall trap, S. Schmidt, J. Cairnes (WAM T129494); 2 juveniles, Barrow Island, plot N12, Osprey camp, 20°49′55″S, 115°25′52″E, 25 April–1 May 2007, wet pitfall trap, S. Callan, K. Edward (WAM T89092); 1 ♂, Barrow Island, Gorgon Project footprint plot GP2, 20°47′38″S, 115°27′27″E, 10–15 March 2006, wet pitfall traps, beach and drainage line, S. Callan, R. Graham (WAM T146067); 1 ♂, Barrow Island, Gorgon Project footprint plot GP6, 20°47′05″S, 115°26′28″E, 15 March 2006, wet pitfall traps, high limestone flats, S. Callan, R. Graham (WAM T146068); 1 ♂, Barrow Island, Gorgon Project footprint plot GP8, 20°47′59″S, 115°26′25″E, 10–15 March 2006, wet pitfall traps, valley flats, S. Callan, R. Graham (WAM T146069); 1 ♂, Barrow Island, Gorgon Project footprint plot GP8, 20°47′59″S, 115°26′25″E, 10–15 March 2006, wet pitfall traps, valley flats, S. Callan, R. Graham (WAM T146070); 1 ♂, Barrow Island, Gorgon Project footprint plot GPX, 20°47′45″S, 115°27′08″E, 10–15 March 2006, wet pitfall traps, low limestone ridge, S. Callan, R. Graham (WAM T146071); 1 ♂, Barrow Island, site 22, 20°47′12″S, 115°27′17″E, 24–29 April 2005, wet pitfall traps, K. Edward, S. Callan (WAM T146072); 1 ♂, Barrow Island, site 105, 20°48′08″S, 115°26′48″E, 24–29 April 2005, wet pitfall traps, K. Edward, S. Callan (WAM T146073); 1 ♂, Barrow Island, Brackish Reverse Osmosis Plant, 20°49′31″S, 115°26′36″E, 4 April 2013, in car park at night, H. Whittaker (WAM T130075); 1 ♂, Barrow Island, LNG plant construction area, 20°47′17″S, 115°27′22″E, 6 March 2013, D. Jenkyns (WAM T130001); 1 ♂, Barrow Island, on entrance road to Brackish RO Plant, 1 April 2013, collected at night, on road, A. Williams (WAM T130023); 1 ♂, Barrow Island, 100 Person Camp carpark, 20°49′41″S, 115°26′42″E, 6 September 2011, found dead in vehicle, G. Nangle (WAM T117257); 1 ♀, Barrow Island, ca. 20°48′S, 115°24′E, 1–11 October 1989, W.H. Butler (WAM T20603); 1 ♂, Barrow Island, Curtin University LNG site, 20°47′37″S, 115°27′12″E, 18 March 2010, M. Waugh (HBI N2669-1); 1 ♂, Barrow Island, Fly Camp, 20°49′08.58″S, 115°26′13.89″E, 14 March 2011, C. DeCampi (HBI N2670-1); 1 ♂, Barrow Island, Curtin University site GP5, 20°46′59″S, 115°27′03″E, 10–15 March 2006, pitfall trap, high limestone flats, S. Callan (HBI N2676-1); 1 ♂, Barrow Island, Curtin University site HDD, 20°41′30.52″S, 115°25′07.89″E, 17

Table 2.—Continued, extended.

12S	16S	18S	28S	CO1	EF1	H3
				KJ744745		
	MN634910			KJ744746	MN635136	MN635115
	MN634909			KJ744747		
	MN634908			KJ744748		
	MN634905			KJ744786		MN635114
				KJ744854		
				KJ744860		
	MN634901			KJ744876		
				KJ744881		
	MN634903			KJ744887	MN635139	MN635113
	MN634902			KJ744888		
	MN634904			KJ744892		
	MN634912	MN634931	MN634729	KJ744917	MN635135	MN635110
	MN634914			KJ744960		
	MN634907			KJ745046		
	MN634899			KJ745048		
	MN634884			KJ745058		
	MN634906			KJ745097		MN635109
	MN634891			KJ745132		
	MN634894			KJ745140		
	MN634893			KJ745142		
				KJ745145		
	MN634883			KJ745149		
	MN634888			MN635083		
	MN634885			KJ745156		
	MN634886			KJ745158		
	MN634870			KJ745163		
	MN634871			KJ745164		
	MN634900	MN634928	MN634726	KJ745174	MN635134	MN635108
		MN634927	MN634728	KJ745180		MN635107
KY214190	KY241244	KY241259	KY241275	KJ744690	MG800233	KY241293

March 2013, barrier trap, N. Gunawardene (HBI N2757-2); 1 ♂, Barrow Island, airport, 20°51′58.39″S, 115°24′23.74″E, 13 March 2012, barrier trap, N. Gunawardene (HBI N2780-2); 1 ♂, Barrow Island, airport, 20°52′02.886″S, 115°24′23.136″E, 27 March 2017, M. Campos (HBI N3675-1); 1 ♂, Barrow Island, Gas Treatment Plant/QCC, 20°47′52.122″S, 115°26′42.348″E, 10 April 2017, M. Hamilton (HBI N3705-1); 1 ♀, Barrow Island, 20°48′19.174″S, 115°26′59.243″E, 27 September 2017, P. Langlands (HBI N4888-1); 1 ♂, Barrow Island, 20°49′5.697″S, 115°26′25.796″E, 7 April 2018, pitfall trap, M. Hamilton (HBI N5930-1); 1 ♂, Barrow Island, Production Village, 20°49′33.005″S, 115°26′40.568″E, 14 April 2018, light pitfall trap, S. O'Connor (HBI N5987-1); 1 ♂, Barrow Island, Production Village, 20°49′31.252″S, 115°26′41.793″E, 17 April 2018, light pitfall trap, S. O'Connor (HBI N6030-1); 1 ♂, Barrow Island, Gas Treatment Plant/QCC, 20°47′21.43″S, 115°27′40.44″E, 24 April 2019, T. Sachse (HBI N15593-1); 1 ♂, Barrow Island, Gas Treatment Plant/QCC, 20°47′21.38″S, 115°27′35.56″E, 25–26 April 2019, vertebrate pitfall trap, T. Sachse (HBI N15600-1); 1 ♂, Varanus Island, 20°39′15.7″S, 115°34′41.5″E, 11 May 2011, found dead in warehouse, J. Keeble (WAM T119217); 1 ♀, Varanus Island, 20°38′57.80″S, 115°34′35.40″E, 19 June 2012, burrow excavation, A. Leung (WAM T124701); 1 juvenile, Varanus Island, 20°38′57.80″S, 115°34′35.40″E, 19 June 2012, litter sifting, A. Leung (WAM T124702); 1 ♀, Varanus Island, 20°38′51.65″S, 115°34′15.09″E, 20 June 2012, burrow excavation, A. Leung (WAM T124704); 1 juvenile, Varanus Island, 20°38′51.65″S, 115°34′15.09″E, 20 June 2012, burrow excavation, A. Leung (WAM T124685); 1 ♀, Varanus Island, 20°38′51.65″S, 115°34′15.09″E, 20 June 2012, burrow excavation, A. Leung (WAM T124686); 3 juveniles, Varanus Island, 20°39′20.22″S, 115°34′35.77″E, 21 June 2012, burrow excavation, A. Leung (WAM T124703); 1 ♀, Varanus Island, 20°39′20.22″S, 115°34′35.77″E, 21 June 2012, burrow excavation, A. Leung (WAM T124689); 1 juvenile, Varanus Island, 20°39′20.22″S, 115°34′35.77″E, 21 June 2012, burrow excavation, A. Leung (WAM T124691); 1 juvenile, Varanus Island, 20°39′20.22″S, 115°34′35.77″E, 21 June 2012, burrow excavation, A. Leung (WAM T124688); 1 ♀, Varanus Island, 20°39′26.88″S, 115°34′38.60″E, 21 June 2012, burrow excavation, A. Leung (WAM T124687); 1 ♀, Varanus Island, 20°39′26.88″S, 115°34′38.60″E, 21 June 2012, burrow excavation, A. Leung (WAM T124690); 2 ♂, 2 ♀, Varanus Island, 20°39′21.9″S, 115°34′39.8″E, 6 May 2019, dry pitfall traps, J. Trainer (WAM T147744–8).

Etymology.—The specific epithet is a Latin noun in apposition (*lorica*, leather or metal armor) and refers to the color and shape of the abdomen that looks similar to a spaulder or pauldron (Figs. 1–4). This name was suggested by Scott Ryan during a naming competition organized by Chevron Australia.

Table 3.—Pairwise distances (p-distance) between species pairs and among specimens within species in the genus *Aname* (diagonal) in the . Two values are reported for each, "minimum p-distance–maximum p-distance".

	A. aragog	*A. ellenae*	*A. mainae*	*A. marae*	*A. mellosa*	*A. whitei*	*A. sinuata*	*A. grothi*	*A. lorica*	*A. frostorum*	*A. watsoni*	*A. pallida*
A. aragog	0–0											
A. ellenae	0.137–0.137	0/0/0										
A. mainae	0.137–0.146	0.149–0.158	0.003–0.012									
A. marae	0.175–0.175	0.164–0.164	0.167–0.173	0–0								
A. mellosa	0.140–0.161	0.146–0.146	0.129–0.158	0.170–0.202	0.082–0.082							
A. whitei	0.155–0.187	0.173–0.190	0.143–0.178	0.187–0.208	0.158–0.190	0–0.099						
A. sinuata	0.135–0.181	0.126–0.140	0.129–0.175	0.161–0.178	0.135–0.184	0.137–0.178	0–0.108					
A. grothi	0.161–0.164	0.143–0.146	0.167–0.178	0.187–0.187	0.158–0.161	0.178–0.202	0.132–0.149	0.006–0.006				
A. lorica	0.149–0.167	0.161–0.178	0.158–0.196	0.158–0.187	0.173–0.196	0.146–0.196	0.161–0.199	0.178–0.19	0–0.047			
A. frostorum	0.161–0.164	0.146–0.155	0.155–0.167	0.187–0.19	0.152–0.170	0.143–0.181	0.158–0.173	0.155–0.161	0.146–0.167	0–0.009		
A. watsoni	0.178–0.184	0.155–0.161	0.152–0.167	0.178–0.202	0.167–0.187	0.187–0.213	0.184–0.199	0.184–0.19	0.143–0.173	0.158–0.178	0–0.047	
A. pallida	0.155–0.155	0.173–0.173	0.152–0.158	0.190–0.190	0.140–0.149	0.178–0.202	0.132–0.158	0.140–0.143	0.178–0.202	0.152–0.161	0.170–0.187	0–0

Diagnosis.—Males of *A. lorica* most closely resemble *A. humptydoo* Raven, 1985 and *A. munyardae* by the slender tibia I with a fairly low megaspur (Figs. 54, 55). They differ from *A. humptydoo* by the more porrect megaspur (Figs. 54, 55) and from *A. munyardae* by the more elongate embolus (Figs. 50–52). Females differ by the presence of a single pair of anteriorly directed and slightly coiled spermathecae (Figs. 60, 61).

Description (male holotype).—Medium-sized anamid spider, total body length 16.60.

Color (in alcohol): Carapace deep brown; legs uniformly red-brown; chelicerae red brown almost black; abdomen dorsally grey-brown, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 44): 7.70 long, 6.09 wide, 1.26 × longer than broad, sparse fine setae, very slender silver setae present; with brown bristles dorsally, clypeal edge: straight, with 12 bristles, and 14 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row nearly straight, posterior eye row recurved; AME larger than ALE; ALE and AME the largest; PME smallest; eye group 0.70 long, 1.32 wide; eye diameters: AME 0.39, ALE 0.37, PME 0.22, PLE 0.30; separation: AME-ALE 0.02, PME-PLE 0.00, ALE-PLE 0.14, AME-PME 0.04, AME-AME 0.14, PME-PME 0.68. Chelicerae with 3 well-defined strips of brown bristles; rastellum absent; promargin with 11 teeth, retromargin with 5 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 46): with ca. 135 cuspules; located on the basal third. Sternum (Fig. 45): 3.80 long, 3.05 wide; 1.26 × longer than broad; oval in shape, posteriorly pointed; with bristles over entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elliptical.

Pedipalp (Figs. 48–52): Measurements: femur 4.15, patella 2.62, tibia 2.59, tarsus 1.75. Spines: femur 0; patella p1; tibia many, scattered; tibia without patch of short retrolateral spines; tarsus densely setose; bulb ovoid; embolus much longer than bulb, gently curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.60.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 53–55); TIL/TID 4.44; TIS/TIL 0.54; TISH/TID 0.73; metatarsus incrassate; MIL/MID 4.53; MIPEL/MIL 0.41. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 6.10, patella 3.82, tibia 4.90, metatarsus 4.82, tarsus 3.10, total 22.74. Leg II: femur 5.41, patella 3.30, tibia 4.38, metatarsus 4.29, tarsus 2.62, total 20.00. Leg III: femur 4.67, patella 2.65, tibia 3.55, metatarsus 4.31, tarsus 2.60, total 17.78. Leg IV: femur 6.11, patella 3.20, tibia 5.36, metatarsus 5.58, tarsus 2.71, total 22.96. Spination: Leg I: femur d2, patella p1, tibia 0, metatarsus 0, tarsus 0; II: femur d1, p1, patella p1, tibia p2, r1, v3, metatarsus v2, tarsus 0; III: femur d3, p2, patella r1, tibia 9, metatarsus 15, tarsus 0; IV: femur d1, patella p1, tibia 8, metatarsus 14, tarsus 0.

Abdomen: 8.38 long, 5.20 wide, 1.61 × longer than broad; densely pilose (Fig. 47); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

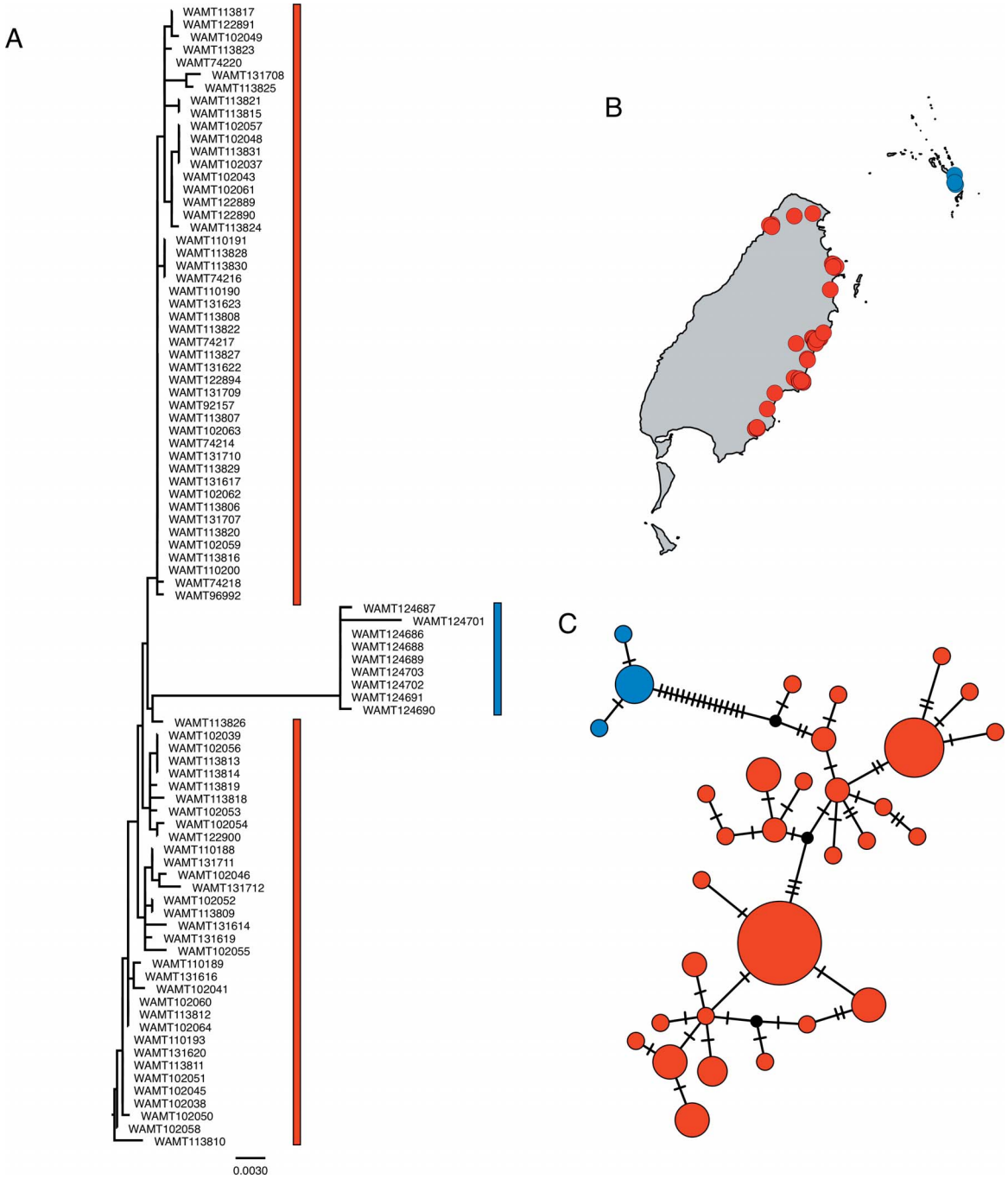


Figure 62.—*Aname lorica* sp. nov.: A. RAxML phylogeny excised from Fig. 7 (refer to scale bar for comparison between trees); B. Map of Barrow Island and Varanus Island showing locations of specimens assigned to distinct haplo*groups; C. TCS network showing haplotype diversity and relationships, with colors highlighting geographically and genetically distinct groups. Cross bars and small black circles represent extinct or unsampled haplotypes.

Variation: $n = 10$; carapace 7.33–9.40 long, 5.74–7.31 wide; femur I 5.91–7.18; metatarsus I 4.60–5.68; femur IV 5.62–6.83.

Description (female paratype, WAM T110193).—Medium-sized anamid spider, total body length 18.70.

Color (in alcohol): Carapace deep brown; legs uniformly yellow-brown; chelicerae brown; abdomen dorsally grey-brown, and ventrally grey-brown.

Cephalothorax: Carapace (Fig. 56): 8.95 long, 6.88 wide, 1.30 × longer than broad, sparse fine setae, very slender silver setae absent; with brown bristles dorsally, clypeal edge: protruding medially, with 10 bristles, and 10 on anterior face of eye tubercle; 15 anteromedian; fovea procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row slightly recurved; AME larger than ALE; ALE and AME the

largest; PME smallest; eye group 0.79 long, 1.37 wide; eye diameters: AME 0.34, ALE 0.38, PME 0.26, PLE 0.34; separation: AME-ALE 0.05, PME-PLE 0.03, ALE-PLE 0.11, AME-PME 0.10, AME-AME 0.79, PME-PME 1.04. Chelicerae with 3 well-defined strips of brown bristles; rastellum absent; promargin with 12 teeth, retromargin with 5 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 58): with ca. 130 cuspules; located on the basal half. Sternum (Fig. 57): 4.40 long, 3.55 wide, 1.24 × longer than broad; oval in shape, posteriorly pointed; with bristles over entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elliptical.

Pedipalp: Spines: femur 0; patella 0; tibia several, scattered; tarsus 0; tarsus densely setose. Claw present, but teeth obscured.

Legs: Leg formula 4123. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 6.40, patella 4.00, tibia 4.63, metatarsus 4.24, tarsus 2.80, total 22.07. Leg II: femur 5.62, patella 3.58, tibia 3.93, metatarsus 3.89, tarsus 2.71, total 19.73. Leg III: femur 4.72, patella 3.95, tibia 3.04, metatarsus 3.90, tarsus 2.66, total 18.27. Leg IV: femur 6.41, patella 3.59, tibia 5.27, metatarsus 5.88, tarsus 2.95. Spination: Leg I: femur p1, d2, patella p2, tibia 0, metatarsus 0, tarsus 0; II: femur d2, p1, patella p1, tibia v3, metatarsus v2, tarsus 0; III: femur d2, patella 0, tibia ca. 15, metatarsus 15, tarsus 0; IV: femur d1, patella 0, tibia 8, metatarsus 12, tarsus 0.

Abdomen: 10.40 long, 6.08 wide, 1.71 × longer than broad; densely pilose (Fig. 59); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Epigastric region: 1 pair of widely spaced spermathecae, anteriorly directed, slightly coiled (Figs. 60, 61).

Variation: $n = 5$; carapace 7.60–10.22 long, 6.16–7.90 wide; femur I 5.60–7.38; metatarsus I 3.78–5.14; femur IV 5.74–6.95.

Distribution.—*Aname lorica* is known only from Barrow Island and nearby Varanus Island, which are located in the Carnarvon IBRA region ca. 55 km from the Pilbara coast (Figs. 169, 170). The lack of records from the adjacent mainland, despite considerable collecting effort, suggests that this species is most likely endemic to these two islands. On Barrow Island, specimens have been collected only from the northern and eastern sandy regions of the island (Fig. 170), and the species appears to be absent from the western and central areas, which tend to be more rocky. However, the western half of the island has been less intensively sampled, and *A. lorica* may indeed be present there.

Remarks.—The majority of adult males have been collected from March to May, but one was found dead in a vehicle in September although it is not known how long it had been there. Most males were collected in pitfall or funnel traps, with one found walking on a road at night and others found inside their burrows. The burrows of some females have been recorded as Y-shaped and ca. 50 cm deep.

Sequence data.—DNA sequences were successfully obtained from 90 specimens, from both Barrow and Varanus Islands (Table 2). There was some intraspecific variation within *A. lorica*, with a maximum p-distance of 0.047 at *COI*. This divergence was a function of genetic structure between the two islands, with two distinct haplo-groups found on each island (Fig. 62). Even within the population on Barrow Island, there was high genetic variation, with 29 haplotypes at *COI*. This species was included in a molecular phylogenetic analysis as *A.* 'MYG079′ (Castalanelli et al. 2014).

Aname mcalpinei sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/A273BE83-2351-4838-AD5B-35A172CFF7F1
(Figs. 63–74)

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: ca. 18 km SSW of Port Hedland, 20°28′46.80″S, 118°31′58.6″E, 23 March 2010, pitfall trap, P. Bolton (WAM T106660).

Etymology.—This species is named for Graham McAlpine, in recognition of his help and encouragement to the first author over the years.

Diagnosis.—Males of *A. mcalpinei* most closely resemble those of *A. frostorum* by the stout pedipalpal tibia (Figs. 69–71). They differ from *A. frostorum* by the longer embolus (Figs. 69–71) and the presence of more spines on the pedipalpal tibia (Fig. 71). Females are unknown.

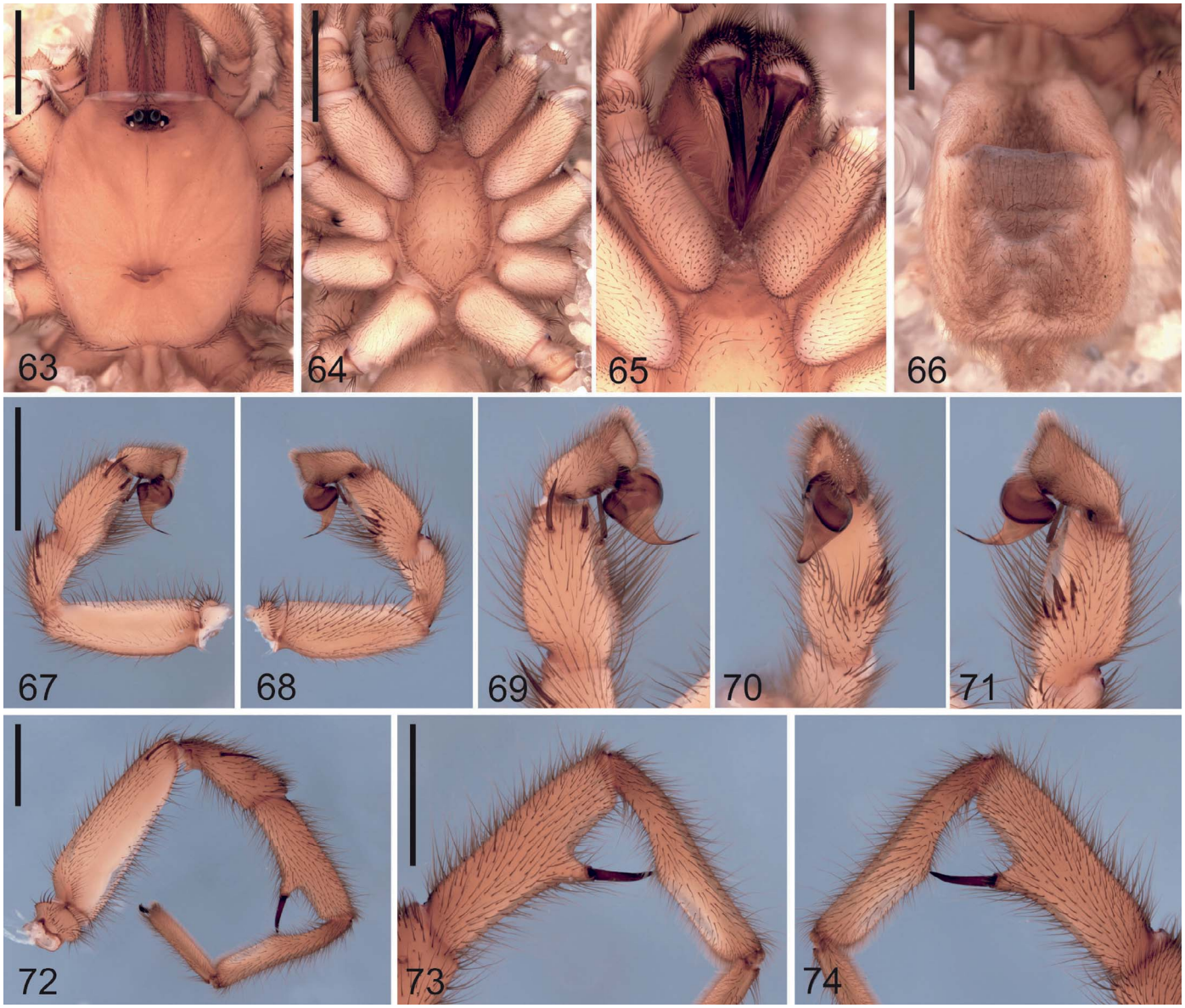
Description (male holotype).—Medium-sized anamid spider, total body length 11.90.

Color (in alcohol): Carapace uniformly pale apricot; legs uniformly pale yellow-brown; chelicerae uniformly orange; abdomen dorsally pale creamy-yellow with grey-brown markings, and ventrally pale creamy-yellow.

Cephalothorax: Carapace (Fig. 63): 4.88 long, 4.25 wide, 1.15 × longer than broad, sparse fine setae, very slender silver setae absent; without dorsal bristles, clypeal edge: straight, with 3 bristles, and 7 on anterior face of eye tubercle; fovea procurved. Eyes: from above, anterior eye row nearly straight, posterior eye row recurved; AME larger than ALE; AME largest; PME smallest; eye group 0.56 long, 0.90 wide; eye diameters: AME 0.27, ALE 0.25, PME 0.13, PLE 0.17; separation: AME-ALE 0.00, PME-PLE 0.02, ALE-PLE 0.04, AME-PME 0.08, AME-AME 0.13, PME-PME 0.48. Chelicerae with retrolateral strip short, sparse and brown, prolateral strip long and brown; shortened thickened setae on prolateral edge of anterior face of paturon; promargin with 8 teeth, retromargin with 4 or 5 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 65): with 127 cuspules; located on the basal half. Sternum (Fig. 64): 3.15 long, 2.38 wide; 1.32 × longer than broad; oval in shape, posteriorly pointed; with bristles sparsely cover entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elongate and slightly curved or anterior pair located near edge of sternum.

Pedipalp (Figs. 67–71): Measurements: femur 2.54, patella 1.31, tibia 1.46, tarsus 1.08. Spines: femur 1 apico-prolateral; patella p2; tibia basal third: v1, apical quarter: v1 p2; tibia with patch of short retrolateral spines; tarsus densely setose; bulb squat; embolus about same length as bulb, noticably curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.58.

Legs: Leg formula 4132. Tibia I with large megaspur (Figs. 72–74); TIL/TID 3.80; TIS/TIL 0.62; TISH/TID 0.55;



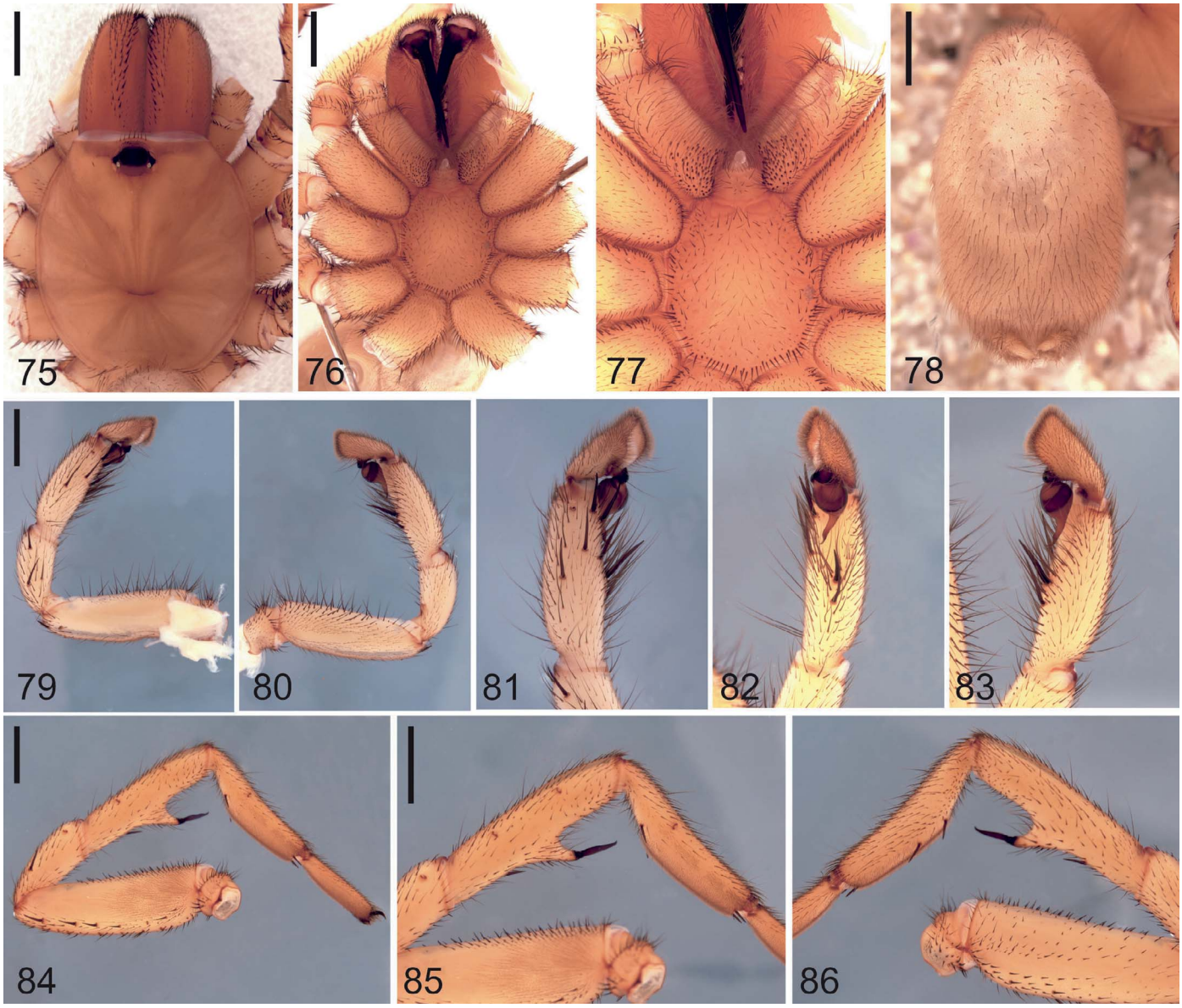
Figures 63–74.—*Aname mcalpinei* sp. nov., holotype male (WAM T106660): 63. Cephalothorax, dorsal view; 64. Cephalothorax, ventral view; 65. Maxillae, labium and sternum, ventral view; 66. Abdomen, dorsal view; 67–71. Left pedipalp: 67. Prolateral view; 68. Retrolateral view; 69. Tibia and tarsus, prolateral view; 70. Tibia and tarsus, ventral view; 71. Tibia and tarsus, retrolateral view; 72–74. Left leg I: 72. Prolateral view; 73. Tibia and metatarsus I, prolateral view; 74. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

metatarsus incrassate; MIL/MID 5.09; MIPEL/MIL 0.50. Coxal cuspules absent; scopula present on all tarsi, present on distal portion of all metatarsi; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 4.46, patella 2.54, tibia 3.08, metatarsus 3.69, tarsus 2.23, total 16.00. Leg II: femur 3.85, patella 2.15, tibia 2.54, metatarsus 3.08, tarsus 2.08, total 13.69. Leg III: femur 4.08, patella 1.85, tibia 2.31, metatarsus 3.77, tarsus 2.23, total 14.23. Leg IV: femur 4.77, patella 2.23, tibia 3.77, metatarsus 4.08, tarsus 2.15, total 16.99. Spination: Leg I: femur p1, patella p2, tibia v1, metatarsus 0, tarsus 0; II: femur p1, patella p2, tibia p2, v2, metatarsus p1, v5, tarsus 0; III: femur p2, d3, patella p2, r1, tibia 9, metatarsus 17, tarsus 0; IV: femur p2, patella r2 v6, tibia 17, metatarsus 16, tarsus 0.

Abdomen: 6.63 long, 3.50 long, 1.89 × longer than broad; densely pilose with bristles (Fig. 66); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Distribution.—This species has been found at only a single location near Port Hedland in the northern portion of the Pilbara IBRA bioregion (Fig. 167).

Remarks.—The sole male specimen was collected using a pitfall trap in March.



Figures 75–86.—*Aname munyardae* sp. nov., holotype male (WAM T97012): 75. Cephalothorax, dorsal view; 76. Cephalothorax, ventral view; 77. Maxillae, labium and sternum, ventral view; 78. Abdomen, dorsal view; 79–83. Left pedipalp: 79. Prolateral view; 80. Retrolateral view; 81. Tibia and tarsus, prolateral view; 82. Tibia and tarsus, ventral view; 83. Tibia and tarsus, retrolateral view; 84–86. Left leg I: 84. Prolateral view; 85. Tibia and metatarsus I, prolateral view; 86. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

Sequence data.—Molecular data are not available for this species.

Aname munyardae sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/762136AC-D4B0-4A31-9DBF-DB2836C9239F
(Figs. 75–86)

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: 23 km NS of Warrawagine Homestead, site PHYE01, 20°41′54″S, 120°51′23″E, 1 July 2005–21 August 2006, pitfall trap, Department of Conservation and Land Management staff (WAM T97012).

Etymology.—This species is named for Kylie Munyard, in recognition of her support during the first author's Ph.D. candidature.

Diagnosis.—Males of *A. munyardae* lack the deeply incrassate tibia I found in most species of *Aname* (Figs. 85, 86) and the pedipalpal tibia is narrower than in other species (Figs. 81–83). In both of these features, it most closely resembles *A. kirrama* Raven, 1985 from north-eastern Queensland, but differs by the thinner tibia I, differently shaped spur and the shorter megaspine, and the presence of spines on metatarsus I (Figs. 85, 86). Females are unknown.

Description (male holotype).—Large anamid spider, total body length 21.60.

Color (in alcohol): Carapace uniformly pale apricot; legs uniformly pale yellow-brown; chelicerae uniformly orange; abdomen dorsally pale creamy-yellow, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 75): 7.75 long, 6.75 wide, 1.07 × longer than broad, sparse fine setae, very slender silver setae absent; without dorsal bristles, clypeal edge: indented medially, with 8 bristles, and 10 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row nearly straight, posterior eye row recurved; AME larger than ALE; AME largest; PME smallest; eye group 0.51 long, 1.12 wide; eye diameters: AME 0.39, ALE 0.32, PME 0.15, PLE 0.22; separation: AME-ALE 0.05, PME-PLE 0.02, ALE-PLE 0.07, AME-PME 0.05, AME-AME 0.15, PME-PME 0.63. Chelicerae with 2 well-defined rows of short black spines; rastellum absent; promargin with 8 or 9 teeth, retromargin with 4 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 77): with 98 cuspules; located on the basal third. Sternum (Fig. 76): 4.25 long, 3.88 wide; 1.10 × longer than broad; oval in shape, posteriorly pointed; bristles over entire surface; with 4 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elongate and slightly curved or anterior pair located near edge of sternum.

Pedipalp (Figs. 79–83): Measurements: femur 5.25, patella 2.75, tibia 3.88, tarsus 2.13. Spines: femur p1 d2; patella p4; tibia basal third: v2 p1, apical quarter: v1 p4; tibia without patch of short retrolateral spines. Tarsus densely setose; bulb globular; embolus about same length as bulb, slightly inclined, with short terminal hook. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.44.

Legs: Leg formula 4132. Tibia I with large megaspur (Figs. 85, 86); TIL/TID 4.52; TIS/TIL 0.44; TISH/TID 0.70; metatarsus incrassate (Figs. 85, 86); MIL/MID 4.15; MI-PEL/MIL 0.42. Coxal cuspules absent; scopula present on all tarsi, present on distal half of metatarsi I and II; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 7.13, patella 4.38, tibia 6.00, metatarsus 5.00, tarsus 3.25, total 25.75. Leg II: femur 6.75, patella 2.63, tibia 6.13, metatarsus 4.63, tarsus 3.50, total 23.63. Leg III: femur 7.13, patella 3.63, tibia 5.00, metatarsus 6.00, tarsus 3.88, total 25.63. Leg IV: femur 7.88, patella 3.75, tibia 7.25, metatarsus 6.50, tarsus 4.00, total 29.38. Spination: Leg I: femur p6, d6, r2, patella p2, tibia v2, metatarsus p1, v5, tarsus 0; II: femur p5, d5, patella p2, tibia p2, v7, metatarsus p3, d2, v6, tarsus 0; III: femur p5, d4, r6, patella p3, d2, r1, tibia 14, metatarsus 15, tarsus 0; IV: femur p4, d5, r4, patella p1, r1, tibia 18, metatarsus 19, tarsus 0.

Abdomen: 9.38 long, 5.25 wide; 1.79 × longer than broad; densely pilose (Fig. 78); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Distribution.—*Aname munyardae* has only been collected from Warrawagine Homestead near the western edge of the Great Sandy Desert IBRA bioregion (Fig. 168).

Remarks.—The sole specimen of *A. munyardae* was collected from a long-term pitfall trap study during the Pilbara Biodiversity Survey (McKenzie et al. 2009).

Sequence data.—Molecular data are not available for this species.

Aname nitidimarina sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/24E4A2A8-9FA3-4680-BABA-77F135456F31
(Figs. 87–98)

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: 23 km NS of Warrawagine Homestead, Pilbara Biological Survey site PHYE01, 20°41′54″S, 120°51′23″E, 1 July 2005–21 August 2006, wet pitfall trap, Department of Conservation and Land Management staff (WAM T97317).

Etymology.—This species is named for Muriel "Bub" Devery, Joel Huey's maternal grandmother. Muriel derives from the Gaelic Muirgheal (muir "sea", gheal "bright"). The species name translates as bright (*nitidus*, Latin) sea (*marus*, Latin).

Diagnosis.—Males of *Aname nitidimarina* differ from other species of the genus by the thickened tibia I (Figs. 97, 98), extremely prominent and thickened megaspur (Figs. 97, 98) and the distinct, medially positioned heel of metatarsus I (Figs. 97, 98). Females are unknown.

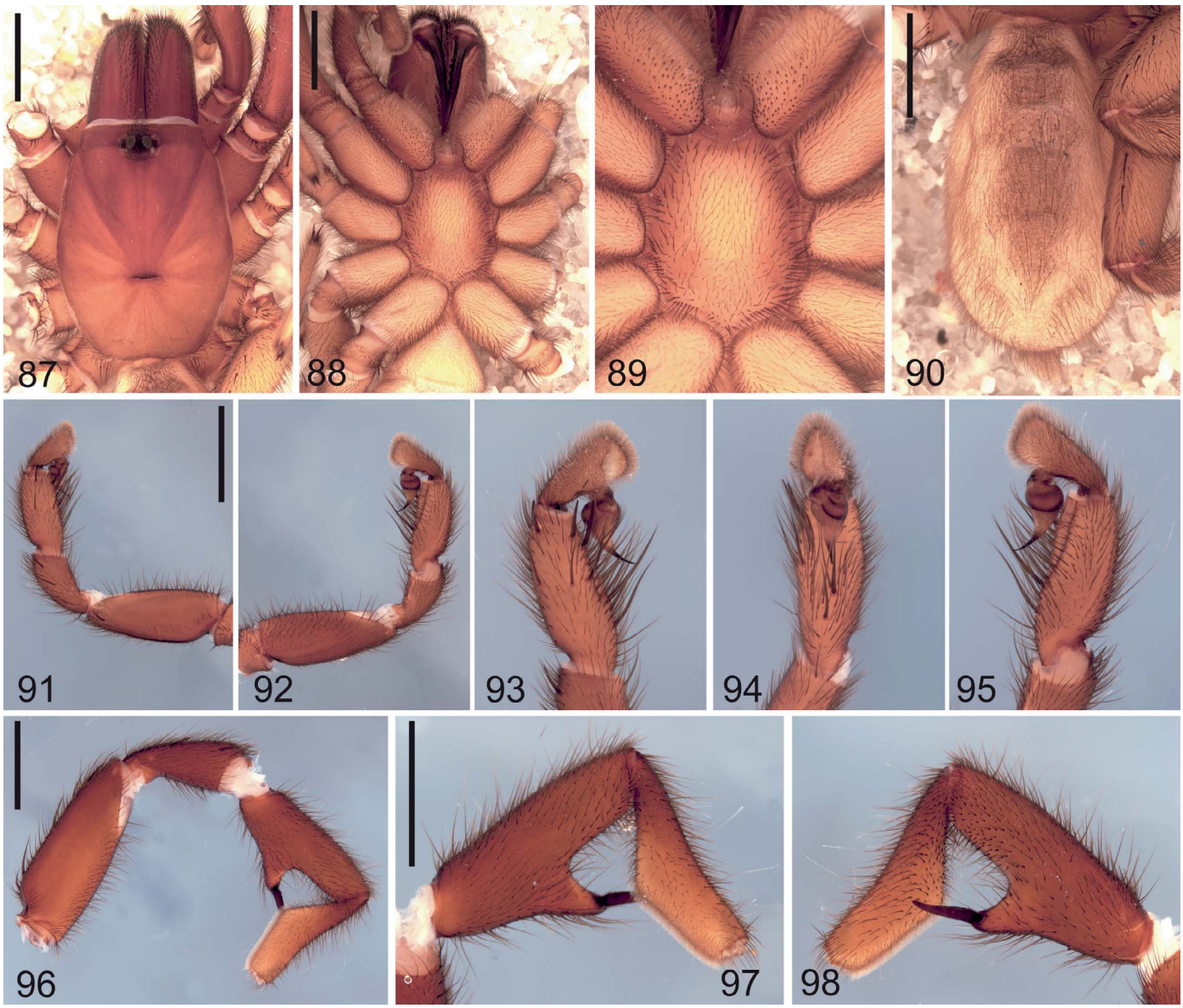
Description (male holotype).—Holotype male (based on WAM T97317): Medium-sized anamid spider, total body length 12.00.

Color (in alcohol): Carapace anterior red-brown fading posteriorly to a light brown; leg I red-brown, legs II to IV uniformly yellow-brown; chelicerae burnt orange; abdomen dorsally pale creamy-yellow with grey-brown markings, and ventrally pale creamy-yellow.

Cephalothorax: Carapace (Fig. 87): 5.38 long, 4.00 wide, 1.34 × longer than broad, sparse fine setae, very slender silver setae sparsely present; without dorsal bristles, clypeal edge: straight, with 6 bristles, and 7 on anterior face of eye tubercle; fovea straight. Eyes: from above, anterior eye row procurved, posterior eye row recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.67 long, 1.00 wide; eye diameters: AME 0.23, ALE 0.27, PME 0.21, PLE 0.29; separation: AME-ALE 0.06, PME-PLE 0.02, ALE-PLE 0.00, AME-PME 0.08, AME-AME 0.13, PME-PME 0.56. Chelicerae with black short setae sparsely distributed, 1 well-defined prolateral strip dense, long, and brown or black; rastellum absent; promargin with 9 teeth, retromargin with 2 or 4 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 89): with ca. 70 cuspules; located on the basal half. Sternum (Fig. 89): 2.75 long, 2.38 wide; 1.16 × longer than broad; oval in shape, posteriorly pointed; with bristles on posterior margin, with setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; anterior and median pairs located near edge of sternum; posterior pair elliptical.

Pedipalp (Figs. 91–95): Measurements: femur 2.77, patella 1.54, tibia 1.77, tarsus 1.23. Spines: femur 1 apico-prolateral; patella p3; tibia basal third: v2, apical quarter: v2 p4; tibia without patch of short retrolateral spines; tarsus densely setose; bulb ovoid; embolus about same length as bulb, gently curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.49.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 97, 98); TIL/TID 3.66; TIS/TIL 0.53; TISH/TID 0.80;



Figures 87–98.—*Aname nitidimarina* sp. nov., holotype male (WAM T97317): 87. Cephalothorax, dorsal view; 88. Cephalothorax, ventral view; 89. Maxillae, labium and sternum, ventral view; 90. Abdomen, dorsal view; 91–95. Left pedipalp: 91. Prolateral view; 92. Retrolateral view; 93. Tibia and tarsus, prolateral view; 94. Tibia and tarsus, ventral view; 95. Tibia and tarsus, retrolateral view; 96–98. Left leg I: 96. Prolateral view; 97. Tibia and metatarsus I, prolateral view; 98. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

metatarsus incrassate (Figs. 97, 98); MIL/MID 3.31; MIPEL/MIL 0.53. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 3.92, patella 2.61, tibia 3.08, metatarsus 3.00, tarsus 1.92, total 14.53. Leg II: femur 3.69, patella 2.31, tibia 2.61, metatarsus 2.54, tarsus 2.00, total 13.15. Leg III: femur 3.23, patella 1.85, tibia 2.15, metatarsus 3.00, tarsus 2.15, total 12.38. Leg IV: femur 4.38, patella 2.31, tibia 3.54, metatarsus 3.85, tarsus 2.15, total 16.23. Spination: Leg I: femur p1, d4, patella p2, tibia v1, metatarsus 0, tarsus 0; II: femur p2, patella p2, tibia v4, metatarsus v5, tarsus 0; III: femur p2, d2, r2, patella p2, r2, tibia 12, metatarsus 18, tarsus 0; IV: femur d2, patella r1, tibia 14, metatarsus 18, tarsus 0.

Abdomen: 6.38 long, 3.50 wide, 1.82 × longer than broad; densely pilose with bristles (Fig. 90); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Distribution.—This species has only been collected from near Warrawagine Homestead near the western edge of the Great Sandy Desert IBRA bioregion (Fig. 167).

Remarks.—The only specimen of *A. nitidimarina* was collected from a long-term pitfall trap study during the Pilbara Biodiversity Survey (McKenzie et al. 2009).

Sequence data.—Molecular data are not available for this species.

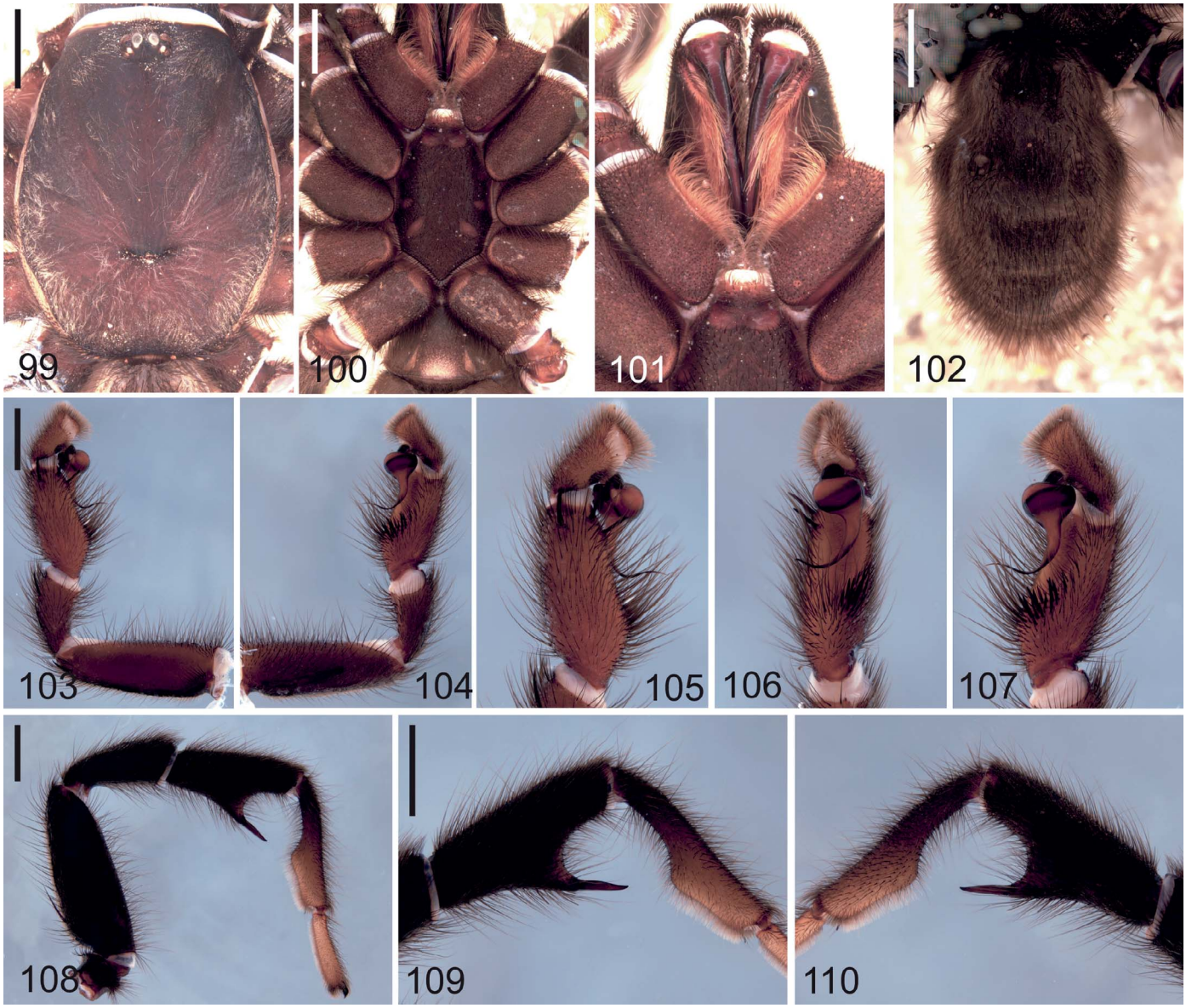
Aname sinuata sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/2B66D12A-3868-45F3-8313-2F1D41FB8688
(Figs. 99–116)

Aname 'MYG034': Castalanelli et al. 2014: 380, fig. 3. Harvey et al. 2018: 424, fig. 3.
Aname 'MYG351': Castalanelli et al. 2014: 380, fig. 3.

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: Cape Lambert Port, 5.5 km NNS of Wickham, 20°39′11″S, 117°07′58″E, October 2007, dug from burrow, D. Kamien, M. Greenham (WAM T100081).

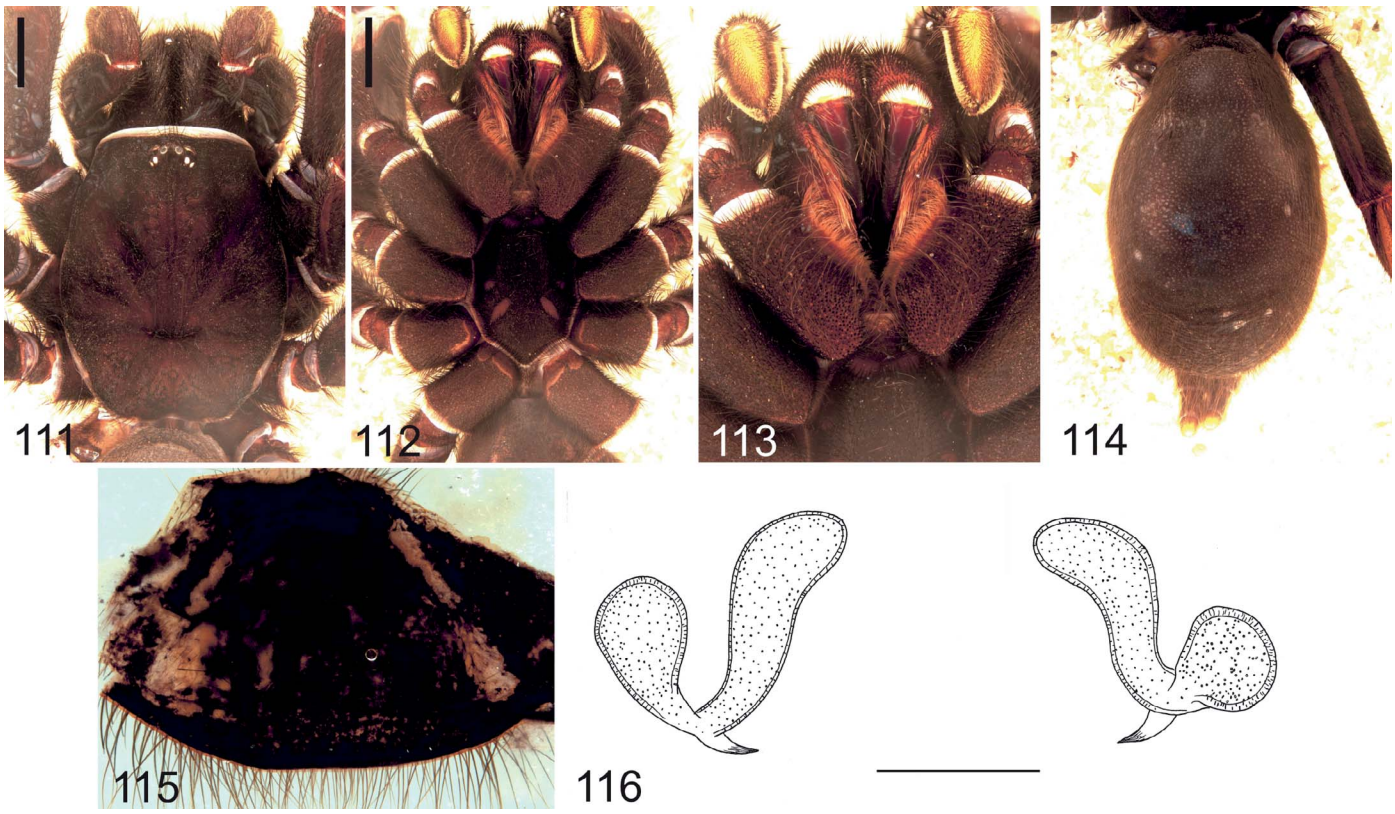
Paratypes. AUSTRALIA: *Western Australia*: 1 ♂, Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 27 October–2 November 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74247); 1 ♂, Dampier Salt Biological, 23 km W of Karratha, 20°45′58″S, 116°37′25″E, 28 October–3 November 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74251); 1 ♂, Dampier Salt Biological, 23 km W of Karratha, 20°45′58″S, 116°37′25″E, 29 October 2005, from burrow, D. Kamien, Z. Hamilton (WAM T74238); 1 ♂, 1 ♀, ca. 45 km N of Rudall River Airport, 22°11′44.50″S, 122°17′17.88″E, 28 September 2018, M. Bamford (WAM T146678, T146679).

Other material examined.—AUSTRALIA: *Western Australia*: 1 ♂, Aquila Onslow, 17.9 km SW of Onslow, 21°44′34″S, 114°58′45″E, 25 October 2008, dug from burrow, M. Menz (WAM T98900); 36 ♂, Boodarie Hill area, 15 km SW of Port Hedland, 20°24′S, 118°29′E, 11–17 October 1994 dry pitfall trap, G. Harold, J. Dell (WAM T31840–31875); 2 ♂, Cape Lambert, 3 km N of Wickham, 20°38′56″S, 117°08′47″E, 6 September 2012, dry pitfall trap, sandy coastal plain, C. Cole, N. Watson (WAM T129020, T129021); 1 ♂, 5.3 km W of Cossack, 20°39′19″S, 117°08′01″E, 4 October 2003, dug from burrow, D. Kamien, M. Greenham (WAM T88595); 1 ♂, 5.3 km W of Cossack, 20°39′11″S, 117°07′59″E, 8 October 2003, dug from burrow, D. Kamien, M. Greenham (WAM T88604); 1 ♂, Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 28 October 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74245); 2 ♂, Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 27 October–2 November 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74246); 1 ♂, Dampier Salt Biological, 17.8 km WSW of Karratha, 20°47′20″S, 116°40′47″E, 27 October–2 November 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74241); 1 ♂, Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 27 October–2 November 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74248); 1 ♂, Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 27 October–2 November 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74249); 1 ♂, Dampier Salt Biological, 21.5 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 31 October 2005, dry pitfall, D. Kamien, Z. Hamilton (WAM T74250); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha, 20°46′50″S, 116°38′26″E, 17 September 2006, pit trap, D. Kamien (WAM T82302); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha, 20°46′50″S, 116°38′25″E, 17 September 2006, pit trap, M. Greenham (WAM T82303); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB18 B7), 20°46′50″S, 116°38′25″E, 17 September 2006, pit trap, M. Greenham (WAM T82304); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB18 B2), 20°46′50″S, 116°38′25″E, 17 September 2006, pit trap, M. Greenham (WAM T82305); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB07 B1), 20°46′50″S, 116°38′26″E, 17 September 2006, pit trap, M. Greenham (WAM T82306); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB19 B9), 20°46′49″S, 116°38′26″E, 17 September 2006, pit trap, M. Greenham (WAM T82307); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB07 P4), 20°46′50″S, 116°38′26″E, 17 September 2006, pit trap, M. Greenham (WAM T82308); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB19 B10), 20°46′49″S, 116°38′26″E, 17 September 2006, pit trap, M. Greenham (WAM T82309); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha (DSB19 B8), 20°46′49″S, 116°38′26″E, 17 September 2006, pit trap, M. Greenham (WAM T82310); 1 ♂, Dampier Salt Biological, 13.7 km WSW of Karratha, 20°46′50″S, 116°38′25″E, 17 September 2006, pit trap, M. Greenham (WAM T82311); 1 ♂, 43 km S of Goldsworthy, Pilbara Biological Survey site PHYC01, 20°22′25″S, 119°55′57″E, 28 July 2005–15 May 2006, wet pitfall trap, Department of Conservation and Land Management staff (WAM T109360); 4 ♂, 85 km S of Meentheena Outcamp, Pilbara Biological Survey site NE13, 21°17′44.5″S, 121°15′50.3″E, 29 July 2003–11 October 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T97318); 2 ♂, 85 km S of Meentheena Outcamp, Pilbara Biological Survey site NE13, 21°17′44.5″S, 121°15′50.3″E, 29 July 2003–11 October 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109357); 1 ♂, Cane River Conservation Park, 9.5 km S of Mt Minnie, Pilbara Biological Survey site WYW04, 22°11′19.1″S, 115°33′13.2″E, 27 September 2003–29 September 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109359); 1 ♂, Paterson Range, 14 km SSW of Telfer, 21°50′S, 122°08′E, 31 August 1977, collector unknown (WAM T29855); 1 ♂, Port Hedland Salt, 10.4 km SS of Port Hedland, site PHS10, 20°22′30″S, 118°40′48″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T67073); 1 ♂, Port Hedland Salt, 12.4 km ESS of Port Hedland, site PHS09, 20°21′06″S, 118°43′08″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76779); 1 ♂, Port Hedland Salt, 12.4 km ESS of Port Hedland, site PHS09, 20°21′06″S, 118°43′08″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76780); 1 ♂, Port Hedland Salt, 12.3 km SS of Port Hedland, site PHS04, 20°22′55″S, 118°41′51″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76781); 1 ♂, Port Hedland Salt, 11.5 km SS of Port Hedland, site PHS05, 20°22′14″S, 118°41′49″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76782); 2 ♂, Port Hedland Salt, 12.4 km ESS of Port Hedland, site PHS09, 20°21′06″S, 118°43′08″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76783); 1 ♂, Port Hedland Salt, 9.2 km SS of Port Hedland, site PHS01,



Figures 99–110.—*Aname sinuata* sp. nov., holotype male (WAM T100081): 99. Cephalothorax, dorsal view; 100. Cephalothorax, ventral view; 101. Maxillae, labium and sternum, ventral view; 102. Abdomen, dorsal view; 103–107. Left pedipalp: 103. Prolateral view; 104. Retrolateral view; 105. Tibia and tarsus, prolateral view; 106. Tibia and tarsus, ventral view; 107. Tibia and tarsus, retrolateral view; 108–110. Left leg I: 108. Prolateral view; 109. Tibia and metatarsus I, prolateral view; 110. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

20°22′00″S, 118°40′20″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76784); 1 ♂, Port Hedland Salt, 12.4 km ESS of Port Hedland, site PHS09, 20°21′06″S, 118°43′08″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76785); 3 ♂, Port Hedland Salt, 10.4 km ESS of Port Hedland, site PHS10, 20°22′30″S, 118°40′48″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76786); 1 ♂, Port Hedland Salt, 9.6 km SS of Port Hedland, site PHS02, 20°22′14″S, 118°40′26″E, 19–25 September 2005, dry pitfall trap, R. Teale (WAM T76787); 1 ♂, South Hedland, 8 Roberts Street, 20°23′S, 118°36′E, 7 October 2008, D. Mackintosh (WAM T93314); 1 ♂, South Hedland, 20°23′S, 118°36′E, 18 October 2002, A. Haevsler (WAM T56745); 1 ♂, 12.5 km S of Whim Creek Hotel, Pilbara Biological Survey site DRE11B, 20°56′59.6″S, 117°50′59.6″E, 13 May 2004–2 May 2005, wet pitfall traps, Department of Conservation and Land Management staff (WAM T109358); 3 ♂, 45 km NS of Whim Creek Hotel, Pilbara Biological Survey site DRE07, 20°36′26.6″S, 118°09′23.9″E, 7 July 2003–4 October 2004, wet pitfall traps, Department of Conservation and Land Management staff (WAM T97319); 1 ♂, 22.5 km SSS of Wodgina, Pilbara Biological Survey site MBW11, 21°21′52″S, 118°42′04″E, 23 September 2005–14 September 2006, wet pitfall trap, Department of Conservation and Land Management staff (WAM T109361); 1 ♂, ca. 25 km NS of Wodgina Mine, 20°57′26.3″S, 118°41′44.3″E, 20 May 2011, dry pitfall trap, B. Parsons (WAM T113689); 1 ♂, Yanrey Station, 45 km NW of Yanrey Homestead, site SS12, 22°09′36″S,



Figures 111–116.—*Aname sinuata* sp. nov., paratype female (WAM T146679): 111. Cephalothorax, dorsal view; 112. Cephalothorax, ventral view; 113. Maxillae, labium and sternum, ventral view; 114. Abdomen, dorsal view; 115. Spermathecae, dorsal view; 116. Spermathecae, dorsal view, line drawing. Scale lines = 2 mm (Figs. 111–114), 0.5 mm (Fig. 116).

114°31′48″E, 17–26 August 2004, dry pitfall trap, R. Teale (WAM T64909).

Etymology.—The specific epithet refers to the sinuate embolus (*sinuatus*, Latin, bend, curve, wind).

Diagnosis.—Males of *A. sinuata* differ from all other named species of *Aname* by the long, curved embolus that is slightly sinuate terminally (Figs. 105–107), the pedipalpal tibia being broadest sub-basally (Figs. 105–107), the noticeably lighter tarsi and metatarsi of the legs (Fig. 108), and the deep chocolate-brown coloration (Figs. 99–102). Females differ by the shape of the spermathecae which consist of two pairs of ovoid spermathecae, with the median pair larger than the lateral pair (Fig. 116).

Description (male holotype).—Large anamid spider, total body length 19.50.

Color (in alcohol): Carapace deep brown; legs deep brown, with pale yellow tarsi and distal ends of metatarsi; chelicerae brown; abdomen dorsally grey-brown, and ventrally brown with paler epigastric region.

Cephalothorax: Carapace (Fig. 99): 8.51 long, 6.45 wide, 1.32 × longer than broad, sparse fine setae, very slender silver setae present; without dorsal bristles, clypeal edge: protruding medially, with 6 bristles, and 6 on anterior face of eye tubercle; fovea procurved. Eyes: from above, anterior eye row nearly straight, posterior eye row slightly recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.57 long, 1.28 wide; eye diameters: AME 0.29, ALE 0.31, PME 0.14, PLE 0.16; separation: AME-ALE 0.01, PME-PLE 0.00, ALE-PLE 0.22, AME-PME 0.06, AME-AME 0.10, PME-PME 0.70. Chelicerae with 3 well-defined strips of brown bristles and with fine white setae; rastellum absent; promargin with 6 teeth, retromargin with 4 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 101): with ca. 110 cuspules; located on the basal third. Sternum (Fig. 100): 4.80 long, 3.00 wide; 1.60 × longer than broad; oval in shape, posteriorly pointed; with bristles and fine setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior. Anterior pair located near edge of sternum; posterior pair elliptical.

Pedipalp (Figs. 103–107): Measurements: femur 4.90, patella 2.76, tibia 3.42, tarsus 1.88. Spines: femur 1 apico-prolateral; patella dl2; tibia p3 (distal); tibia with patch of short retrolateral spines (Fig. 109); tarsus densely setose; bulb globular; embolus long and curved, slightly sinuate near distal end (Figs. 103–107). Tibia: asetose depression present, about the length of embolus (Figs. 106, 107); PDL/PTL 0.60.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 108–110); TIL/TID 3.39; TIS/TIL 0.60; TISH/TID 0.76; metatarsus incrassate (Fig. 110); MIL/MID 4.24; MIPEL/MIL 0.58. Coxal cuspules absent; scopula present on all tarsi, present on distal portion of all metatarsi; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 6.32, patella 4.21, tibia 4.98, metatarsus 4.87, tarsus 2.84, total 23.22. Leg II: femur 5.85, patella 3.60, tibia 4.20, metatarsus

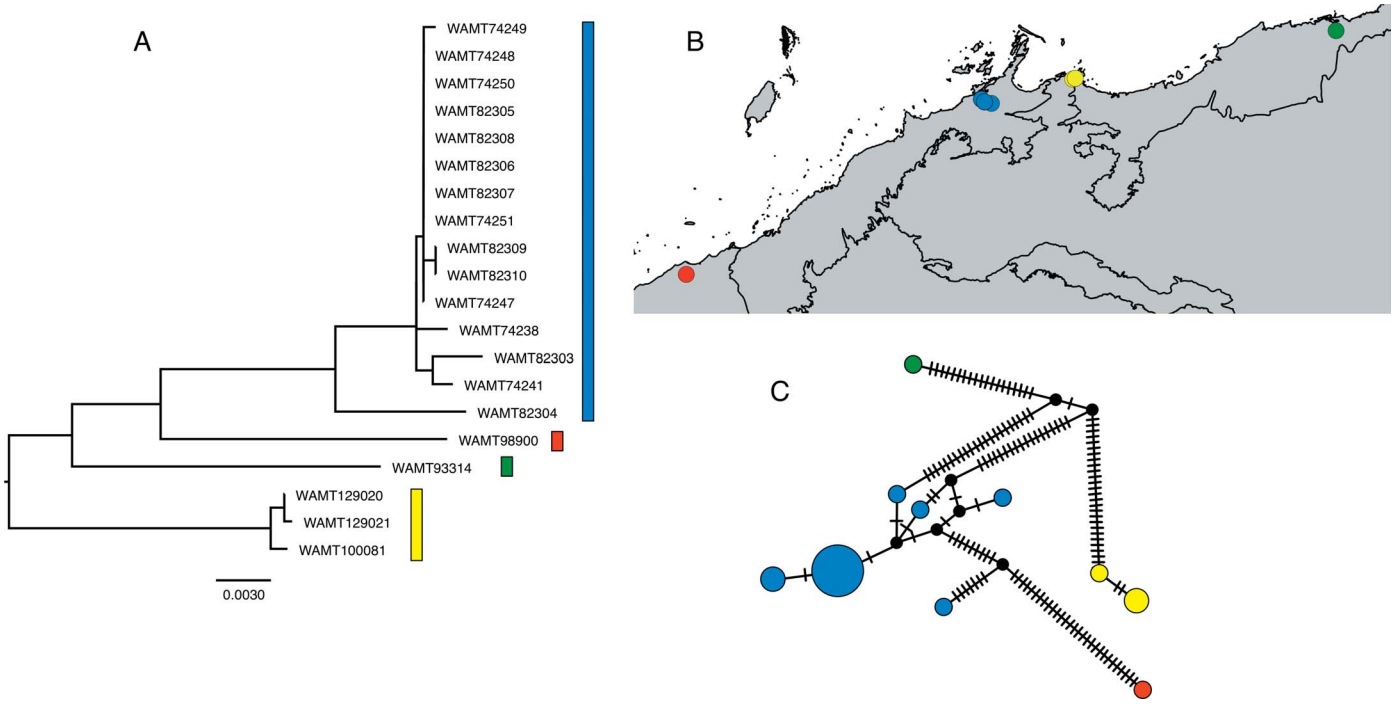


Figure 117.—*Aname sinuata* sp. nov.: A. RAxML phylogeny excised from Fig. 7 (refer to scale bar for comparison between trees); B. Map of the northern Pilbara showing locations of specimens assigned to distinct haplo-groups; C. TCS network showing haplotype diversity and relationships, with colors highlighting geographically and genetically distinct groups. Cross bars and small back circles represent extinct or unsampled haplotypes.

4.48, tarsus 2.73, total 20.86. Leg III: femur 5.57, patella 3.00, tibia 3.65, metatarsus 4.98, tarsus 2.96, total 20.16. Leg IV: femur 6.90, patella 2.85, tibia 5.22, metatarsus 5.90, tarsus 3.21, total 24.08. Spination: Leg I: femur d1, patella p1, tibia 0, metatarsus p1, v1, tarsus 0; II: femur 0, patella p2, tibia p2, v5, metatarsus p3, v2, tarsus 0; III: femur p4, d2, patella p1, tibia 10, metatarsus 13, tarsus 0; IV: femur p2, d2, patella 0, tibia 9, metatarsus 15, tarsus 0.

Abdomen: 7.90 long, 4.70 wide, 1.68 × longer than broad; densely pilose (Fig. 102); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Variation: $n = 10$; carapace 7.31–8.80 long, 5.64–6.98 wide; femur I 5.70–6.98; metatarsus I 4.50–5.45; femur IV 6.17–7.25.

Description (female paratype, WAM T146679).—Large anamid spider (total body length 25.2).

Colour (in alcohol): Carapace deep brown; legs deep brown, with pale yellow tarsi and distal ends of metatarsi; chelicerae deep red-brown; abdomen dorsally grey-brown, and ventrally grey-brown.

Cephalothorax: Carapace (Fig. 111): 9.10 long, 7.20 wide; 1.26 × longer than broad, sparse fine setae, very slender silver setae present; without dorsal bristles, clypeal edge: protruding medially; with 7 bristles, and 6 on anterior face of eye tubercle; fovea procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row slightly recurved; AME about same size as ALE; ALE largest; PME smallest; eye group 0.83 long, 1.54 wide; eye diameters: AME 0.41, ALE 0.42, PME 0.24, PLE 0.24; separation: AME-ALE 0.07, PME-PLE 0.04, ALE-PLE 0.22, AME-PME 0.18, AME-AME 0.16, PME-PME 0.86. Chelicerae with 3 well-defined strips of brown bristles and with fine white setae; rastellum absent; promargin with 7 teeth, retromargin with 3 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 113): with ca. 167 cuspules, located in posterior third. Sternum (Fig. 112): 4.80 long, 3.70 wide, 1.30 × longer than broad; oval in shape, posteriorly pointed; with bristles and fine setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; anterior pair located near edge of sternum; posterior pair elliptical.

Pedipalp: Spines: absent from femur, patella and tarsus; tibia with several, scattered; tarsus densely setose. Claw present, but teeth obscured.

Legs: Leg formula 4123. Coxal cuspules absent. Scopula present on all tarsi and on metatarsi I and II; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, with claw tufts absent. Measurements: Leg I: femur 6.24, patella 4.17, tibia 3.75, metatarsus 3.65, tarsus 2.30, total 20.11. Leg II: femur 5.41, patella 3.80, tibia 3.10, metatarsus 3.40, tarsus 2.50, total 18.21. Leg III: femur 5.27, patella 3.38, tibia 2.95, metatarsus 3.13, tarsus 2.70, total 17.43. Leg IV: femur 6.46, patella 2.70, tibia 4.39, metatarsus 4.40, tarsus 2.65, total 20.60. Spination: Leg I: femur 0, patella 0, tibia 0, metatarsus 0, tarsus 0; II: femur 0, patella 0, tibia v3, metatarsus v2, tarsus 0; III: femur 0, patella 0, tibia v2, metatarsus 19, tarsus 0; IV: femur 0, patella 0, tibia 6, metatarsus 14, tarsus 0.

Abdomen: 12.75 long, 7.96 wide, 1.60 × longer than broad, densely pilose (Fig. 114); two pairs of spinnerets; PMS

unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Epigastric region: With 2 pairs of large ovoid spermathecae, median pair larger than lateral pair (Figs. 115, 116).

Distribution.—*Aname sinuata* is widely distributed throughout the Pilbara IBRA bioregion and adjacent Carnarvon, Great Sandy Desert and Little Sandy Desert bioregions of Western Australia (Fig. 169).

Remarks.—Males of *A. sinuata* have been collected in pitfall traps between July and November. Some were collected during the Pilbara Biodiversity Survey (McKenzie et al. 2009).

Sequence data.—DNA sequence data were successfully obtained from 20 specimens, spanning four locations along the Pilbara coastline (Table 2). These four locations corresponded with four genetically distinct lineages (Fig. 117), which were up to 10% divergent from each other at *COI* (Table 3). This species was included in two recent molecular phylogenetic analyses as *A.* 'MYG034′ and *A.* 'MYG351′ (Castalanelli et al. 2014; Harvey et al. 2018), which although originally considered to be distinct taxa, are here considered to represent a single species.

Aname vernonorum sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/7C7D562F-E58A-4F23-BDDF-D0E9EE550699
(Figs. 118–129)

Aname 'MYG102′: Harvey et al. 2018: 424, fig. 3.

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E, 26 October 2008, dug from burrow, M. Menz (WAM T98858).

Paratypes. AUSTRALIA: *Western Australia*: 1 ♂, same data as holotype except 30 October 2008 (WAM T98767); 1 ♂, same data as holotype (WAM T98772).

Other material examined.—AUSTRALIA: *Western Australia*: 1 ♂, 30 km ESE of Onslow, Pilbara Biological Survey site OYW12, 21°46′44″S, 115°22′01″E, 25 September 2005–29 August 2006, wet pitfall traps, Department of Conservation and Land Management staff (Pilbara Biological Survey) (WAM T97311); 14 ♂, Aquila Onslow, 24.9 km SE of Onslow, 21°46′56″S, 115°17′40″E, 28–30 October 2008, dug from burrow, M. Menz (WAM T98775–T98779, T98859–T98864, T98866, T98868, T98873).

Etymology.—This species is named for the Vernon family, the first author's maternal grandmother (Frances), and Rob, Kathy, Charlie and Delaine.

Diagnosis.—*Aname vernonorum* is the only named species of the genus in which the embolus of males is known to be terminally blunt (Figs. 124–126). Females are unknown.

Description (male holotype).—Medium-sized anamid spider, total body length 14.30.

Color (in alcohol): Carapace anterior light orange-brown fading posteriorly to a pale apricot; leg I light orange-brown lightening distally, legs II to IV uniformly pale yellow-orange; chelicerae uniformly orange; abdomen dorsally yellow-brown with darker markings, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 118): 6.44 long, 5.19 wide, 1.24 × longer than broad, sparse short setae, very slender silver setae absent; without dorsal bristles, clypeal edge: straight, with 6 bristles, and 4 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row slightly recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.85 long, 1.53 wide; eye diameters: AME 0.38, ALE 0.52, PME 0.11, PLE 0.30; separation: AME-ALE 0.04, PME-PLE 0.03, ALE-PLE 0.07, AME-PME 0.04, AME-AME 0.16, PME-PME 0.58. Chelicerae with retrolateral strip short, sparse and brown, prolateral strip long and brown; shortened thickened setae on prolateral edge of anterior face of paturon; promargin with 10 or 9 teeth, retromargin with 3 or 5 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 120): with ca. 50 cuspules; located on the basal half. Sternum (Fig. 119): 3.81 long, 2.46 wide; 1.55 × longer than broad; oval in shape, posteriorly pointed; with bristles over entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elongate and slightly curved or anterior pair located near edge of sternum.

Pedipalp (Figs. 122–126): Measurements: femur 3.53, patella 2.03, tibia 2.15, tarsus 1.81. Spines: femur p0/1; patella p2/3; tibia basal third: v2, apical quarter: v2 p2; tibia without patch of short retrolateral spines; tarsus densely setose; bulb globular; embolus short and very thick, terminally blunt (Figs. 124–126). Tibia: asetose depression present, about the length of embolus (Figs. 124–126); PDL/PTL 0.61.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 127–129); TIL/TID 5.00; TIS/TIL 0.63; TISH/TID 0.89; metatarsus incrassate; MIL/MID 4.54; MIPEL/MIL 0.51. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 5.51, patella 2.76, tibia 4.24, metatarsus 3.61, tarsus 2.44, total 18.56. Leg II: femur 4.94, patella 2.98, tibia 3.61, metatarsus 3.69, tarsus 2.56, total 17.78. Leg III: femur 4.31, patella 2.40, tibia 2.56, metatarsus 3.69, tarsus 2.48, total 15.44. Leg IV: femur 5.44, patella 2.90, tibia 4.43, metatarsus 4.00, tarsus 2.44, total 19.20. Spination: Leg I: femur d6, patella p2, tibia 0, metatarsus 0, tarsus 0; II: femur p2, d3, patella p2, tibia p2, v3, metatarsus v2, tarsus 0; III: femur p3, d3, patella p2, r2, tibia 11, metatarsus 18, tarsus 0; IV: femur d3, r1, patella 0, tibia 9, metatarsus 11, tarsus 0.

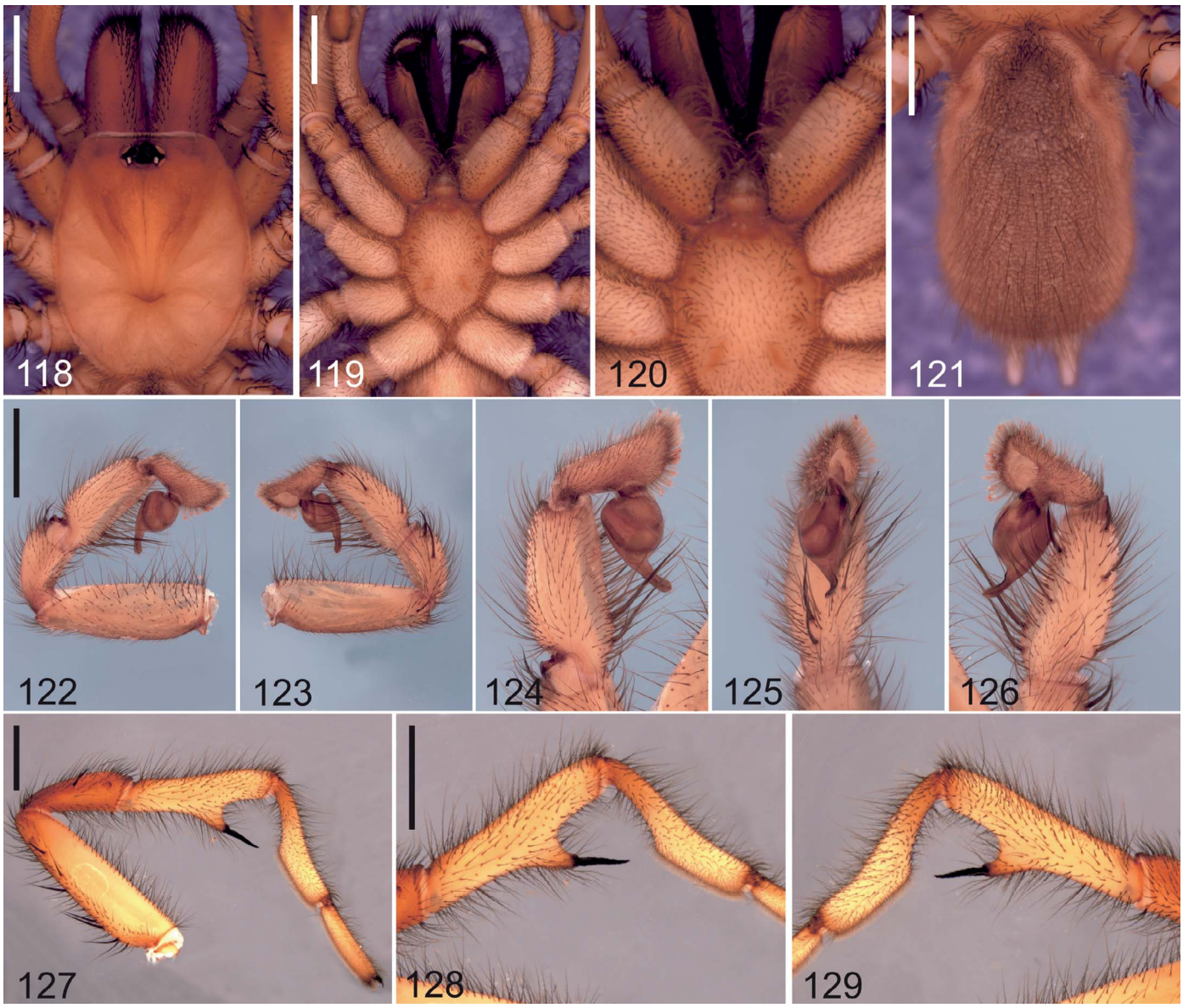
Abdomen: 6.49 long, 3.94 wide, 1.65 × longer than broad; densely pilose (Fig. 121); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Variation: $n = 10$; carapace 6.25–7.19 long, 4.65–5.44 wide; femur I 5.24–5.76; metatarsus I 3.69–4.15, femur IV 5.19–5.50.

Distribution.—This species is known only from near the town of Onslow in the north-western Pilbara IBRA bioregion of Western Australia (Fig. 167).

Remarks.—Adult males have been collected in October, with the majority dug from burrows.

Sequence data.—DNA sequence data were successfully obtained from seven specimens (Table 2). Overall, intraspecific genetic variation was low, with a p-distance of 0.009 at *COI* (Table 3). This species was included in a molecular phylogenetic analysis as *Aname* 'MYG102′ (Harvey et al. 2018).



Figures 118–129.—*Aname vernonorum* sp. nov., holotype male (WAM T98858): 118. Cephalothorax, dorsal view; 119. Cephalothorax, ventral view; 120. Maxillae, labium and sternum, ventral view; 121. Abdomen, dorsal view; 122–126. Left pedipalp: 122. Prolateral view; 123. Retrolateral view; 124. Tibia and tarsus, prolateral view; 125. Tibia and tarsus, ventral view; 126. Tibia and tarsus, retrolateral view; 127–129. Left leg I: 127. Prolateral view; 128. Tibia and metatarsus I, prolateral view; 129. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

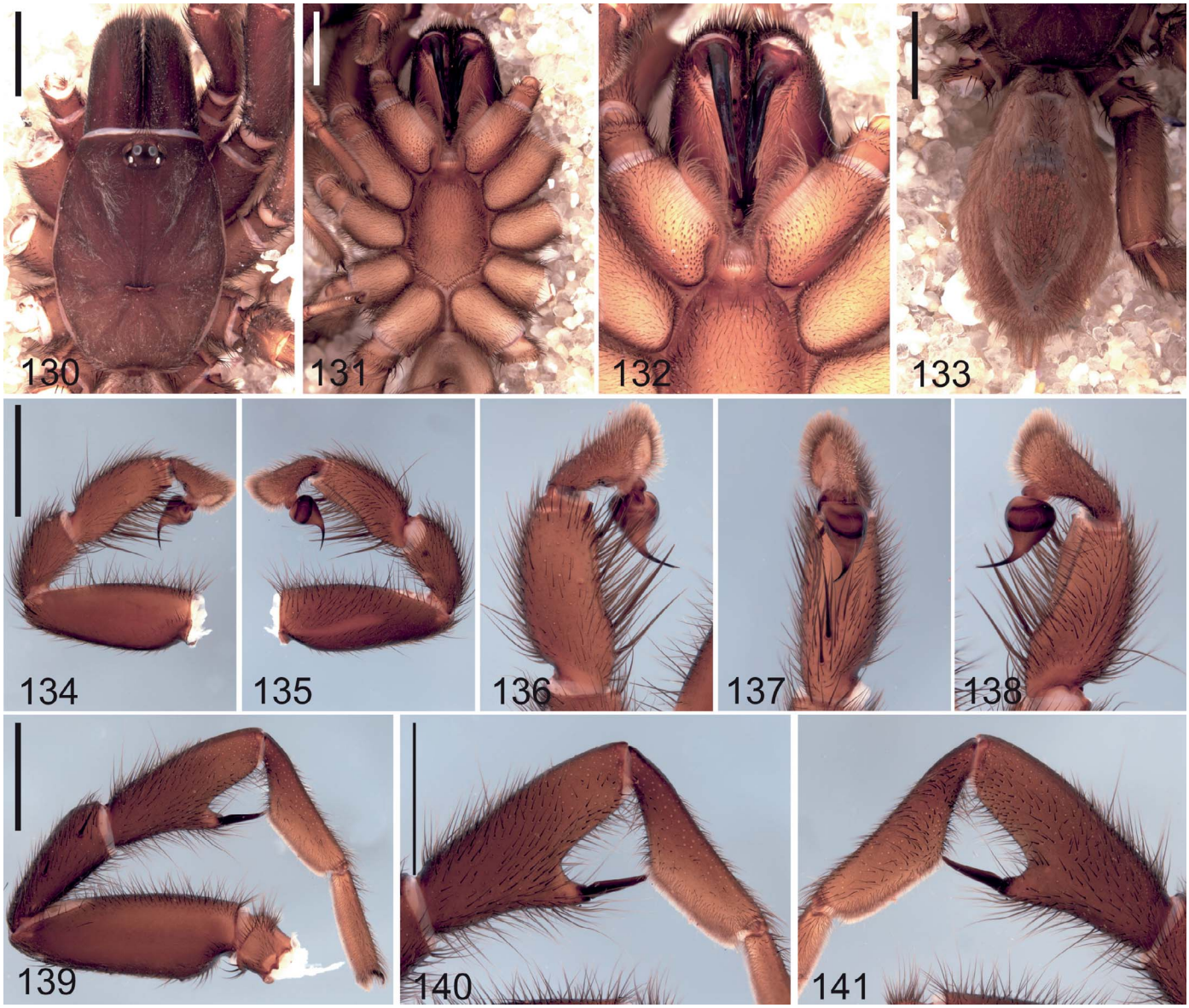
Aname watsoni sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/C3611F50-DBFA-450A-AEF3-02B6AE0D32E8
(Figs. 130–147)

Aname 'MYG366': Castalanelli et al. 2014: 380, fig. 3.

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: 8 km W of Newman, 23°23′01.35″S, 119°38′52.06″E, 12 March 2010, pitfall trap, J. Gollan (WAM T104786).

Paratypes. AUSTRALIA: *Western Australia*: 1 ♂, Orebody 35, ca. 8 km W of Newman, site14–P7, 23°22′59.65″S, 119°38′52.56″E, 12 March–18 May 2010, pitfall trap, open floodplain, J. Gollan (WAM T104788); 1 ♂, same data except site10–P6, 23°23′59.65″S, 119°39′07.47″E (WAM T104795); 1 ♂, same data except site10–P4, 23°24′00.18″S, 119°39′07.96″E (WAM T104791); 1 ♀, Jimblebar, ca. 35 km S of Newman, 23°22′52″S, 120°10′24″E, 9 February 2009, P. Bolton, C. Weston (WAM T96018).

Other material examined.—AUSTRALIA: *Western Australia*: 1 ♂, Orebody 35, ca. 8 km W of Newman, site14–P10, 23°22′58.79″S, 119°38′53.47″E, 12 March–18 May 2010, pitfall trap, open floodplain, J. Gollan (WAM T104789); 1 ♂, Orebody 35, ca. 8 km W of Newman, site14–P1, 23°23′01.31″S, 119°38′52.01″E, 12 March–18 May 2010, pitfall trap, open floodplain, J. Gollan (WAM T104790); 1 ♂,



Figures 130–141.—*Aname watsoni* sp. nov., holotype male (WAM T104786): 130. Cephalothorax, dorsal view; 131. Cephalothorax, ventral view; 132. Maxillae, labium and sternum, ventral view; 133. Abdomen, dorsal view; 134–138. Left pedipalp: 134. Prolateral view; 135. Retrolateral view; 136. Tibia and tarsus, prolateral view; 137. Tibia and tarsus, ventral view; 138. Tibia and tarsus, retrolateral view; 139–141. Left leg I: 139. Prolateral view; 140. Tibia and metatarsus I, prolateral view; 141. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

Orebody 35, ca. 8 km W of Newman, site10–P3, 23°24′00.56″S, 119°39′08.24″E, 12 March–18 May 2010, pitfall trap, open floodplain, J. Gollan (WAM T104796).

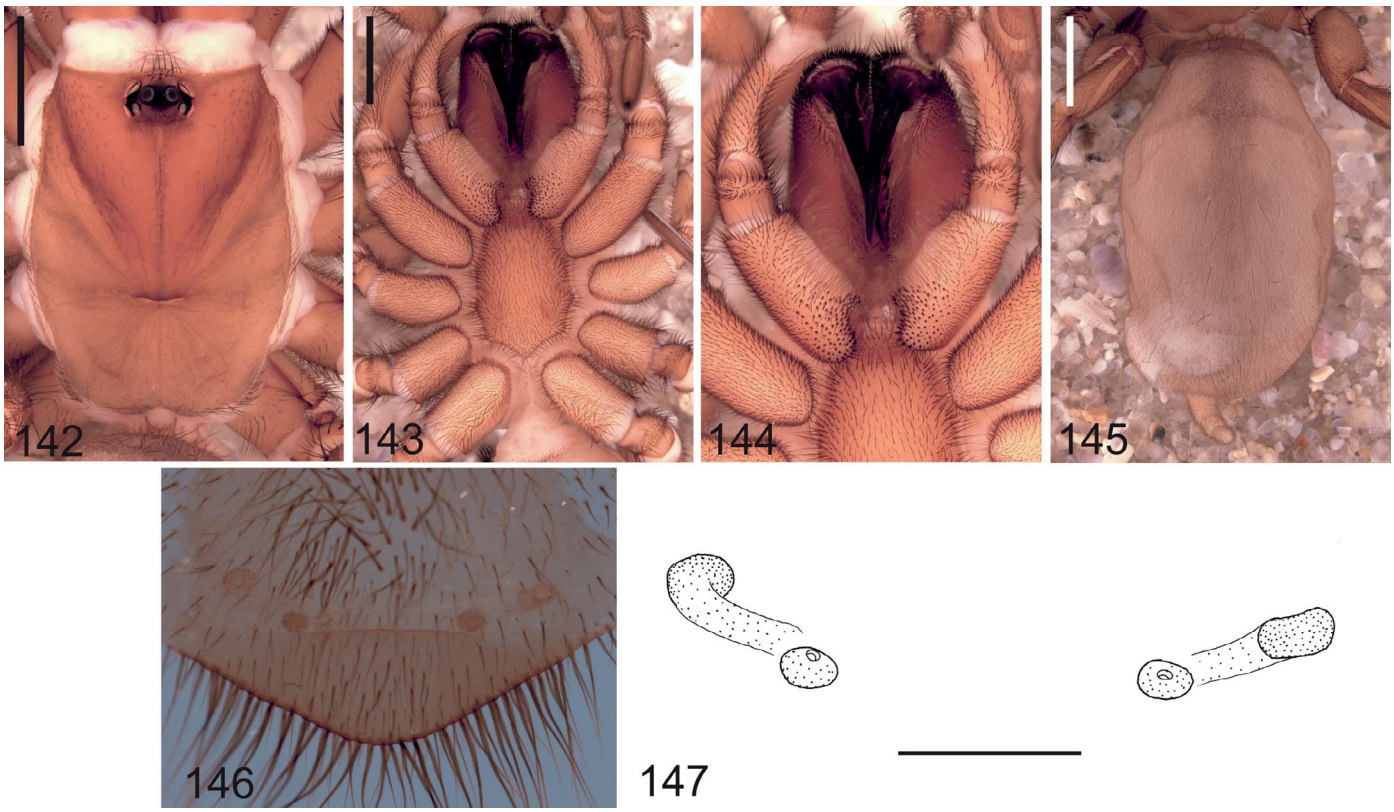
Etymology.—This species is named for George Watson of BHP Billiton Iron Ore in recognition of his support for this project.

Diagnosis.—Males of *A. watsoni* have one of the longest ventral depressions of the pedipalpal tibia of any species of *Aname* (PDL/PTL = 0.64) (Fig. 138), which, when combined with the rather broad tibia I and prominent, large megaspur (Figs. 140, 141), serves to readily distinguish them from other species of the genus. Females differ by the presence of a single pair of widely spaced spermathecae that are curved laterally (Figs. 146, 147).

Description (male holotype).—Medium-sized anamid spider, total body length 14.50.

Color (in alcohol): Carapace anterior red-brown fading posteriorly to a light brown; leg I red-brown, legs II to IV uniformly yellow-brown; chelicerae uniformly dark red-brown; abdomen dorsally grey-brown, and ventrally pale yellow-brown.

Cephalothorax: Carapace (Fig. 130): 5.63 long, 4.00 wide, 1.41 × longer than broad; densely pilose, very slender silver setae present; without dorsal bristles, clypeal edge: straight, with 7 bristles, and 7 on anterior face of eye tubercle; fovea



Figures 142–147.—*Aname watsoni* sp. nov., paratype female (WAM T96018): 142. Cephalothorax, dorsal view; 143. Cephalothorax, ventral view; 144. Maxillae, labium and sternum, ventral view; 145. Abdomen, dorsal view; 146. Spermathecae, dorsal view; 147. Spermathecae, dorsal view, line drawing. Scale lines = 2 mm (Figs. 142–145), 0.5 mm (Fig. 147).

slightly procurved. Eyes: from above, anterior eye row nearly straight, posterior eye row recurved; AME larger than ALE; ALE largest; PME smallest; eye group 0.73 long, 1.09 wide; eye diameters: AME 0.29, ALE 0.35, PME 0.19, PLE 0.21; separation: AME-ALE 0.04, PME-PLE 0.02, ALE-PLE 0.06, AME-PME 0.08, AME-AME 0.17, PME-PME 0.54. Chelicerae with black short setae sparsely distributed, 1 well-defined prolateral strip dense, long, and brown or black; rastellum absent; promargin with 7 or 8 teeth, retromargin with 3 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 132): with ca. 85 cuspules; located on the basal third. Sternum (Fig. 131): 3.13 long, 2.38 wide; oval in shape, posteriorly pointed; 1.32 × longer than broad; with bristles on posterior margin, with setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; anterior and median pairs located near edge of sternum; posterior pair elliptical.

Pedipalp (Figs. 134–138): Measurements: femur 3.08, patella 1.77, tibia 1.85, tarsus 1.31. Spines: femur 1 apico-prolateral; patella p1; tibia basal third: v2, apical quarter: v1 p1; tibia without patch of short retrolateral spines; tarsus densely setose; bulb heart shaped; embolus longer than bulb, noticeably curved. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.64.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 139–141); TIL/TID 3.36; TIS/TIL 0.53; TISH/TID 0.65; metatarsus incrassate; MIL/MID 3.49; MIPEL/MIL 0.47. Coxal cuspules absent; scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 4.08, patella 2.92, tibia 3.23, metatarsus 3.00, tarsus 1.92, total 15.15. Leg II: femur 3.69, patella 2.46, tibia 2.61, metatarsus 2.77, tarsus 2.00, total 13.53. Leg III: femur 3.15, patella 1.85, tibia 2.08, metatarsus 2.77, tarsus 1.85, total 11.69. Leg IV: femur 4.38, patella 2.54, tibia 3.61, metatarsus 4.00, tarsus 2.00, total 16.53. Spination: Leg I: femur d3, patella p2, tibia v1, metatarsus 0, tarsus 0; II: femur d3, patella 0, tibia p1, v3, metatarsus v5, tarsus 0; III: femur d3, patella p2, r1, tibia 9, metatarsus 12, tarsus 0; IV: femur d3, patella 0, tibia 8, metatarsus 12, tarsus 0.

Abdomen: 6.25 long, 3.75 wide, 1.67 × longer than broad; densely pilose with bristles (Fig. 133); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Variation: $n = 6$; carapace 4.21–6.23 long, 2.80–4.32 wide; femur I 3.55–4.60; metatarsus I 2.20–3.20; femur IV 3.18–4.70.

Description (female paratype, WAM T96018).—Large anamid spider, total body length 19.60.

Color (in alcohol): Carapace anterior red-brown fading posteriorly to a light brown; legs uniformly yellow-brown; chelicerae uniformly dark red-brown, but paler basally; abdomen dorsally yellow-grey, with distinct grey cardiac lines, and ventrally pale creamy-yellow.

Cephalothorax: Carapace (Fig. 142): 5.49 long, 4.03 wide, 1.36 × longer than broad, pilose, very slender silver setae present; without dorsal bristles, clypeal edge: protruding medially, with 9 bristles, and 14 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row slightly recurved; AME larger than ALE; ALE and AME the largest; PME smallest; eye group 0.56 long, 0.98 wide; eye diameters: AME 0.25, ALE 0.34, PME 0.19, PLE 0.26; separation: AME-ALE 0.08, PME-PLE 0.03, ALE-PLE 0.11, AME-PME 0.08, AME-AME 0.61, PME-PME 0.72. Chelicerae with black short setae sparsely distributed, 1 well-defined prolateral strip dense, long, and brown or black; rastellum absent; promargin with 9 teeth, retromargin with 0 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 144): with ca. 100 cuspules; located on the basal half. Sternum (Fig. 143): 3.23 long, 2.43 wide; 1.33 × longer than broad; oval in shape, posteriorly pointed; with bristles on posterior margin, with setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior. Anterior pair located near edge of sternum.

Pedipalp: Spines: femur 0; patella 0; tibia v3; tarsus pv2, r2; tarsus densely setose. Claw present, without teeth.

Legs: Leg formula 4123. Coxal cuspules absent; scopula present on all tarsi, present on distal half of metatarsi I and II; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 4.40, patella 2.79, tibia 2.77, metatarsus 2.49, tarsus 1.70, total 14.15. Leg II: femur 2.50, patella 2.37, tibia 2.30, metatarsus 2.36, tarsus 1.78, total 11.21. Leg III: femur 2.99, patella 1.87, tibia 2.09, metatarsus 2.00, tarsus 1.68, total 10.63. Leg IV: femur 4.00, patella 2.30, tibia 3.32, metatarsus 3.40, tarsus 2.96, total 15.96. Spination: Leg I: femur d3, patella 0, tibia v4, metatarsus v9, tarsus 0; II: femur d5, patella 0, tibia v4, metatarsus v5, tarsus 0; III: femur d1, patella 0, tibia p1, r1, v7, metatarsus 17, tarsus 0; IV: femur d2, patella 0, tibia r2, v6, metatarsus 16, tarsus 0.

Abdomen: 7.70 long, 5.90 wide, 1.31 × longer than broad; densely pilose with bristles (Fig. 145); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Epigastric region: 1 pair of widely spaced spermathecae, curving laterally (Figs. 146, 147).

Distribution.—*Aname watsoni* has been found at only a single location near Newman near the south-eastern edge of the Pilbara IBRA bioregion (Fig. 167).

Remarks.—Adult males have been collected using pitfall traps from March to May.

Sequence data.—DNA sequence data were successfully obtained from six specimens (Table 2), with a maximum intraspecific p-distance of 0.047 at *COI*. The male specimens from Orebody 35 were linked with the female from Jimblebar using *COI* sequence data. This species was included in a molecular phylogenetic analysis as *A.* 'MYG366' (Castalanelli et al. 2014). Only the female voucher of MYG366 belongs to this species; the other eight specimens listed in Castalanelli et al. (2014) have been re-identified as *Aname* 'MYG579', based on divergent sequence data.

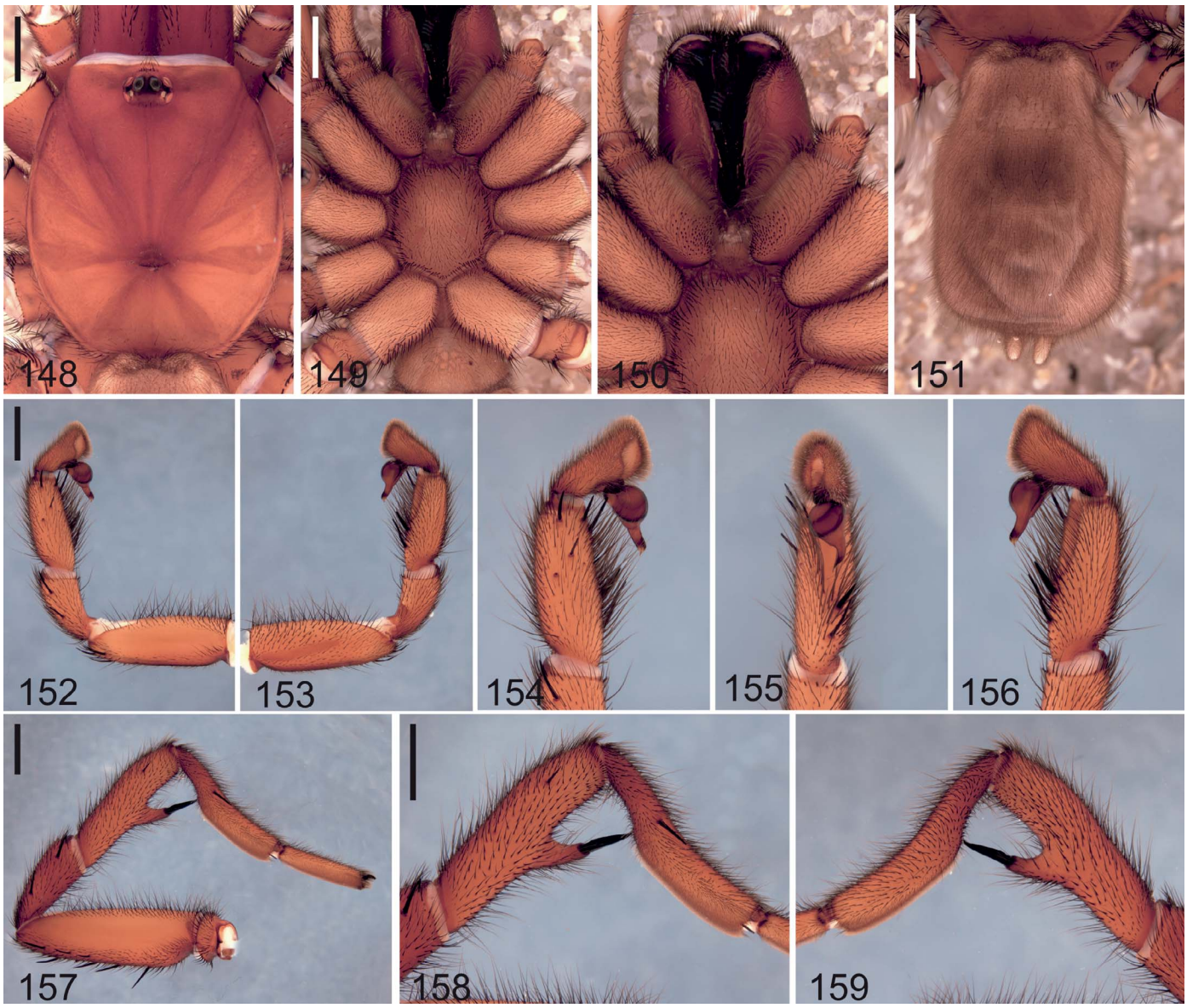
Aname whitei sp. nov.
ZooBank LSID: http://zoobank.org/NomenclaturalActs/184C94B2-F6E0-4D5F-B55E-68B33603A008
(Figs. 148–165)

Aname 'MYG004': Castalanelli et al. 2014: 380, fig. 3. Harvey et al. 2018: 424, fig. 3.

Type material.—*Holotype male*. AUSTRALIA: *Western Australia*: Jimblebar mine site, 35 km S of Newman, 23°23′40″S, 120°09′13″E, 11 February 2009, P. Bolton, C. Weston (WAM T95403).

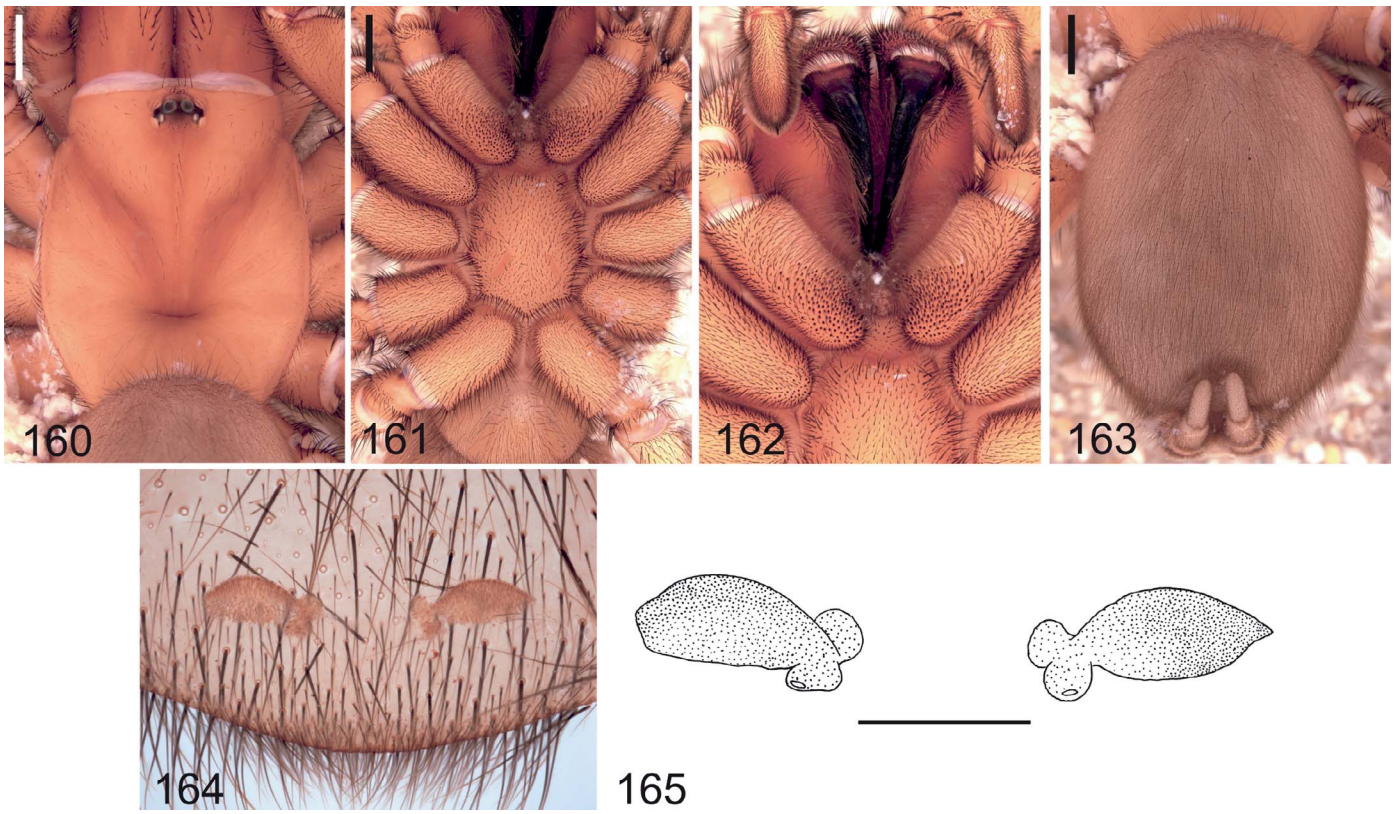
Paratypes. AUSTRALIA: *Western Australia*: 1 ♀, Jimblebar, 35 km S of Newman, 23°23′27″S, 120°05′42″E, 6 February 2009, active search, P. Bolton, C. Weston (WAM T93987); 1 ♀, same data except 23°22′42″S, 120°15′27″E, 8 February 2009 (WAM T96019); 1 ♀, same data except 23°22′54″S, 120°10′25″E, 9 February 2009 (WAM T96020); 1 ♀, same data except 23°23′39″S, 120°09′20″E, 11 February 2009 (WAM T96021); 1 ♀, same data except 23°22′53″S, 120°10′26″E, 9 February 2009 (WAM T96022); 1 ♀, same data except 23°22′42″S, 120°15′27″E, 8 February 2009 (WAM T96023).

Other material examined.—AUSTRALIA: *Western Australia*: 1 juvenile, Area C, 98 km NW of Newman, 23°00′28″S, 118°51′12″E, 30 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103175); 1 juvenile, Area C, 84.6 km NW of Newmam, 22°57′14″S, 119°01′48″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103212); 1 juvenile, Mesa Gap, ca. 33 km ENS of Newman, 23°19′33.3″S, 120°08′53.4″E, 27 August 2013, 6 September 2013, burrow excavation, S. Callan (WAM T131380); 1 juvenile, Mesa Gap, ca. 33 km ENS of Newman, 23°19′56.0″S, 120°04′34.1″E, 27 August 2013, 6 September 2013, burrow excavation, S. Callan (WAM T131382); 1 juvenile, Mesa Gap, ca. 33 km ENS of Newman, 23°21′18.26″S, 120°01′42.94″E, 27 August 2013, 6 September 2013, burrow excavation, S. Callan (WAM T131385); 1 juvenile, Mesa Gap, ca. 33 km ENS of Newman, 23°19′34.5″S, 120°05′07.36″E, 27 August 2013, 6 September 2013, burrow excavation, S. Callan (WAM T131388); 1 juvenile, Jinayri, ca. 65 km NW of Newman, 22°44′00″S, 119°24′24″E, 28 March 2009, excavated from burrow, J. Gollan et al. (WAM T97034); 1 juvenile, Davidson Creek, ca. 75 km S of Newman, 23°33′12.92″S, 120°38′40.02″E, 8 April 2010, creekline & drainage, *Acacia*, *Eremophila*, spinifex, J. Clark (WAM T102158); 1 ♂, Davidson Creek, ca. 75 km S of Newman, 23°31′29.81″S, 120°38′28.26″E, 8 April 2010, dry pitfall, J. Clark (WAM T102160); 1 ♂, Davidson Creek, ca. 75 km S of Newman, 23°31′29.81″S, 120°38′28.26″E, 7 April 2010, dry pitfall, J. Clark (WAM T102161); 1 ♂, Davidson Creek, ca. 75 km S of Newman, 23°28′27.25″S, 120°34′15.86″E, 8 April 2010, dry pitfall, J. Clark (WAM T102162); 4 ♂, Davidson Creek, ca. 75 km S of Newman, 23°31′29.81″S, 120°38′28.26″E, 7 April 2010, J. Clark (WAM T102166); 1 juvenile, Area C, 81.6 km NW of Newman, 22°57′59″S, 119°03′21″E, 26 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103174); 1 juvenile, Area C, 98 km NW of Newman, 23°00′28″S, 118°51′11″E, 30 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103179); 1 juvenile, Area C, 98 km NW of Newman, 23°00′28″S, 118°51′13″E, 30 June 2010, dug from burrow, R. Teale, M.



Figures 148–159.—*Aname whitei* sp. nov., holotype male (WAM T95403): 148. Cephalothorax, dorsal view; 149. Cephalothorax, ventral view; 150. Maxillae, labium and sternum, ventral view; 151. Abdomen, dorsal view; 152–156. Left pedipalp: 152. Prolateral view; 153. Retrolateral view; 154. Tibia and tarsus, prolateral view; 155. Tibia and tarsus, ventral view; 156. Tibia and tarsus, retrolateral view; 157–159. Left leg I: 157. Prolateral view; 158. Tibia and metatarsus I, prolateral view; 159. Tibia and metatarsus I, retrolateral view. Scale lines = 2 mm.

Greenham (WAM T103180); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103183); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′56″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103185); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′55″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103190); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′52″S, 119°00′56″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103194); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103204); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103205); 1 juvenile, Area C, 84.1 km NW of Newman, 22°57′16″S, 119°02′30″E, 26 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103207); 1 juvenile, Area C, 81.6 km NW of Newman, 22°58′03″S, 119°03′19″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103208); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103214); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103215); 1 juvenile, Area C, 81.6 km NW of Newman, 22°58′03″S, 119°03′21″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103220); 1 juvenile,



Figures 160–165.—*Aname whitei* sp. nov., paratype female (WAM T96019): 160. Cephalothorax, dorsal view; 161. Cephalothorax, ventral view; 162. Maxillae, labium and sternum, ventral view; 163. Abdomen, dorsal view; 164. Spermathecae, dorsal view; 165. Spermathecae, dorsal view, line drawing. Scale lines = 2 mm (Figs. 160–151), 0.5 mm (Fig. 165).

Area C, 84.6 km NW of Newman, 22°57′11″S, 119°01′51″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103222); 1 juvenile, Area C, 85.7 km NW of Newman, 22°56′56″S, 119°01′29″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103224); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′54″S, 119°00′57″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103225); 1 juvenile, Area C, 85.7 km NW of Newman, 22°56′55″S, 119°01′29″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103231); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′52″S, 119°00′56″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103232); 1 juvenile, Area C, 86.4 km NW of Newman, 22°56′53″S, 119°00′56″E, 27 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103236); 1 juvenile, Area C, 84.1 km NW of Newman, 22°57′16″S, 119°02′29″E, 26 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103238); 1 juvenile, Area C, 74.9 km NW of Newman, 22°55′01″S, 119°11′30″E, 23 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103243); 1 juvenile, Area C, 81.6 km NW of Newman, 22°57′58″S, 119°02′51″E, 26 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103244); 1 juvenile, Area C, 84.1 km NW of Newman, 22°57′16″S, 119°02′26″E, 26 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103250); 1 juvenile, Area C, 81.6 km NW of Newman, 22°57′58″S, 119°02′52″E, 26 June 2010, dug from burrow, R. Teale, M. Greenham (WAM T103260); 1 juvenile, Area C, 97.6 km NW of Newman, 23°00′39″S, 118°51′38″E, 18 August 2010, dug from burrow, R. Teale, J. Cairnes (WAM T105898); 1 ♂, Fortescue Marsh, 22°29′20.36″S, 119°05′08.95″E, 22 April 2010, 2 June 2010, wet pitfall trap, N. Dight, L. Quinn (WAM T107135); 1 juvenile, Iron Valley, 5 km NS of Yandicoogina mine, 22°45′34.09″S, 119°18′09.03″E, 5 May 2010, M. Heath, R. Mielens (WAM T107409); 1 ♂, Koodaideri, 120.2 km NW of Newman, 22°29′43″S, 119°01′27″E, 23 August 2010, dug from burrow, P. Brooshooft (WAM T107960); 1 juvenile, Koodaideri, 103.8 km NW of Newman, 22°35′13″S, 119°09′19″E, 20 August 2010, dug from burrow, M. Greenham (WAM T107973); 1 juvenile, Koodaideri, 114.8 km NW of Newman, 22°30′40″S, 119°05′04″E, 15 October 2011, dry pitfall trap, M. Greenham, D. Kamien (WAM T118807); 1 juvenile, Koodaideri, 79.4 km ESS of Wittenoom, 22°31′31″S, 119°02′50″E, 13 August 2010, ex burrow, P. Runham (WAM T113799); 1 ♀, Koodaideri, 117.3 km of NW of Newman, 22°31′59″S, 119°00′55″E, 20 August 2010, dug from burrow, D. Kamien (WAM T107953); 1 ♀, Koodaideri, 120.2 km NW of Newman, 22°29′42″S, 119°01′20″E, 23 April 2010, dug from burrow, J. Alexander (WAM T107970); 1 juvenile, South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E, 16 April 2011, dug from burrow, R. Teale, M. Greenham (WAM T113584); 1 juvenile, South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E, 16 April 2011, dug from burrow, R. Teale, M. Greenham (WAM T113585); 1 juvenile, South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E, 16 April 2011, dug from burrow, R. Teale, M.

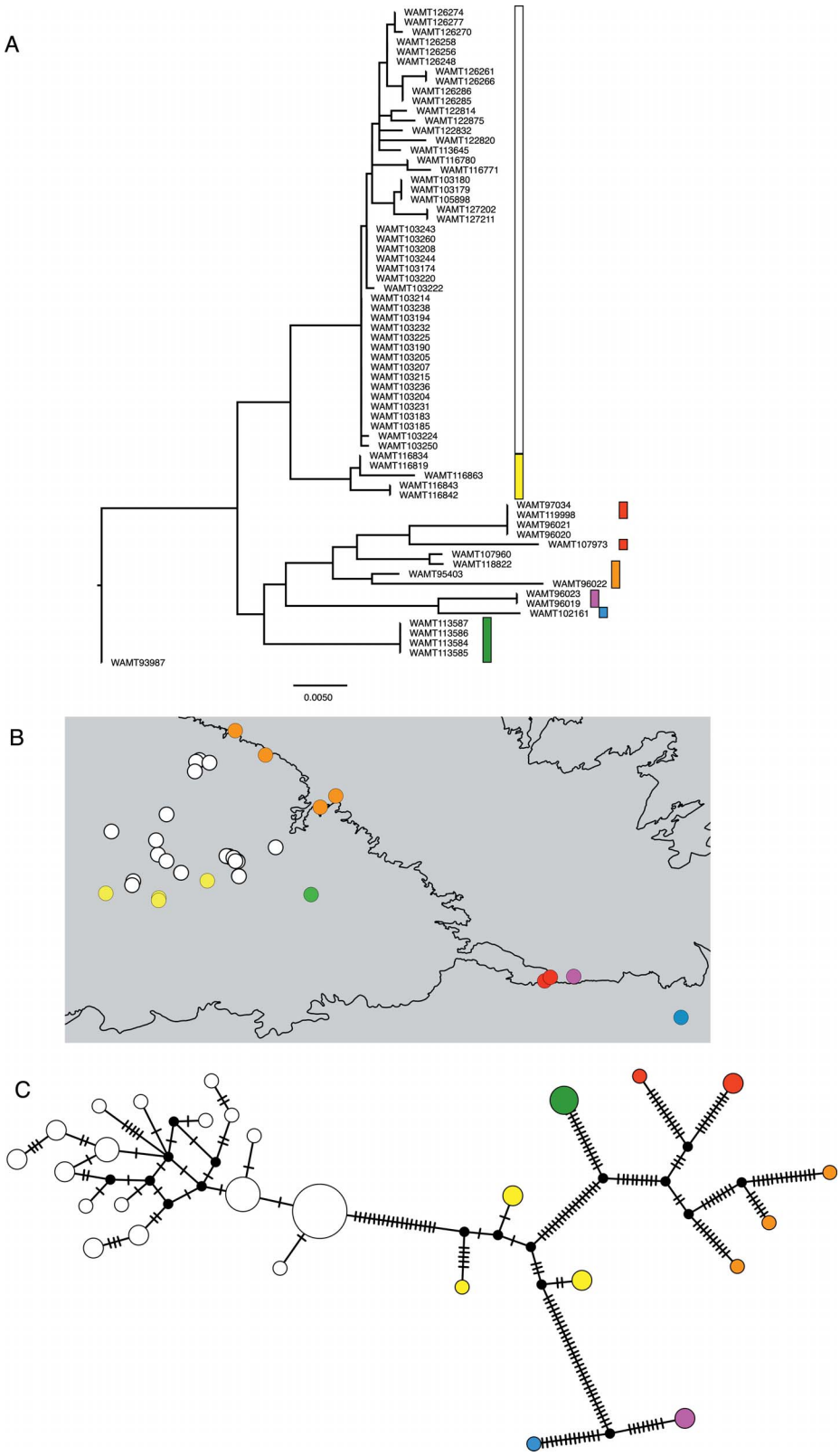
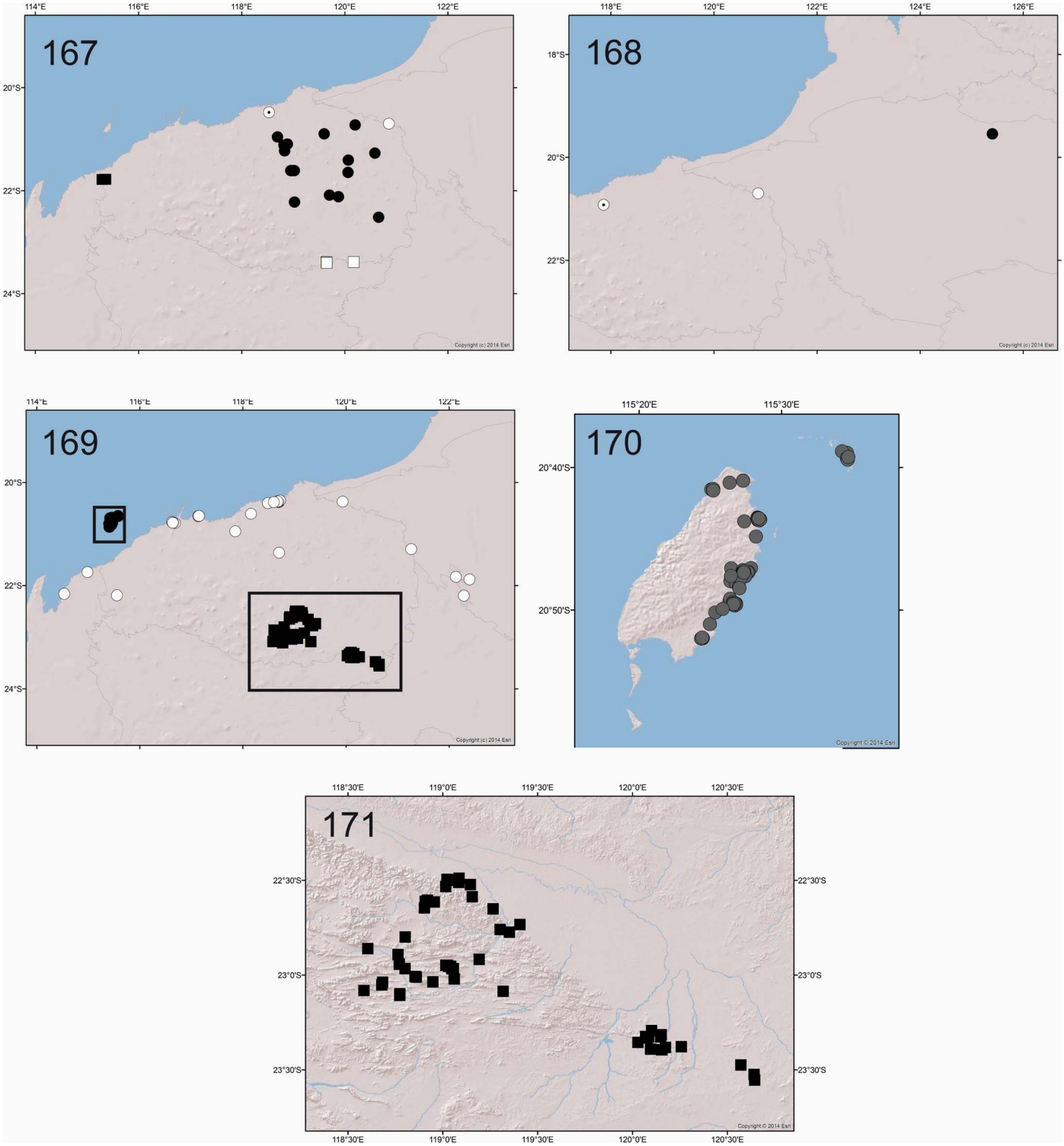


Figure 166.—*Aname whitei* sp. nov.: A. RAxML phylogeny excised from Fig. 7 (refer to scale bar for comparison between trees); B. Map of the south-eastern Pilbara showing locations of specimens assigned to distinct haplo-groups; C. TCS network showing haplotype diversity and relationships, with colors highlighting geographically and genetically distinct groups. Cross bars and small black circles represent extinct or unsampled haplotypes.



Figures 167–171.—Known distribution records of the *Aname* species treated in this paper: 167, *A. baileyorum* sp. nov. (●), *A. mcalpinei* sp. nov. (⊙), *A. nitidimarina* sp. nov. (○), *A. vernonorum* sp. nov. (■) and *A. watsoni* sp. nov. (□); 168, *A. frostorum* sp. nov. (⊙), *A. grothi* sp. nov. (●) and *A. munyardae* sp. nov. (○); 169, *A. lorica* sp. nov. (●), *A. sinuata* sp. nov. (○) and *A. whitei* sp. nov. (■); 170, detailed map showing distribution of *A. lorica* sp. nov. on Barrow and Varanus Islands; 171, detailed map showing distribution of *A. whitei* sp. nov. in the Hamersley Range.

Greenham (WAM T113586); 1 juvenile, South Parmelia, 52 km NW of Newman, 23°05′09″S, 119°19′06″E, 16 April 2011, dug from burrow, R. Teale, M. Greenham (WAM T113587); 1 juvenile, 113.3 km NW of Newman, 22°47′57.18″S, 118°48′05.35″E, 28 May 2011, dug from burrow, M. Greenham, R. Teale (WAM T113645); 1 juvenile, Marillana, 92.6 km NW of Newman, 22°39′03″S, 119°15′53″E, 18 June 2007, dug from burrow, M. Greenham, Z. Hamilton (WAM T116555); 1 juvenile, Mudlark, 113 km W of Newman, 23°02′17″S, 118°40′57″E, 1 July 2011, dug from burrow, M. Greenham, J. Cairnes (WAM T116771); 1 juvenile, Mudlark, 111 km W of Newman, 23°03′08″S, 118°40′42″E, 1 July 2011, dug from burrow, M. Greenham, J. Cairnes (WAM T116780); 1 juvenile, Mudlark, 102 km W of Newman, 23°05′53″S, 118°46′26″E, 3 July 2011, dug from burrow, M. Greenham, J. Cairnes (WAM T116819); 1 juvenile, Mudlark, 102 km W of Newman, 23°06′24″S, 118°46′23″E, 3 July 2011, dug from burrow, M. Greenham, J. Cairnes (WAM T116834); 1 juvenile, Mudlark, 88 km WNW of Newman, 23°02′11″S, 118°56′50″E, 4 July 2011, dug from burrow, C. Cole, N. Watson (WAM T116842); 1 juvenile, Mudlark, 88 km WNW of Newman, 23°02′11″S, 118°56′50″E, 4 July 2011, dug from burrow, C. Cole, N. Watson (WAM T116843); 1 juvenile, Mudlark, 121 km W of Newman, 23°04′53″S, 118°35′03″E, 6 July 2011, dug from burrow, C. Cole, N. Watson (WAM T116863); 1 juvenile, Koodaideri, 118 km NW of Newman, 22°30′00″S, 119°02′50″E, 15 October 2011, dug from burrow, sandy spinifex, M. Greenham, D. Kamien (WAM T118822); 1 juvenile, 74.6 km NW of Newman, 22°46′25″S, 119°21′04″E, 29 July 2011, dug from burrow, D. Kamien, M. Greenham, Z. Hamilton (WAM T119998); 1 juvenile, 78.2 km NW of Newman, 23°01′11″S, 119°03′36″E, 4 November 2011, dug from burrow, M. Greenham, R. Teale (WAM T127202); 1 juvenile, 78.2 km NW of Newman, 23°01′14″S, 119°03′37″E, 4 November 2011, dug from burrow, M. Greenham, R. Teale (WAM T127211); 1 juvenile, 111.4 km NW of Newman, 22°31′21″S, 119°08′44″E, 1 August 2011, dug from burrow, D. Kamien, M. Greenham, Z, Hamilton (WAM T120020); 1 juvenile, 108.6 km NW of Newman, 22°56′34″S, 118°46′14″E, 28 March 2012, dug from burrow, Mulga woodland, C. Cole (WAM T122814); 1 juvenile, 111.6 km NW of Newman, 22°53′30″S, 118°45′50″E, 29 March 2012, dug from burrow, Mulga woodland, N. Watson, P. Brooshooft (WAM T122820); 1 juvenile, 127.3 km NW of Newman, 22°51′37″S, 118°36′16″E, 29 March 2012, dug from burrow, Mulga woodland, N. Watson (WAM T122832); 1 juvenile, 104 km NW of Newman, 22°57′57″S, 118°48′04″E, 2 April 2012, dug from burrow, Mulga woodland, N. Watson (WAM T122875); 1 juvenile, 118.2 km NW of Newman, 22°36′19″S, 118°55′05″E, 17 November 2011, M. Greenham, Z. Hamilton (WAM T126248); 1 juvenile, 118.2 km NW of Newman, 22°36′19″S, 118°55′09″E, 19 November 2011, M. Greenham, Z. Hamilton (WAM T126256); 1 juvenile, 118.2 km NW of Newman, 22°36′19″S, 118°55′09″E, 17 November 2011, M. Greenham, Z. Hamilton (WAM T126258); 1 juvenile, 118.3 km NW of Newman, 22°36′40″S, 118°54′26″E, 18 November 2011, M. Greenham, Z. Hamilton (WAM T126261); 1 juvenile, 118.3 km NW of Newman, 22°36′40″S, 118°54′26″E, 18 November 2011, M. Greenham, Z. Hamilton (WAM T126266); 1 ♀, 114 km NW of Newman, 22°36′52″S, 118°57′18″E, 21 November 2011, M. Greenham, Z. Hamilton (WAM T126270); 1 juvenile, 114 km NW of Newman, 22°36′52″S, 118°57′18″E, 21 November 2011, M. Greenham, Z. Hamilton (WAM T126274); 1 juvenile, 114 km NW of Newman, 22°36′52″S, 118°57′18″E, 21 November 2011, M. Greenham, Z. Hamilton (WAM T126277); 1 juvenile, 116.4 km NW of Newman, 22°38′44″S, 118°54′10″E, 18 November 2011, M. Greenham, Z. Hamilton (WAM T126285); 1 ♀, 116.4 km NW of Newman, 22°38′44″S, 118°54′10″E, 18 November 2011, M. Greenham, Z. Hamilton (WAM T126286); 1 juvenile, Orebody 17, ca. 34 km ENS of Newman, 23°19′28.1″S, 120°04′09.27″E, 27 August–6 September 2013, burrow excavation, S. Callan (WAM T131376); 1 juvenile, Orebody 31, ca. 41 km ENS of Newman, 23°17′34.6″S, 120°06′02.34″E, 27 August–6 September 2013, burrow excavation, S. Callan (WAM T131377); 1 juvenile, Orebody 31, ca. 41 km ENS of Newman, 23°18′54.66″S, 120°09′05.06″E, 27 August–6 September 2013, burrow excavation, S. Callan (WAM T131390).

Etymology.—This species is named for Stephen White of BHP Billiton Iron Ore in recognition of his support for this project.

Diagnosis.—Males of *A. whitei* differ from all other species of *Aname* by the thickened and flattened embolus (Figs. 154–156). Females differ by the shape of the spermathecae which have a bulbous basal section and long, laterally-directed lobes (Figs. 164, 165).

Description (male holotype).—Large anamid spider, total body length 23.80.

Color (in alcohol): Carapace anterior orange-brown fading to yellow-brown posteriorly; leg I red-brown, legs II to IV uniformly yellow-brown; chelicerae uniformly dark red-brown; abdomen dorsally grey-brown, and ventrally grey-brown.

Cephalothorax: Carapace (Fig. 148): 8.93 long, 8.27 wide, 1.08 × longer than broad, sparse fine setae, very slender silver setae sparsely present; without dorsal bristles, clypeal edge: protruding medially, with 6 bristles, and 13 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row slightly recurved; AME larger than ALE; AME largest; PME smallest; eye group 0.90 long, 1.60 wide; eye diameters: AME 0.35, ALE 0.46, PME 0.19, PLE 0.40; separation: AME-ALE 0.11, PME-PLE 0.04, ALE-PLE 0.14, AME-PME 0.10, AME-AME 0.93, PME-PME 1.60. Chelicerae with 3 well-defined strips of brown bristles and with fine white setae; rastellum absent; promargin with 13 teeth, retromargin with 0 teeth. Labium: fused to sternum; without cuspules. Maxillae (Fig. 150): with ca. 115 cuspules; located on the basal third. Sternum (Fig. 149): 4.18 long, 4.08 wide; 1.02 × longer than broad; oval in shape, posteriorly pointed; with setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elongate and slightly curved; anterior pair located near edge of sternum.

Pedipalp (Figs. 152–156): Measurements: femur 5.42, patella 3.20, tibia 3.82, tarsus 2.40. Spines: femur d2 p1; patella p2; tibia p5 v2; tibia without patch of short retrolateral spines; tarsus densely setose; bulb ovoid; embolus shorter than bulb, terminally pointed. Tibia: asetose depression present, about the length of embolus; PDL/PTL 0.51.

Legs: Leg formula 4123. Tibia I with large megaspur (Figs. 158, 159); TIL/TID 4.24; TIS/TIL 0.59; TISH/TID 0.75; metatarsus slightly incrassate; MIL/MID 5.08; MIPEL/MIL 0.42. Coxal cuspules absent; scopula present on all tarsi, and on metatarsi I and II; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 8.19, patella 4.92, tibia 6.74, metatarsus 6.42, tarsus 4.10, total 30.37. Leg II: femur 7.71, patella 4.48, tibia 6.30, metatarsus 6.42, tarsus 4.02, total 28.93. Leg III: femur 6.88, patella 4.02, tibia 5.03, metatarsus 6.00, tarsus 3.73, total 25.66. Leg IV: femur 8.59, patella 4.40, tibia 7.73, metatarsus 7.88, tarsus 4.07, total 32.67. Spination: Leg I: femur d6, p3, patella p2, tibia p1, metatarsus p2, tarsus 0; II: femur p3, d4, patella p2, tibia p4, d4, v2, metatarsus p3, tarsus 0; III: femur p4, d3, v5, patella v1, tibia 9, metatarsus 18, tarsus 0; IV: femur p2, d4, v3, patella p1, tibia 14, scattered, metatarsus 21, tarsus 0.

Abdomen: 9.48 long, 6.15 wide, 1.54 × longer than broad; densely pilose with bristles (Fig. 151); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Variation: $n = 9$; carapace 8.62–11.10 long, 6.86–8.90 wide; femur I 7.08–8.35; metatarsus I 5.79–7.40; femur IV 7.22–9.49.

Description (female paratype, WAM T96019).—Large anamid spider, total body length 23.50.

Color (in alcohol): Carapace uniformly yellow-brown; legs uniformly yellow-brown; chelicerae yellow-brown; abdomen dorsally grey-brown, and ventrally grey-brown.

Cephalothorax: Carapace (Fig. 160): 10.20 long, 8.60 wide, 1.19 × longer than broad, sparse fine setae, very slender silver setae absent; without dorsal bristles, clypeal edge: protruding medially, with 6 bristles, and 6 on anterior face of eye tubercle; fovea slightly procurved. Eyes: from above, anterior eye row slightly procurved, posterior eye row recurved; AME larger than ALE; ALE and AME the largest; PME smallest; eye group 0.90 long, 1.80 wide; eye diameters: AME 0.45, ALE 0.47, PME 0.14, PLE 0.28; separation: AME-ALE 0.10, PME-PLE 0.04, ALE-PLE 0.11, AME-PME 0.12, AME-AME 1.00, PME-PME 1.16. Chelicerae with 3 well-defined strips of brown bristles; rastellum absent; promargin with 11 teeth, retromargin with 4 teeth. Labium: fused to sternum; with 2 cuspules. Maxillae (Fig. 162): with ca. 190 cuspules; located on basal half. Sternum (Fig. 161): 5.41 long, 4.42 wide; 1.22 × longer than broad; oval in shape, posteriorly pointed; with bristles on posterior margin, with setae covering entire surface; with 3 pairs of sigilla, each pair increasing in size from anterior to posterior; posterior pair elongate and slightly curved or anterior pair located near edge of sternum.

Pedipalp: Spines: femur 1 apico-prolateral; patella p1; tibia with many, scattered; tarsus p2, r2; tarsus densely setose. Claw present, without teeth.

Legs: Leg formula 4123. Coxa I with 22 cuspules. Scopula present on all tarsi, present on metatarsi I and II, present on distal half of metatarsi III and IV; trichobothria: tibia with numerous trichobothria in 2 rows, metatarsi with several trichobothria, tarsi with numerous trichobothria; claws: with 2 rows of teeth, claw tufts absent. Measurements: Leg I: femur 8.11, patella 4.62, tibia 5.80, metatarsus 5.68, tarsus 3.63, total 27.84. Leg II: femur 7.19, patella 4.51, tibia 4.95, metatarsus 5.41, tarsus 2.48, total 24.54. Leg III: femur 6.55, patella 4.00, tibia 4.04, metatarsus 5.88, tarsus 3.47, total 23.94. Leg IV: femur 8.65, patella 4.50, tibia 6.32, metatarsus 7.52, tarsus 3.60, total 30.59. Spination: Leg I: femur d1, p1, patella p2, tibia p2, v2, metatarsus v2, tarsus 0; II: femur d1, p4, patella p3, tibia p1, v9, metatarsus p1, v3, r3, tarsus 0; III: femur p1, v3, r4, patella p3, r1, tibia 10, metatarsus 18, tarsus 0; IV: femur d1, patella p1, r1, tibia 9, metatarsus 21, tarsus 0.

Abdomen: 13.00 long, 9.20 wide, 1.41 × longer than broad; densely pilose with bristles (Fig. 163); two pairs of spinnerets; PMS unsegmented and separated by about diameter of spinneret; PLS 3-segmented, apical segment elongate, digitiform.

Epigastric region: Single pair of spermathecae with bulbous basal section and long, laterally-directed lobes (Figs. 164, 165).

Variation: $n = 7$; carapace 9.55–11.80 long, 7.96–9.35 wide; femur I 7.30–8.52; metatarsus I 5.20–5.88; femur IV 7.65–9.16.

Distribution.—*Aname whitei* is distributed throughout the south-eastern Pilbara and adjacent Gascoyne IBRA bioregions of Western Australia, where it has been frequently collected in the eastern Hamersley Range south of the Fortescue River (Figs. 169, 171).

Remarks.—Adult males have been collected in February, April and August, with most from pitfall traps. One adult male was collected from a burrow.

Sequence data.—DNA sequence data were successfully obtained from 67 specimens (Table 2). The haplotype network for *COI* data revealed a complex pattern of genetic structure, with many divergent populations extending to the ESE of the species distribution, and divergent haplotypes surrounding a single, diverse haplo-group in the western half of the species distribution (Fig. 166). This species was included in a molecular phylogenetic analysis as *A.* 'MYG004′ (Castalanelli et al. 2014).

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