First report of bilateral gynandromorphism in the Australian ant, *Dolichoderus scrobiculatus* (Mayr, 1876) (Hymenoptera: Formicidae)

Liam R. FALLS

Waterford, Queensland, Australia, 4133.
lfal5325@uni.sydney.edu.au

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ABSTRACT

Gynandromorphism is a rare developmental phenomenon producing genetically chimeric individuals expressing both male and female phenotypes simultaneously. Here, I describe the morphological anomalies arising from a case of bilateral worker-male gynandromorphism in a specimen of the Australian ant *Dolichoderus scrobiculatus* (Mayr, 1876) collected during a pitfall survey of native ant fauna. The specimen exhibits a pronounced bilateral mosaic distribution of morphological sex characters along the longitudinal body axis where male traits are explicitly restricted to the specimen's left side (although some female characters are also present). No male morphology is externally apparent on its right side. Potential implications of gynandromorphism in relation to colony-level social interaction and individual behaviour within the genus *Dolichoderus* are also briefly discussed. This record contributes to the limited reports of gynandromorphism in the Formicidae and for the genus *Dolichoderus*.

Historically perceived as 'veritable entomological nightmares' and 'monstrosities' (Creighton 1928, Wheeler 1937), gynandromorphs are organisms that simultaneously display both male and female characters (Wheeler 1937, Donisthorpe 1929). Gynandromorphism is a rare process arising from defects during embryonic or post-embryonic development (Mariano et al. 2022). True gynandromorphs are genetically chimeric individuals exhibiting male–female phenotypes in a bilateral or patchwork mosaic, whereas intercastes and intersexes are genetically uniform individuals expressing, respectively, caste phenotypes that are intermediate between or opposite to those expected for their genetic sex, or intermediate sexual phenotypes (Heinze & Trenkle 1997, Pereira et al. 2010, Yang & Abouheif 2011, but see Fusco & Minelli 2023). In social Hymenoptera, gynandromorphs can involve combinations between males and the various castes of females (workers, soldiers and gynes) (Mariano et al. 2022). Gynandromorphism has now been reported for approximately 82 ant species from 37 genera in 6 subfamilies (Table 1 in Supplementary material).

Contemporary researchers may consider Formicidae exhibiting such somatic developmental abnormalities as opportunistic model systems. They can help better understand modularity, evolvability, phenotypic variability, sex and caste determination, morphophysiology, intraspecific trait variability, nestmate recognition, and their astounding tolerance for developmental instability (Pereira et al. 2010, Yang & Abouheif 2011, Mariano et al. 2022).

Gynandromorphic ants have, for the last two centuries, been infrequently encountered and are not often formally described. This occurs despite being easier to detect, arising from the pronounced nature of sexual dimorphism in social insects (Yang & Abouheif 2011) and phenotypical plasticity and morphological caste differentiation characters of ants (Mariano et al. 2022). Collections are likely depauperate of gynandromorphs due to probable high intrinsic mortality of individuals, social expulsions from nests resulting from low perceived (or actual) reproductive fitness (Mariano et al. 2022), and their low frequency within natural populations (Skvarla & Dowling 2014, but see Donisthorpe 1946, Weber 1937, Kinomura & Yamauchi 1994). However, Berndt & Kremer (1982) experimentally induced multiple forms of gynandromorphism in laboratory colonies of *Monomorium pharaonis* (Linnaeus, 1758) by heat-shocking larvae during development, proving that the condition can be artificially created. Detailed mechanisms of gynandromorphic development within the Formicidae are described in Mariano et al. (2022), Yang & Abouheif (2011) and references therein.

Dolichoderus scrobiculatus (Mayr, 1876) is an endemic Australian species of the subfamily Dolichoderinae and the subgenus *Hypoclinea* Mayr, 1855, with widespread distribution along the eastern coast. It is known from as far north as the Cape York Peninsula and south to north-eastern New South Wales (Shattuck & Marsden 2013), with a record from the Arnhem escarpment of Kakadu National Park in the Northern Territory (Andersen et al. 2018). Shattuck & Marsden (2013) note that the species nests in tussocks and under rocks, can be found in savannah woodlands to rainforests and harvests honeydew from aphids and other Hemiptera, with low vegetation being the predominant foraging strata of workers. The ant has been implicated in ant-butterfly mutualisms, recorded tending to the larvae of *Theclinesthes miskini* (Lucas, 1889), *Lampides boeticus* (Linnaeus, 1767) (Eastwood & Fraser 1999, Eastwood et al. 2008) and a late instar larva of *Nesolycaena medicea* Braby (Braby, 2012) (all Lepidoptera: Lycaenidae).

This paper describes morphological anomalies arising from a case of gynandromorphism in a specimen of the Australian ant *D. scrobiculatus*, identifies other reported cases of developmental anomalies within the genus *Dolichoderus*, and summarises reported and potential behavioural outcomes of such a phenomena within *Dolichoderus*.

MATERIALS AND METHODS

Terminology for describing the specimen

Following contemporary terminology proposed by Mariano et al. (2022), the specimen described and photographed here is best described as a bilateral worker-male gynandromorph. For brevity, however, I adopt the terminology of Campos et al. (2011) and refer to this specimen as an 'ergatandromorph' (worker-male morph). Subsequently, I also employ the term 'morphotypical' to describe morphological characters normally present in the sterile female (worker) caste of *D. scrobiculatus* but clearly modified in the unique ergatandromorphic individual presented here.

Taxonomic identification of specimen

Despite its pronounced morphological disparities from a morphotypical female, this specimen is still readily identifiable as *D. scrobiculatus* using Shattuck's (1999) genus-level keys and Shattuck & Marsden's (2013) species-level keys, provided the morphotypical female side is considered.

Collection and preparation of specimens

The ergatandromorphic specimen of *D. scrobiculatus* was collected in a soil-surface interface pitfall trap during a field survey at Wyaralong, Queensland, Australia (27.940 °S, 152.861 °E) (Fig 1) between 26 September and 3 October 2025. The site was characterised by sclerophyll forest dominated by ironbark *Eucalyptus* spp. (Myrtaceae), weedy foliage such as Billygoat weed (*Ageratum houstonianum* Miller) (Asteraceae) and sandy soils (Bruce Tiumalu pers. comm.). Thirteen morphotypical *D. scrobiculatus* were collected on nearby surveying sites (one of which was prepared and photographed, Figs. 2B, D & F) prior to collecting the ergatandromorph. This specimen was the only *D. scrobiculatus* represented in the trap where it was collected.

The specimen was discovered on 11 November 2025 following pitfall processing procedures. It was then bathed in 98% denatured ethanol (2% isopropyl alcohol) for approximately five minutes to remove propylene glycol (used as pitfall preservative fluid) and external debris. It was then point-mounted for photography and long-term storage. The comparative *D. scrobiculatus* specimen (Figs. 2B, D & F) was later prepared in the same manner. Both specimens are held in the author's personal collection.

Imaging of specimens and site location

All specimen images (Figs. 2–4) were captured using a Nikon SMZ25 stereomicroscope fitted with a Nikon SHR Plan Apo 1x objective lens, an integrated digital camera, and a Nikon C-FIDH dual-arm LED lighting module. Images were taken using NIS-Elements software (version 5.02.03, Build 1273) and were post-processed using the GNU Image Manipulation Program (GIMP) (version 3.0.6) to enhance the visual clarity of morphological details. The site collection maps (Fig 1) were made with ArcGIS Pro (version 3.1.6).

Figure 1. Two maps of Wyaralong, Queensland, Australia with small white dots representing the approximate location of the pitfall trap (27.940 °S, 152.861 °E) that collected the gynandromorphic *Dolichoderus scrobiculatus* specimen presented in this paper. Site maps courtesy of Vivian Sandoval.

RESULTS

Description of *D. scrobiculatus* ergatandromorph

The specimen exhibits a mosaic distribution of morphological sex characters along the longitudinal body axis (Figs. 2A, C & E). Male traits are explicitly restricted to the left side (though some female characters are also present), while no male morphology is externally apparent on the right side. Here, I describe the externally visible morphological abnormalities for each major body tagma.

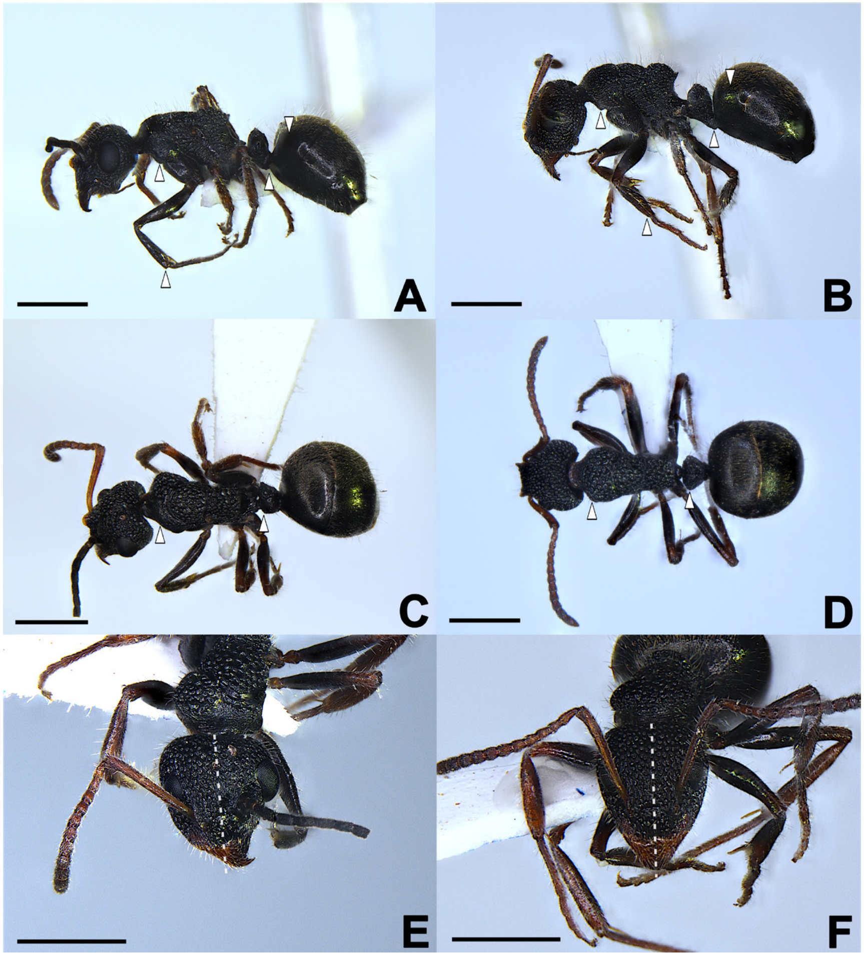

Figure 2. Ergatandromorphic *Dolichoderus scrobiculatus* shown in profile **(A)**, dorsal **(C)**, and full-face **(E)** views. Morphotypical female worker of *D. scrobiculatus* (B, D, F) shown in profile **(B)**, dorsal **(D)**, and full-face **(F)** views. White arrows on A, B, C and D indicate regions with subtle morphological changes resulting from differing sexual phenotypic expression. Dotted lines on E and F mark the midline of the head. Scale bars = 1 mm.

Head: The specimen displays morphotypical female characters on the right side of the head, while the left side displays male characters (Figs. 2E, 3). Compared with the female side, the male side shows a distinctly larger eye, a reduced and darker mandible, a lateral (on the right side) and medial ocellus typical of the male caste, and male antennal morphology (although funicular segments beyond the seventh distal from the scape had been damaged and lost). Overall, the head morphology on the left side approximates that of a male.

Notably, the lateral ocellus on the right side did not develop, vestigial or otherwise. This is expected, as workers in this genus lack this feature, and the right side of the head is morphologically female in this specimen. This emphasises the strict bilateral nature of cephalic gynandromorphic development observed here.

The general head deformity and asymmetry of the anterolateral clypeal margin and mandible appear to have distorted the positioning of the right mandible, with the masticatory margin exceeding the typical perpendicular angle relative to the anteromedial clypeal margin at rest (see Fig. 2E–F). This may also result from the absence of a reciprocal, equivalently sized mandible on the left side, which under normal conditions could physically limit mandibular over-closure.

Alitrunk/mesosoma: The left-side pronotum exhibits male development, with a noticeable reduction in the size and anterolateral development of the pronotal shoulder and a shallower depth of surface fovea compared with the right (Fig. 2C–D). The foreleg on the right side also appears morphologically male and lacks the distinctive red colouration prominent on the morphotypical trochanter, distal femur, tibia and tarsal segments. On the right side of the mesonotum, a wing scar is present (Fig. 4), although it is unclear whether the wing was removed, damaged, or failed to develop entirely.

Petiole: The left side of the petiole exhibits abnormal development, lacking the distinct anterolateral expansion visible in dorsal view (compare Fig. 2C to D). It also lacks the typical posteroventral development of the sub-petiole (compare Fig. 2A to B). These left-sided differences presumably reflect the expression of male morphology in this region.

Gaster: Overall, the gaster appears predominantly female. However, the left anterolateral surface of the first gastral tergite lacks dense pubescence and erect hairs, presenting as a 'bald patch' that exposes the underlying surface sculpturing (Fig. 2A). It remains unclear whether this feature corresponds to male morphology or is present in some morphotypical specimens of the species.

DISCUSSION

This paper documents a rare developmental anomaly in a specimen of the Australian ant species *Dolichoderus scrobiculatus* through a case of bilateral male–worker gynandromorphism and characterises the resulting morphological asymmetries along the lateral body axis. To my knowledge, this represents

Figure 3. Close-up of the head of an ergatandromorphic *Dolichoderus scrobiculatus*, oriented to show the mandibular masticatory margin near-vertical, highlighting the asymmetry between the female (left side of image) and male (right side of image) mandible. Prominent lateral and medial ocelli are indicated by white arrows. Notably, the lateral ocellus on the female side of the specimen (left side of image) is absent. Scale bar = 0.5 mm.

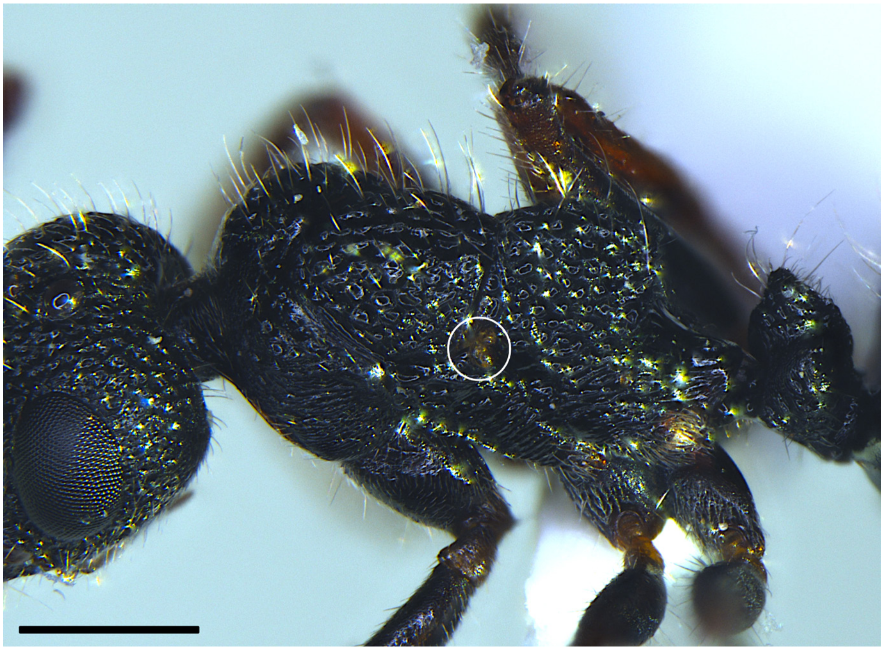

Figure 4. Close-up photograph of an ergatandromorphic *Dolichoderus scrobiculatus*, with a wing scar marked with a white circle. Scale bar = 0.5 mm.

the first published account of ergatandromorphism in this species. For other species of this genus, Torossian (1974) reported an ergatandromorph of the Palearctic *Dolichoderus quadripunctatus* (Linnaeus, 1771), Mariano et al. (2022) described other teratological defects observed in a male of the Neotropical *Dolichoderus attelaboides* (Fabricius, 1775), and Tripathy et al. (2026) reported an intercaste individual of the Palearctic *Dolichoderus taprobanae* (Smith, F., 1858).

Another novel aspect to consider regarding gynandromorphic ants is behavioural data, which remains scarce. Most published accounts of gynandromorphism in the Formicidae have focused on documenting aberrant morphological characters, leaving the potential effects on colony function and individual behaviour largely unexplored. Unfortunately, the behavioural implications of bilateral male-worker gynandromorphism cannot be reliably determined as the *D. scrobiculatus* individual documented is deceased and was not observed while alive. However, because the specimen was recovered from a pitfall trap, which are used to capture surface-active invertebrates (New 1998), it is plausible that prior to entrapment the individual was engaged in foraging behaviour or was expelled from its natal colony by nestmates.

In other ant species, it has been observed that gynandromorphs can be functional members of their colonies, lending speculative support that foraging behaviour might have occurred here (Wheeler 1937, Donisthorpe 1946, Pearson & Child 1980, Kinomura & Yamauchi 1994, Heinze & Trenkle 1997, Yoshizawa et al. 2008, Yang & Abouheif 2011, Chiyoda et al. 2023). Dissecting the gaster and analysing the gut contents of the ergatandromorphic specimen could have helped to demonstrate effective foraging behaviour or trophallactic exchanges between nestmates, however, this was not performed to refrain from physically damaging what is a morphologically unique specimen. Conversely, the idea of colony expulsion is also plausible, as Mariano et al. (2017) and Mariano et al. (2022) documented gynandromorphic individuals collected from the surrounds of their nests, hypothesising that their frequent out-of-nest occurrence is driven by colony expulsion resulting from nestmate recognition of reduced reproductive fitness. It is possible that, following an expulsion event, the ergatandromorphic *D. scrobiculatus* specimen dispersed some distance from its nest before encountering the pitfall trap. This scenario is consistent with the absence of other *D. scrobiculatus* in the same trap, a contrast to earlier surveys on nearby sites in which this species was commonly collected in multiples (Falls, unpubl. data).

Relevant to the individual presented here, Mariano et al. (2022) raised the question of how bilateral gynandromorphs process sensory information received by their strongly dimorphic antennal structures and sex-specific receptors. As one of the primary sensory organs of the head, antennae mediate communication, behavioural and physiological responses; in males, detection of chemical signals via the antennae underlies attraction to females (Mariano et al. 2022). For an ergatandromorphic specimen of *Dolichoderus quadripunctatus*, Torrosian (1974) observed a 'significantly simplified antennal ritual', which appeared to inhibit stomodeal and proctodeal trophallactic exchanges from nestmates. Torrosian further notes that, via its own attitude, the individual '[fled] from his fellow creatures most of the time' (in this context, 'his' was used to describe an individual that was not uniformly genetically male). This behaviour seemingly resulted in a form of self-mediated passive social exclusion that was not explicitly enforced by nestmates, differing from the active social expulsion described in Mariano et al. (2017) and Mariano et al. (2022).

It remains important to document these rare occurrences of gynandromorphism as they may provide a meaningfully useful model for understanding developmental, morphological, social, physiological and evolutionary processes of social insects including ants. If for no other reason, these fortuitously collected 'veritable entomological nightmares' continue to fascinate and captivate myrmecologists, as they have for nearly two centuries.

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SUPPLEMENTARY MATERIAL

Table 1: List of published and recorded accounts of gynandromorphic Formicidae. The first column lists species as they were reported at the time of publication, with the second column amending for contemporary taxonomic classification. The third column lists the condition of the specimen(s) as reported by their respective authors. In the Supplementary material of Mariano et al. (2022), a more comprehensive table is provided, including additional records of anomalous teratology in the Formicidae. '†' indicates a species from the fossil record.

Reported species	Senior synonym	Reported condition(s)	Reference(s)
Acromyrmex octospinosus	*Acromyrmex octospinosus* (Reich, 1793)	Gynandromorph	Wheeler (1937)
Amblyopone australis	*Amblyopone australis* Erichson, 1842	Gynandromorph	Haskins (1951)
Anergates atratulus	*Tetramorium atratulum* (Schenck, 1852)	Gynandromorph	Described by Adlerz in Donisthorpe (1929)
Azteca instabilis	*Azteca instabilis* (Smith, F. 1862)	Gynandromorph	Described by Forel in Wheeler (1903)
Bothriomyrmex communista	*Bothriomyrmex communista* Santschi, 1919	Gynandromorph	Described by Karawajew in Donisthorpe (1929)
Camponotus (Colobopsis) albocinctus	*Camponotus albocinctus* (Ashmead, 1905)	Dinergatandromorph	Wheeler (1919)
Camponotus ligniperdus	*Camponotus ligniperda* (Latreille, 1802)	Gynandromorph	Described by Klapálek in Wheeler (1903)
Camponotus yamaokai	*Camponotus yamaokai* Terayama & Satoh, 1990	Ergatandromorph	Chiyoda et al. (2023)
Cardiocondyla batesi Forel var. *nigra* Forel	*Cardiocondyla nigra* Forel, 1905	Gynandromorph	Wheeler (1914); described by Santschi in Donisthorpe (1929)
Cardiocondyla emeryi	*Cardiocondyla emeryi Forel, 1881*	Gynandromorph	Heinze & Trenkle (1997)
Cardiocondyla kagutsuchi	*Cardiocondyla kagutsuchi* Terayama, 1999	Gynandromorph, ergatandromorph	Yoshizawa et al. (2008)
Cardiocondyla minutior	*Cardiocondyla minutior* Forel, 1899	Gynandromorph	Wheeler (1931)
Cardiocondyla wroughtonii var. *hawaiiensis*	*Cardiocondyla wroughtonii* (Forel, 1890)	Gynandromorph	Wheeler (1931)
Cataglyphis albicans	*Cataglyphis albicans* (Roger, 1859)	Gynandromorph	Described by Santschi in Donisthorpe (1929); Wheeler (1931)
Cataglyphis sp.	*Cataglyphis* sp. Foerster, 1850	Gynandromorph	AntWiki.org (2026)
Cephalotes atratus quadridens	*Cephalotes atratus* (Linnaeus, 1758)	Gynandromorph	Wheeler (1937)
Diacamma sp.	*Diacamma* sp. Mayr, 1862	Gynandromorph	Dobata et al. (2011)
Dinoponera quadriceps	*Dinoponera quadriceps* Kempf, 1971	Harlequin gynandromorph	Mariano et al. (2022)
Dolichoderus scrobiculatus	*Dolichoderus scrobiculatus* (Mayr, 1876)	Ergatandromorph	Current study
Ectatomma tuberculatum	*Ectatomma tuberculatum* (Olivier, 1792)	Harlequin gynandromorph	Mariano et al. (2022)
Epipheidole inquilina	*Pheidole inquilina* (Wheeler, W.M., 1903)	Gynandromorph	Wheeler (1903)
Formica exsecta	*Formica exsecta* Nylander, 1846	Gynandromorph	Described by Forel in Wheeler (1903)
Formica lugubris	*Formica lugubris* Zetterstedt, 1838	Gynandromorph	Jan Ove et al. (2016)

Reported species	Senior synonym	Reported condition(s)	Reference(s)
Formica microgyna	*Formica microgyna* Wheeler, W.M., 1903	Gynandromorph	Wheeler (1903)
Formica nitidiventris	*Formica pallidefulva* Latreille, 1802	Ergatandromorph	Creighton (1928)
Formica rufa	*Formica rufa* Linnaeus, 1761	Gynandromorph	Forbes (1954)
Formica rufibarbis	*Formica rufibarbis* Fabricius, 1793	Gynandromorph	Described by Forel in Wheeler (1903)
Formica sanguinea	*Formica sanguinea* Latreille, 1798	Ergatandromorph, gynandromorph	Described by Tischbein & Klug in Wheeler (1903)
Formica truncicola	*Formica truncorum* Fabricius, 1804	Gynandromorph	Described by Forel in Wheeler (1903)
Gnamptogenys sp. (male)	*Gnamptogenys* sp.	Harlequin gynandromorph	Mariano et al. (2022)
Harpagoxenus sublaevis	*Harpagoxenus sublaevis* (Nylander, 1849)	Gynandromorph	Buschinger & Stoewesand (1971)
Iridomyrmex constrictus	† *Yantaromyrmex constrictus* (Mayr, 1868)	Gynandromorph	Wheeler (1914)
Lasius (Acanthomyops) latipes	*Lasius latipes* (Walsh, 1863)	Gynandromorph	Wheeler (1919)
Leptothorax acervorum	*Leptothorax acervorum* (Fabricius, 1793)	Gynandromorph	Buschinger & Stoewesand (1971)
Leptothorax gredleri	*Leptothorax gredleri* Mayr, 1855	Gynandromorph	Buschinger & Stoewesand (1971)
Leptothorax kutteri	*Leptothorax kutteri* Buschinger, 1966	Gynandromorph	Jan Ove et al. (2016)
Leptothorax muscorum	*Leptothorax muscorum* (Nylander, 1846)	Gynandromorph	Buschinger & Stoewesand (1971)
Leptothorax nylanderi	*Temnothorax nylanderi* (Foerster, 1850)	Gynandromorph	Buschinger & Stoewesand (1971)
Leptothorax obturator	*Temnothorax obturator* (Wheeler, W.M., 1903)	Gynandromorph	Wheeler (1903); Donisthorpe (1929)
Leptothorax tuberum	*Temnothorax tuberum* (Fabricius, 1775)	Gynandromorph	Described by Adlerz in Wheeler (1903)
Monomorium floricola	*Monomorium floricola* (Jerdon, 1851)	Gynandromorph, ergatandromorph	Donisthorpe (1929); Campos et al. (2011)
Monomorium pharaonis	*Monomorium pharaonis* (Linnaeus, 1758)	Gynandromorph, gynergatandromorph, ergatandromorph, androgynergatomorph, androergatogynomorph	Berndt & Kremer (1982); Berndt & Kremer (1983); Kremer & Berndt (1986)
Myrmecia gulosa	*Myrmecia gulosa* (Fabricius, 1775)	Ergatandromorph	Crosland et al. (1988)
Myrmecia pavida	*Myrmecia pavida* Clark, 1951	Ergatandromorph	AntWiki.org (2026)
Myrmica laevinodis, Myrmica laevinodis var. *Ruginodo-laevinodus*	*Myrmica rubra* (Linnaeus, 1758)	Gynandromorph	Described by Smith, Cooke & Wasmann in Wheeler (1903); Donisthorpe (1929)
Myrmica lobicornis	*Myrmica lobicornis* Nylander, 1846	Gynandromorph	Described by Meinert in Wheeler (1903)
Myrmica lobulicornis	*Myrmica lobulicornis* Nylander, 1857	Ergatandromorph	Schifani et al. (2020)
Myrmica ruginodis	*Myrmica ruginodis* Nylander, 1846	Gynandromorph	Described by Forel in Wheeler (1903)

Reported species	Senior synonym	Reported condition(s)	Reference(s)
Myrmica rugulosa	*Myrmica rugulosa* Nylander, 1849	Gynandromorph	Donisthorpe (1929); Wheeler (1931)
Myrmica sabuleti	*Myrmica sabuleti* Meinert, 1861	Gynandromorph	Donisthorpe (1946); Scupola (1994)
Myrmica scabrinodis	*Myrmica scabrinodis* Nylander, 1846	Ergatandromorph, gynandromorph	Described by Wasmann in Wheeler (1903); Donisthorpe (1929)
Myrmica sp.	*Myrmica* sp. Latreille, 1804	Gynandromorph	Buschinger & Stoewesand (1971)
Myrmica sulcinodis	*Myrmica sulcinodis* Nylander, 1846	Gynandromorph	Donisthorpe (1929)
Pheidole dentata	*Pheidole dentata* Mayr, 1886	Gynandromorph	Jones & Phillips (1985)
Pheidole morrissii	*Pheidole morrissii* Forel, 1886	Gynandromorph	Yang & Abouheif (2011)
Pheidole pallidula	*Pheidole pallidula* (Nylander, 1849)	Dinergatandromorph	Vandel (1931)
Pheidole sp. *diligens* group	*Pheidole* sp. *diligens* group	Gynandromorph	Mariano et al. (2022)
Phyracaces singaporensis	*Lioponera singaporensis* (Viehmeyer, 1916)	Gynandromorph	Described by Viehmeyer in Donisthorpe (1929)
Pogonomyrmex occidentalis	*Pogonomyrmex occidentalis* (Cresson, 1865)	Gynandromorph	Taber & Francke (1986)
Polyergus rufescens	*Polyergus rufescens* (Latreille, 1798)	Gynandromorph	Described by Forel in Wheeler (1903); Jan Ove et al. (2016)
Polyergus rufescens Latr. subsp. *lucidus* Mayr	*Polyergus lucidus* Mayr, 1870	Gynandromorph	Wheeler (1903)
Polyergus samurai	*Polyergus samurai* Yano, 1911	Gynandromorph	Tsuneoka (2008)
Polyrhachis lamellidens	*Polyrhachis lamellidens* Smith, F., 1874	Ergatandromorph	AntWiki.org (2026)
Ponera coarctata pennsylvanica	*Ponera pennsylvanica* Buckley, 1866	Gynandromorph	Described by Wheeler in Haskins (1951)
Ponera punctatissima	*Hypoponera punctatissima* (Roger, 1859)	Ergatomorph, gynandromorph	Wheeler (1931)
Promyrmecia aberrans	*Myrmecia aberrans* Forel, 1900	Gynergate	Described by Tulloch in Haskins (1951)
Smithistruma sp.	*Smithistruma* sp. Brown, 1948	Gynandromorph	Munsee (1977)
Strumigenys denticulata	*Strumigenys denticulata* Mayr, 1887	Gynandromorph	Mariano et al. (2022)
Strumigenys filitalpa	*Strumigenys filitalpa* (Brown, 1950)	Gynandromorph	Munsee (1977)
Solenopsis aurea	*Solenopsis aurea* Wheeler, W.M., 1906	Gynandromorph	Cokendolpher & Francke (1983)
Solenopsis fugax	*Solenopsis fugax* (Latreille, 1798)	Gynandromorph	Described by Santschi in Donisthorpe (1929)
Solenopsis invicta	*Solenopsis invicta* Buren, 1972	Gynandromorph	Hung et al. (1975)
Solenopsis quinquecuspis	*Solenopsis quinquecuspis* Forel, 1913	Gynandromorph	Pitts (2005)
Stenamma (Aphaenogaster) fulvum Roger subsp. *aquia* Buckley var. *piceum* Emery	*Aphaenogaster picea* (Wheeler, W.M., 1908)	Gynandromorph	Wheeler (1903)
Stenamma westwoodii	*Stenamma westwoodii* Westwood, 1839	Gynandromorph	Described by Perkins in Wheeler (1903)
Temnothorax turcicus	*Temnothorax turcicus* (Santschi, 1934)	Ergatandromorph	Purkart et al. (2024)
Temnothorax curvispinosus	*Temnothorax curvispinosus* (Mayr, 1866)	Gynandromorph	Skvarla & Dowling (2014)

Reported species	Senior synonym	Reported condition(s)	Reference(s)
Tetramorium bicarinatum	*Tetramorium bicarinatum* (Nylander, 1846)	Gynandromorph	Mariano et al. (2022)
Tetramorium guineense	*Tetramorium guineense* (Bernard, 1953)	Gynandromorph	Described by Karawajew in Donisthorpe (1929)
Tetramorium simillimum	*Tetramorium simillimum* (Smith, F., 1851)	Gynandromorph	Described by Roger, and Meinert in Wheeler (1903); recorded by Santschi in Donisthorpe (1929)
Vollenhovia emeryi	*Vollenhovia emeryi* Wheeler, W.M., 1906	Gynandromorph	Kinomura & Yamauchi (1994)
Wasmannia auropunctata	*Wasmannia auropunctata* (Roger, 1863)	Gynandromorph	Mariano et al. (2022)