A NEW SPECIES OF *PALAEONEURA* WATERHOUSE (HYMENOPTERA: MYMARIDAE) FROM CALIFORNIA, USA, WITH TAXONOMIC NOTES ON *PALAEONEURA SAGA* (GIRAULT) COMB. N.

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Abstract *J. ent. Soc. Ont.* 149: 33–47

A new species of *Palaeoneura* Waterhouse, *P. markhoddlei* Triapitsyn sp. n. (Hymenoptera: Mymaridae), is described from California, USA. It belongs to the informal *kusnezovi* species group of *Palaeoneura* that corresponds to the former genus *Chaetomymar* Ogloblin. The female of the new species, which may not be native to North America, is characterized by a long, markedly exserted ovipositor. It is also known from Maui Island, Hawaiian Islands (USA: Hawaii) and possibly from Taiwan. *Polynema saga* (Girault) is transferred to *Palaeoneura* as *Palaeoneura saga* (Girault) comb. n., and the male is described based on specimens from California and Nevada. The subgenus *Barypolynema* (*Tarphypolynema*) Ogloblin syn. n., of which *Anagrus saga* Girault is the type species, is removed from the previous synonymy under *Polynema* Haliday and its nominate subgenus *P.* (*Polynema*) and is instead synonymized under *Palaeoneura*. A key to females of the four described species of *Palaeoneura* in the New World is provided.

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Introduction

The genus *Palaeoneura* Waterhouse was redescribed and discussed by Triapitsyn and Berezovskiy (2007) who indicated its presence in the Neotropical region and mentioned the occurrence of several undescribed species there. Triapitsyn and Aquino (2010) reported *Palaeoneura* also from the Nearctic region, with two named representatives from eastern USA, *P. mymaripennis* (Dozier) and *P. durwest* Triapitsyn, and also mentioned one female specimen of an undetermined (and presumably non-native, likely unintentionally introduced) species in California, USA. Two additional females of this *Palaeoneura* species were more recently collected in San Diego County, California, allowing for its proper description and illustration.

Currently 51 species (including the two taxa added to the genus herein) are recognized in *Palaeoneura*, most of which were listed in Triapitsyn and Berezovskiy (2007), and later complemented by Huber (2009) and Triapitsyn and Aquino (2010). Diagnoses of

the entire genus were given in Triapitsyn and Berezovskiy (2007), Lin *et al.* (2007), Huber (2009), and Triapitsyn and Aquino (2010).

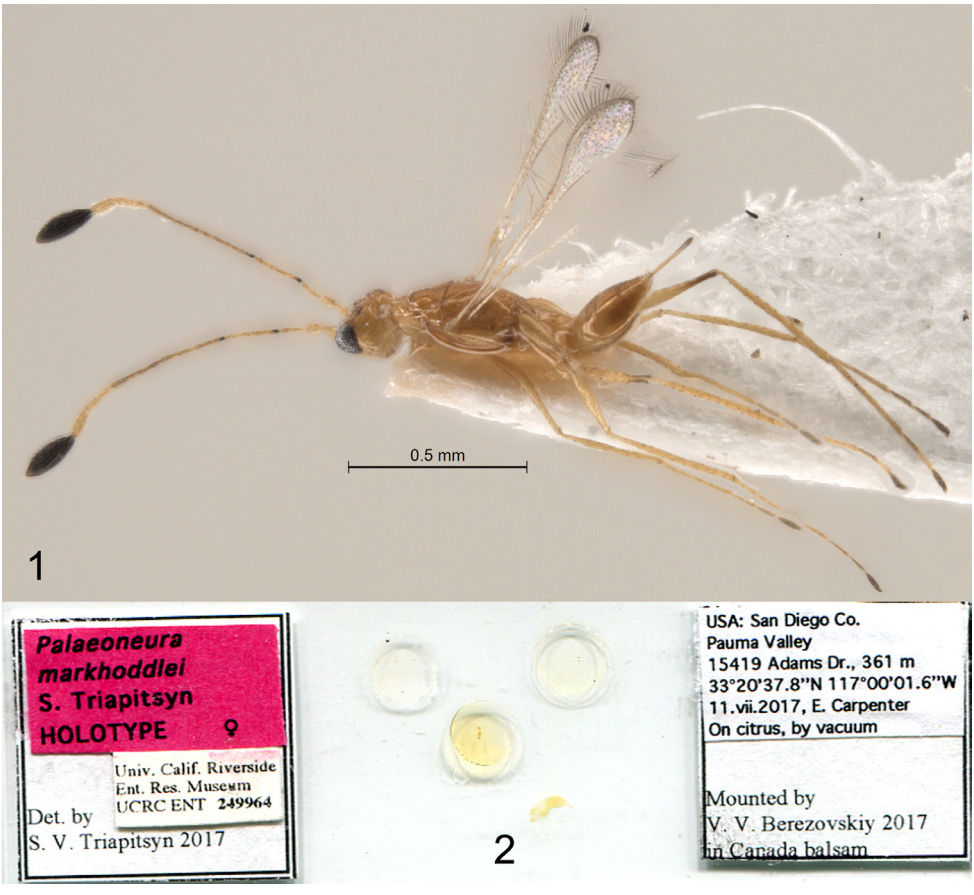
Triapitsyn and Berezovskiy (2007) mentioned, without naming them or providing either a key or detailed diagnoses, four informal, rather vaguely defined, intuitive species groups within *Palaeoneura*. Here, following Amer & Zeya (2018), the first of them is called the informal *kusnezovi* species group, which corresponds to the former genus *Chaetomymar* Ogloblin synonymized by Triapitsyn and Berezovskiy (2007) under *Palaeoneura*. It is currently the only species group of the genus that is well defined and easily recognizable. Its diagnosis is the same as that provided by Huber (2003) for *Chaetomymar* except the clava of the female antenna can bear either 6 or 7 multiporous plate sensilla. It is characterized by a very strong axillar seta (particularly wide basally, best seen in lateral view), which is also very long, often extending to the posterior margin of the scutellum (Fig. 5). More recently, Amer & Zeya (2018) gave a brief diagnosis of the *P. kusnezovi* species group and also included *P. unimaculatum* (Hayat and Anis) in it, which is probably incorrect based on the taxonomic notes provided by Triapitsyn and Berezovskiy (2007). Naming and defining other species groups is well beyond the scope of this study and would require a thorough worldwide revision of *Palaeoneura*, which is a speciose (particularly so in the Australasian region) and taxonomically difficult, poorly known genus.

Materials and Methods

All three known specimens of the new species from California were collected in 80–95% ethanol. Two of them were later dried from ethanol using a critical point drier, and point-mounted. One of the two specimens from the same collecting event in 2017 was photographed (Fig. 1) and then dissected and slide-mounted in Canada balsam according to the techniques described by Huber (2015); it was selected as the holotype.

Terms for morphological features follow Gibson (1997). Abbreviations used in the description and key are: F = funicular segment of female or flagellar segment of male antenna; mps = multiporous plate sensillum or sensilla on the antennal flagellar segments (= longitudinal sensillum or sensilla or sensory ridge(s) of other authors). Measurements are given in micrometers (μm) as length or, where appropriate (e.g., for the wings), as length: width ratios.

Abbreviations for the depositories of specimens are: BPBM, Bernice Pauahi Bishop Museum, Honolulu, Hawaii, USA; CNC, Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Ontario, Canada; EMEC, Essig Museum of Entomology, University of California, Berkeley, California, USA; MNHN, Muséum national d'Histoire naturelle, Paris, France; TARI, Taiwan Agricultural Research Institute, Wufeng, Taichung, Taiwan, Republic of China; UCDC, R. M. Bohart Museum of Entomology, University of California, Davis, California, USA; UCRC, Entomology Research Museum, University of California, Riverside, California, USA; USNM, National Museum of Natural History, Washington, District of Columbia, USA.



FIGURES 1–2. *Palaeoneura markhoddlei* Triapitsyn sp. n., female (holotype): 1, habitus of the dry, point-mounted specimen prior to slide-mounting; 2, holotype slide.

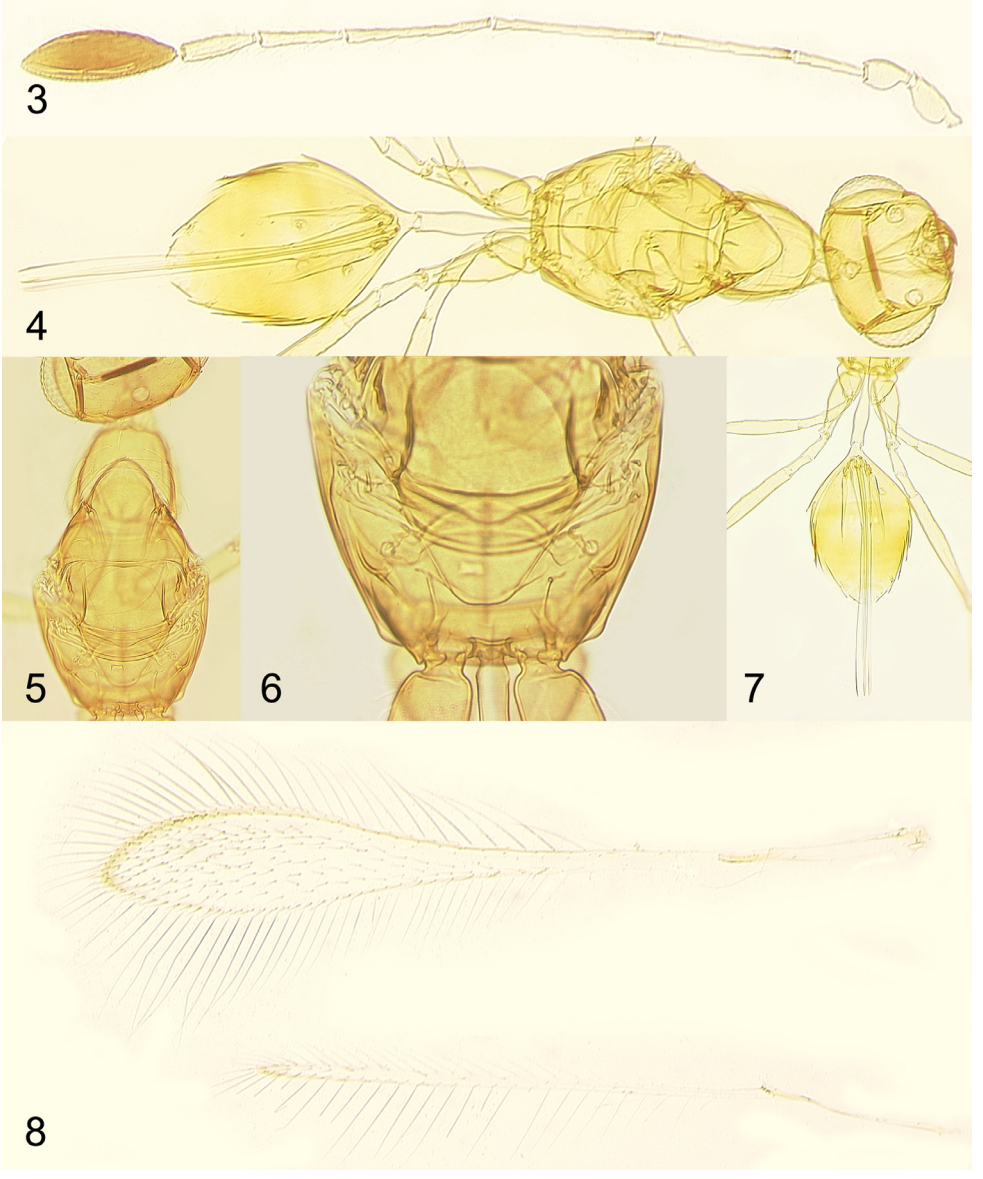
Taxonomy

Genus *Palaeoneura* Waterhouse, 1915

Palaeoneura Waterhouse 1915: 537–538. Type species: *P. interrupta* Waterhouse, designated by Gahan and Fagan 1923: 103.

Chaetomymar Ogloblin 1946: 277. Type species: *C. kusnezovi* Ogloblin, by original designation. Synonymized under *Palaeoneura* by Triapitsyn and Berezovskiy 2007: 38.

Barypolynema (*Tarphypolynema*) Ogloblin 1960: 79. Type species: *Anagrus saga* Girault, by original designation [as *Barypolynema* (*Tarphypolynema*) *saga* (Girault)] (from the previous synonymy under *Polynema* Haliday and its nominate subgenus *P.* (*Polynema*) by Triapitsyn and Fidalgo 2006: 60). **Syn. n.**



FIGURES 3–8. *Palaeoneura markhoddlei* Triapitsyn sp. n., female (holotype): 3, antenna (length = 1,033 µm); 4, body (length = 1,002 µm); 5, mesosoma (length = 375 µm); 6, scutellum and propodeum (length = 197 µm); 7, metasoma (length without ovipositor = 479 µm); 8, fore (length = 999 µm) and hind (length = 843 µm) wings.

Acanthomymar Subba Rao 1970: 667–668. Type species: *A. nigrum* Subba Rao, by original designation. Synonymized under *Palaeoneura* by Triapitsyn and Berezovskiy 2007: 38 (from the previous synonymy under *Polynema* by Huber 2003: 80).

Chaetomymar Ogloblin: Triapitsyn and Berezovskiy 2002: 2–3 (taxonomic history, comments); Huber 2003: 78–81 (taxonomic history, diagnosis, key to species, etc.).

Palaeoneura Waterhouse: Triapitsyn and Berezovskiy 2007: 39–42 (taxonomic history, synonymy, redescription, diagnosis, host associations, distribution, list of species, and notes on four unnamed, informal species groups), 63 (key to the Australian *Polynema* group genera); Lin *et al.* 2007: 40–43 (list of synonyms, diagnosis, distribution, hosts, list of Australian species); Huber 2009: 21 (brief diagnosis); Triapitsyn and Aquino 2010: 68–69 (list of synonyms, diagnosis, distribution, hosts, comments).

Key to the described species of *Palaeoneura* in the New World, females

1 Axillar seta very strong (particularly wide basally, best seen in lateral view), long, extending at least to posterior margin of scutellum (Fig. 5) (*P. kusnezovi* species group); body mostly yellow (Fig. 1)..... ***P. markhoddlei*** Triapitsyn, sp. n.

– Axillar seta relatively weak, not extending to posterior margin of scutellum (at most extending almost to frenal line); body (excluding petiole) mostly brown or dark brown.....2

2(1) F2 shorter than pedicel (Fig. 11)..... ***P. saga*** (Girault), comb. n.

– F2 longer than pedicel 3

3(2) Clava with 5 mps; F1 about half length of pedicel (or just slightly longer)..... .....***P. mymaripennis*** (Dozier)

– Clava with 6 mps; F1 about as long as pedicel .....***P. durwest*** Triapitsyn

Palaeoneura markhoddlei **Triapitsyn, sp. n.**

urn:lsid:zoobank.org:pub:95EF800A-8A9D-40B0-BDF6-CF5C3AFC6287
(Figs 1–8)

Palaeoneura sp.: Triapitsyn and Aquino 2010: 61–62, 69 (as a likely undescribed species).

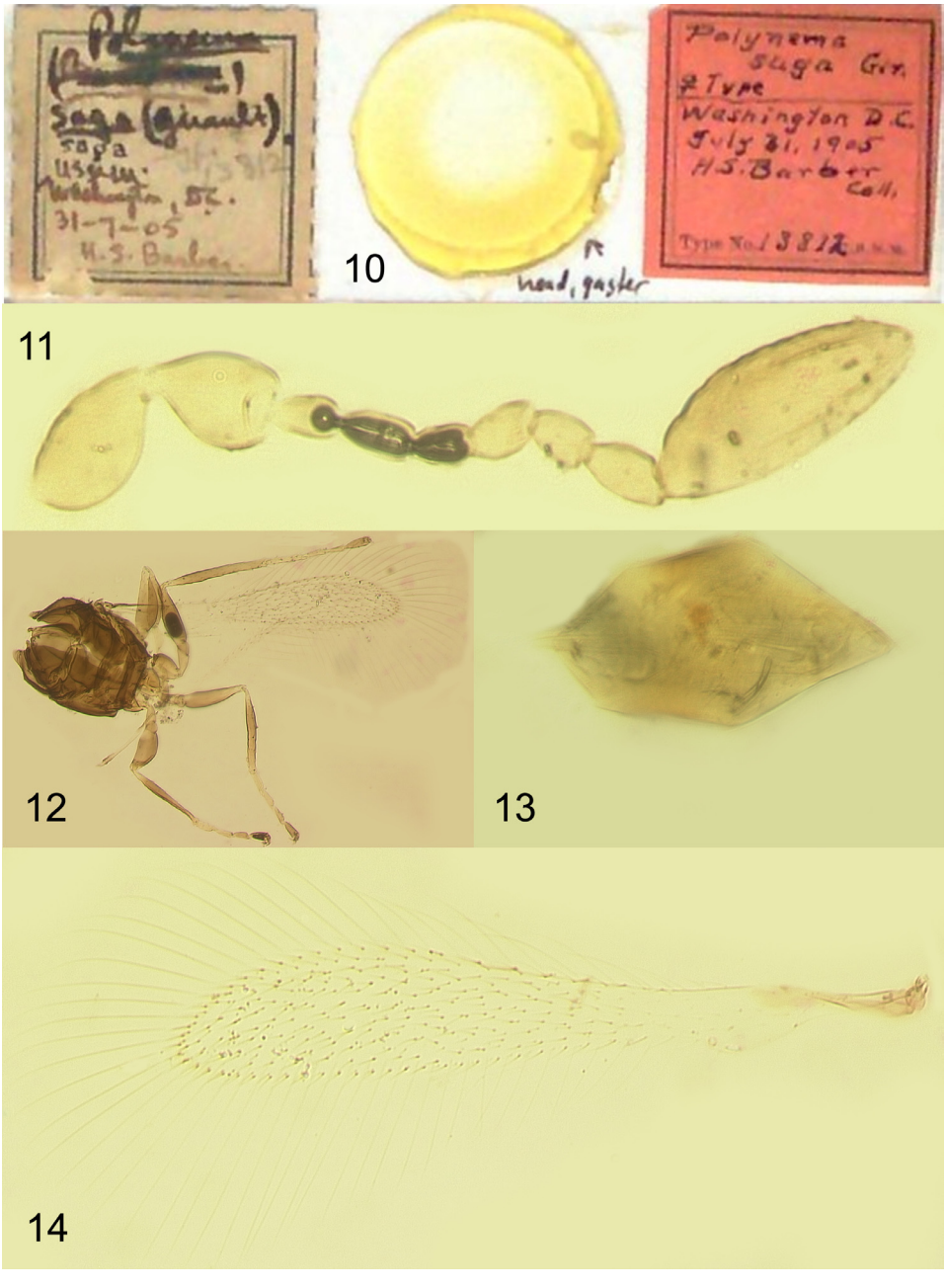
Type material.

Holotype female, deposited in UCRC, on slide (Fig. 2) labeled: 1. “USA: [California – missing information] San Diego Co. Pauma Valley 15419 Adams Dr., 361 m 33°20’37.8’’N 117°00’01.6’’W 11.vii.2017, E. Carpenter On citrus, by vacuum”, 2. “Mounted by V. V. Berezovskiy 2017 in Canada balsam”, 3. [magenta] “*Palaeoneura markhoddlei* S. Triapitsyn HOLOTYPE ♀”, 4. “Det. by S. V. Triapitsyn 2017”, 5. [database label] “Univ. Calif. Riverside Ent. Res. Museum UCRC ENT 249964”. The holotype (Figs 3–8) is in good condition, complete, dissected under 3 coverslips.

Paratypes: USA, California, San Diego Co.: Pauma Valley, 15419 Adams Dr., 33°20’37.8”N 117°00’01.6”W, 361 m, 11.vii.2017, E. Carpenter (on citrus, by vacuum) [1 female in 95% ethanol in a freezer, UCRC]. San Marcos, Deer Springs Ranch, 33°11’18.5”N 117°07’53.2”W, 423 m, 15.iii.2006, M. S. Hoddle (on avocado) [1 female on point, UCRC].

Non-type material examined. Hawaiian Islands (USA: Hawaii), Maui Island, Kahakuloa, 20°59’45.00”N 156°32’46.61”W, 38 m, 2–16.iii.2018, W. D. Perreira, yellow sticky board trap [1 female on point, BPBM].

FIGURE 9. *Palaeoneura* sp., female (Taipei City, Taiwan): habitus (length = 990 µm).



FIGURES 10–14. *Palaeoneura saga* (Girault) comb. n., female (holotype of *Anagrus saga* Girault): 10, slide; 11, antenna (length = 307 µm); 12, mesosoma (length = 212 µm), petiole (length = 48 µm) and a pair of wings; 13, gaster (length = 218 µm); 14, fore wing (length = 482 µm).

Diagnosis. *Palaeoneura markhoddlei* sp. n. belongs to the *kusnezovi* species group, as defined above. In Huber (2003), it keys to the same couplet as *P. hishimoni* (Taguchi) and *P. tayalum* (Taguchi), both from Asia. It differs from *P. hishimoni* in having a very long, strongly exserted ovipositor (Figs 4, 7) and from *P. tayalum* (Taguchi 1975) by the lack of a crescent-shaped, transverse mps on the clava of the female antenna in addition to having a strongly exserted ovipositor. From the three other described species of *Palaeoneura* in the New World, it can be separated using the key above, updated from Triapitsyn and Aquino (2010).

Palaeoneura markhoddlei is very similar to, if not conspecific with, the two following specimens, mentioned as belonging to a new *Palaeoneura* sp. by Triapitsyn (2018): Taiwan (Republic of China): Taipei City, x.1972, K. S. Lin [1 female, TARI] (Fig. 9); Pingtung Co., Kenting National Park, Hengchun, Kueitzuchiao (as "Kuraru, Heng Chung" on the label), 22–29.v.1965, K. S. Lin [1 female, TARI]. However, F6 in these Taiwanese specimens is 3.0–3.1 × as long as wide and either slightly shorter than F1 or about as long as F1, and also the ovipositor is a little longer (543–576 μm), 1.5–1.6 × length of metatibia, and a little more exserted beyond the gastral apex (by 0.44–0.46 × own total length) than in the holotype of *P. markhoddlei*. Although these differences seem to be quite minor, it is not clear whether they are due to intraspecific or interspecific variability; the Taiwanese specimens may represent an undescribed species.

Description. FEMALE (holotype). Body (Figs 1, 4) and legs yellow except petiole and base of gaster lighter (pale yellow) and apex of metafemur and apical tarsomeres brown; scape and pedicel light yellow, funicle brownish yellow except bases of F2 and F3 brown, and clava black.

Vertex with sparse, short, light setae. Antenna (Fig. 3) with scape plus radicle 2.2 × as long as wide and smooth; pedicel shorter than F1, F3 the longest funicular segment, F4 a little longer than F2 and much longer than F5, F6 the widest funicular segment, a little longer than F1, 3.4 × as long as wide, and with 1 mps (all other funicular segments without mps); clava 3.0 × as long as wide, almost as long as combined length of two preceding segments, with 6 mps.

Mesosoma (Figs 5–6) typical for species of *Chaetomymar* as defined in Huber (2003). Fore wing (Fig. 8) 7.3 × as long as wide; marginal vein with 2 short dorsal macrochaetae; disc notably narrowing just beyond venation before gradually expanding apically and almost entirely hyaline but with a notable brownish tinge along apical margin and also along anterior margin subapically, bare behind and also just beyond venation and setose at its broadest part; the longest marginal seta 1.6 × greatest width of disc. Hind wing (Fig. 8) almost 47 × as long as wide; longest marginal seta 6.9 × greatest width of disc.

Metasoma (Fig. 7) with ovipositor occupying almost entire (0.93 ×) length of gaster, markedly exserted beyond gastral apex (by 0.38 × own total length); 1.35 × length of metatibia.

Measurements (holotype). Body: 840 (taken from dry-mounted specimen before slide-mounting) or 1,002 (slide-mounted specimen); head: 132 (taken from dry-mounted specimen before slide-mounting) or 153 (slide-mounted specimen); mesosoma: 375; petiole: 153; gaster: 326; ovipositor: 492. Antenna: scape plus radicle: 73; pedicel: 49; F1: 77; F2: 148; F3: 177; F4: 160; F5: 92; F6: 84; clava: 173. Fore wing: 999:129; longest marginal

seta: 209. Hind wing: 843:18; longest marginal seta: 124.

Variation. Body length of the dry-mounted paratype 920 µm, and of the non-type specimen from Maui Island, Hawaii, 990 µm.

MALE. Unknown.

Etymology. The species is named in honor of its first collector, Mark S. Hoddle, a dedicated contributor of numerous interesting specimens to the UCRC. The other two specimens of the type series from California were collected during a survey for his project.

Distribution. USA (California and Hawaii [Hawaiian Islands, Maui Island]). I also have seen numerous unmounted female specimens [BPBM] of *P. markhoddlei* collected by W. D. Perreira during 2018 using yellow sticky board traps on Maui Island, where it seems to be rather common in certain localities such as Iao Valley and at roadside of Hana Highway, Hawaii Route 360 (20°54'05"N 156°13'30"W). As noted by Triapitsyn and Aquino (2010), this species is most likely of exotic origin (likely accidentally introduced from the Old World, possibly from Asia, either directly or via the Hawaiian Islands, given its close similarity with the aforementioned specimens of a *Palaeoneura* sp. from Taiwan), as members of this informal group of *Palaeoneura* are not known to occur naturally in the New World: Yoshimoto (1990), at that time of his writing, mistakenly indicated the presence of *Chaetomymar* in Argentina, Brazil, Canada, and USA but did not provide illustrations or mention specimens examined to support this.

Hosts. Unknown, but based on the few known host associations of other described species of *Palaeoneura* belonging to the species classified previously in *Chaetomymar*, e.g., *P. sophoniae* (Huber), *P. markhoddlei* may also be an egg parasitoid of a leafhopper from the tribe Nirvanini Baker (Hemiptera: Cicadellidae: Evacanthinae), perhaps the invasive two-spotted leafhopper, *Sophonia orientalis* (Matsumura), which is an established pest in San Diego County of California (Alyokhin *et al.* 2001). Rearings from parasitized eggs of *S. orientalis* in southern California would confirm this; there are at present no reports of any known egg parasitoids of this leafhopper in continental USA.

Palaeoneura saga (Girault, 1911), comb. n.

(Figs 10–20)

Anagrus saga Girault 1911: 296–297, 298 (key). Type locality: Washington, District of Columbia, USA.

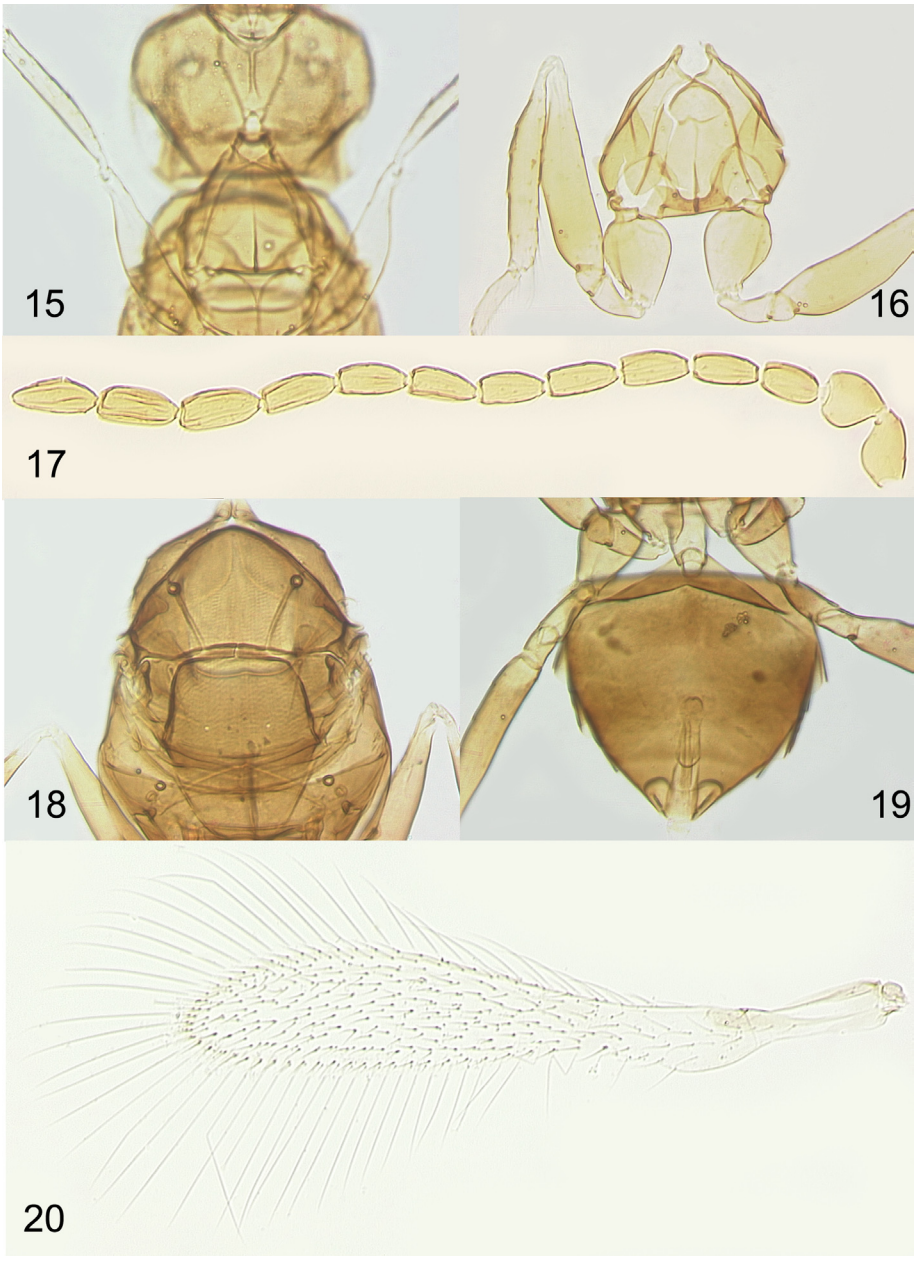
Polynema saga (Girault): Girault 1929: 17 (key); Harding 1930: 18–19 (biology); Yoshimoto 1990: 83 (list, unnecessary new combination); Wiesenborn 2002: 116–121 (host information, egg parasitism); Lin *et al.* 2007: 45 (tentatively recorded from Victoria, Australia), 99 (illustrations of female); Moya-Raygoza *et al.* 2012: 108–109 (distribution, host association).

Barypolynema saga (Girault): Ogloblin 1946: 285–287 (illustration); Peck 1963: 42 (catalog).

Barypolynema (*Tarphypolynema*) *saga* (Girault): Ogloblin 1960: 75 (illustration), 79 (diagnosis, host association, distribution); De Santis 1967: 112 (catalog).
Polynema (*Polynema*) *saga* (Girault): Triapitsyn and Fidalgo 2006: 60.

Type material examined. Holotype female [USNM] on slide (Fig. 10) labeled: 1. [the original label] "*Polynema* [(*Anagrus*) – crossed out] *saga* (Girault). *saga* Type ♀ 13812 [in pencil] USNM. Washington, DC. 31-7-05. H.S. Barber."; 2. [red] "*Polynema saga* Gir. Washington D.C. July 31, 1905. H.S. Barber Coll. Type No. 13812 U.S.N.M.". The holotype is poorly mounted and fragmented, as follows: two separate antennae, one fore wing, one hind wing, two fore legs, one hind leg, mesosoma with two middle and one hind legs, petiole, and one fore wing attached; head and gaster are in excess balsam not covered by the coverslip (Fig. 10).

Non-type material examined. Argentina, Mendoza, La Consulta, 33°44'S 69°07'W, INTA – Estación Experimental Agropecuaria La Consulta, 22–26.i.2007, S. Lanati [1 female, UCRC]. Australia, Victoria, Mitcham, i.1983, C. Lai (D. Yu) [2 females, 1 male, CNC]. Bermuda Islands, Bermuda Island, Southampton Parish, 4 Munro Lane, 22.v–22.vi.2001, J. and M. Munro [2 females, UCRC]. France, Gironde, Sainte Colombe (near Castillon-la-Bataille), 44°54'N 00°02'W, 13.viii.1998, M. van Helden [1 female, UCRC]. Hawaiian Islands, Oahu Island, Honolulu, 20.vii.1928, R. H. Van Zwaluwenburg ("ex. jassid eggs on *Tamarix aphylla*") [1 female, UCRC]. South Africa, Western Cape, Cape Town, Rosebank, x–xi.1960, D. P. Annecke [1 female, USNM] (determined by D. P. Annecke as *Polynema saga*). USA: Arizona, Coconino Co., Jct. of I40 and Matteo Rd., Crater Rd., 20–22.viii.1999, M. Yoder, E. Riley [10 females, TAMU (5), UCRC (5)]. California: Imperial Co., Algodones Dunes, Coachella Canal Road, 18.1 km NW of Glamis, 33°04'N 115°02'05"W, 30.v–3.vi.2008, Museum Survey Team [1 female, UCDC]. Los Angeles Co., San Pedro, 18.viii.2002, J. George [1 female, UCRC]. Riverside Co.: Lake Skinner (NE end), 33°36'07"N 117°02'05"W, J. D. Pinto: 7–21.v.1996 [1 female, UCRC]; 21.v–4.vi.1996 [1 male, UCRC]. Mecca, end of Ave. 62, 1.v.1986, M. S. Moratorio, W. White (on tamarisk) [1 female, UCRC]. Menifee Valley (hills on W end), 33°39'N 117°13'W, 1800', 1–20.vii.1980, J. Woolley, J. LaSalle, J. D. Pinto [1 female, UCRC]. Santa Rosa Plateau Reserve, PEET survey: 33°31'31"N 117°14'38"W, 17–18.vii.2001 [1 female, UCRC]; 33°31'32"N 117°14'45"W, 17–18.vii.2001 [1 female, UCRC]; 33°32'29"N 117°14'39"W: 18–23.vii.2001 [1 female, UCRC]; 23–30.vii.2001 [3 females, UCRC]. Stanislaus Co., Frank Raines Regional Park, Ranger Station, 37°25.294'N 121°22.666'W, 350 m, 20.viii–18.ix.2011, R. L. Zuparko [1 female, EMEC]. Yolo Co., Coyote Gulch, Experimental Ecosystem, 2 km SW of Davis, 24.ix–7.x.2001 [1 female, UCDC]. Kansas, Douglas Co., Lawrence, University of Kansas, summer of 1927, P. B. Lawson ("ex. eggs of *Euscelis stactogala*") [numerous females, USNM] (determined by A. B. Gahan as *Polynema saga* and by A. A. Ogloblin as *Barypolynema saga*). Nevada, Clark Co.: Boulder City, 30.vii.2001, W. D. Wiesenborn (from *Opsius stactogalus* Fieber eggs on *Tamarix ramosissima*) [1 male, UCRC]. Las Vegas, wash at Flamingo Rd., W. D. Wiesenborn (on *Tamarix ramosissima*): 2.vi.2003, [4 females, UCRC]; 16.vi.2003 [7 females, 1 male, UCRC]. Mesquite, W. D. Wiesenborn: 36°48'N 114°04'W, 20.v.2004 (on *Tamarix ramosissima*) [numerous females, UCRC]; 36°48'N 114°05'W, 24.vi.2004 (on *Tamarix*



FIGURES 15–20. *Palaeoneura saga* (Girault) comb. n. (16–19 – Lake Skinner, Riverside Co., California, USA; 15, 20 – Las Vegas, Clark Co., Nevada, USA): 15, female prosternum (length = 82 µm); 16, male prosternum (length = 103 µm); 17, male antenna (length = 612 µm); 18, male mesosoma (length = 242 µm); 19, male metasoma (length = 245 µm); 20, male fore wing (length = 504 µm).

ramosissima) [numerous females, UCRC]; 36°48'N 114°05'W, 16.vii.2004 [9 females, UCDC]; 36°48'N 114°05'W, 16.vii.2004 (on *Tamarix ramosissima*) [numerous females, UCRC]. Utah: Emery Co., Buckskin Spring (near Goblin Valley State Park), 26.viii.1981, E. E. Grissell [23 females, USNM]. Wayne Co., 2.5 mi. SE of Hanksville, 38°20'15"N 110°41'15"W, 1400 m, 26.vii.2004, J. D. Pinto [1 female, UCRC]. Vietnam, Ho Chi Minh City [as Saigon], 11.i.1950, J. Barbier [1 female, MNHN].

Redescription. FEMALE (holotype and non-type specimens). Body length (dry-mounted specimens) 500–630 µm. Body dark brown except petiole pale or yellowish; appendages brown except metacoxa, metatrochanter, and first three tarsomeres of all legs light brown. Antenna (Fig. 11) with scape smooth, 1.7–1.8 × as long as wide; pedicel 1.3–1.6 × as long as wide; all funicle segments short, much shorter than pedicel, and without mps; clava 2.5 × as long as wide, with 6 mps. Pronotum mediolongitudinally divided, propleura touching or almost touching each other anteriorly along midline, the prosternum thus "closed" anteriorly (Fig. 15); mesonotum smooth (Fig. 12); axillar seta fine and quite long, extending almost to frenal line on scutellum (as in Fig. 18); scutellar campaniform sensilla close to frenal line, frenal foveae absent; propodeum smooth, without carina. Fore wing (Figs 12, 14) 5.3–5.9 × as long as wide; marginal vein with 2 dorsal macrochaetae very close to each other; disc hyaline, setose behind and beyond venation; longest marginal seta 1.5–1.6 × greatest width of wing. Hind wing (Fig. 12) 21–22 × as long as wide; longest marginal seta 5.5–5.6 × greatest width of wing. Petiole a little dilated basally (Fig. 12), about 1.8 × as long as wide. Ovipositor occupying usually 0.8–0.9 × length of gaster (Fig. 13), at most just barely exserted beyond gastral apex; ovipositor about 1.1 × length of metatibia.

Measurements (holotype). Head: 70; mesosoma: 212; petiole: 48; gaster: 218; ovipositor: 200. Antenna: scape (excluding radicle): 52; pedicel: 39; F1: 18; F2: 22; F3: 17; F4: 23; F5: 18; F6: 27; clava: 91. Fore wing: 482:91; longest marginal seta: 136. Hind wing: 394:18; longest marginal seta: 100.

Description. MALE (non-type specimens from California and Nevada, USA). Body length (dry-mounted specimens) about 500 µm. Body dark brown except petiole light brown; appendages mostly brown. Antenna (Fig. 17) with scape minus radicle 1.8–2.0 × as long as wide; flagellomeres more or less subequal in length (F1 the shortest and F11 the longest). Prosternum (Fig. 16) as in female. Fore wing (Fig. 20) about 5.8 × as long as wide, longest marginal seta about 1.6 × greatest width of wing; hind wing about 25 × as long as wide, longest marginal seta about 5.8 × greatest width of wing. Genitalia (Fig. 20) without hooks on digiti.

Distribution. Australia (Victoria) (Lin *et al.* 2007 [as *Polynema saga*]), Bermuda Islands (new record), France (new record), USA, and Vietnam (new record), as well as Argentina, the Hawaiian Islands, Republic of South Africa (Ogloblin 1960 [as *Barypolynema* (*Tarphypolynema*) *saga*]), and Mexico (Moya-Raygoza *et al.* 2012 [as *Polynema saga*]).

This discovery of *P. saga* in France is a new record of *Palaeoneura* from Europe. Lin *et al.* (2007) reported this species from Australia based on one female from Mitcham, Victoria, which had been previously identified by me as *Polynema saga*, but not included in their list of the Australian species of *Polynema* until more Australian specimens had been

collected to confirm conclusively its presence there. However, there is no doubt whatsoever that the two females and one male from that locality indeed belong to *P. saga*; thus I confirm its presence in Australia.

Hosts. *Dalbulus maidis* (DeLong) (Moya-Raygoza *et al.* 2012) and *Opsius stactogalus* Fieber (Hemiptera: Cicadellidae) (Lawson 1929 [as *Euscelis stactogalus*]; Peck 1963; Wiesenborn 2002, 2005) (Hemiptera: Cicadellidae).

Comments. *Barypolynema* (*Tarphypolynema*) *saga* was placed by Triapitsyn and Fidalgo (2006) in *Polynema* Haliday and its nominate subgenus *P.* (*Polynema*). A careful examination of the better prepared slide-mounted specimens, which have only recently became available, prompted me to reconsider and, instead, place it in *Palaeoneura*. Its peculiar fore wing (Figs 14, 20), the "closed" propleura (Figs 15–16), and male genitalia (Fig. 20) without hooks on the digiti fit the latter genus better. Consequently, the subgenus *Barypolynema* (*Tarphypolynema*) Ogloblin, of which *Anagrus saga* Girault is the type species, is removed from the previous synonymy under *Polynema* and *P.* (*Polynema*) and synonymized under *Palaeoneura*.

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