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Morphological and molecular evidence support the synonymy of *Emperoptera* Grimshaw with *Campsicnemus* Haliday (Diptera: Dolichopodidae)[1]

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Campsicnemus Haliday is a predominantly Holarctic and Polynesian genus of long-legged flies that is highly speciose in the Hawaiian Islands (over 160 species currently known from that island group; Evenhuis, 2007). *Emperoptera* Grimshaw was originally described (Grimshaw *in* Grimshaw & Speiser, 1902) for a single flightless species from O'ahu, *E. mirabilis*. Subsequently discovered new flightless species from the Hawaiian Islands were described in *Emperoptera* (Zimmerman, 1938; Adachi, 1954). However, in their revision of the Hawaiian *Campsicnemus*, Hardy & Kohn (1964) sunk *Emperoptera* under *Campsicnemus* without discussion, and an additional flightless species (*hawaiiensis*) was described in *Campsicnemus* by Hardy & Delfinado (1974). Evenhuis (1997) examined all available material of flightless Hawaiian dolichopodids proposed resurrecting *Emperoptera* based on characters of the wing and female ovipositor, described three new species in *Emperoptera* (*hardyi*, *montgomeryi*, *zimmermani*), placed two previously described *Campsicnemus* species in *Emperoptera* (*hawaiiensis*, *mirabilis*), and retained three other previously described species in *Campsicnemus (aeptus* Hardy & Kohn, *bryophilus* Adachi*, haleakalaae* Zimmerman*)*.

Recent molecular study of species of Hawaiian *Campsicnemus* and related genera as part of a larger NSF-funded study of biodiverse genera of Hawaiian Diptera shows *Emperoptera* to be nested well within other species of *Campsicnemus* (Fig. 1). This led to re-examination of material of *Emperoptera* and comparing to *Campsicnemus*, which resulted in the finding that the length of the spines of the ovipositor in *Emperoptera* (previously thought to be a good character in separating the two genera) are well within the range of lengths of these spines in *Campsicnemus*. We therefore propose reducing *Emperoptera* once again as a junior synonym of *Campsicnemus*.

Materials and Methods

Specimens from the following collections and institutions have been examined or are deposited there as vouchers in the course of this study: Natural History Museum, London (BMNH), Bishop Museum, Honolulu (BPBM), Canadian National Insect Collection (CNC), Hawaii State Department of Agriculture (HDOA), Royal Museum of Scotland, Edinburgh (RMSE), Essig Museum, University of California, Berkeley (UCB), University of Hawai'i Insect Museum, Honolulu (UHM), National Museum of Natural History, Washington, DC (USNM). Data on taxa used in this analysis are listed in the Appendix.

1. Contribution No. 2010-008 to the Hawaii Biological Survey.

Morphological terminology follows recent taxonomic studies in Evenhuis (1997, 2007, 2008, 2009). Molecular analyses were performed using five mitochondrial (12S, 16S, COI, COII, NADH2) and two nuclear (CAD, Ef1α) loci. Protein coding sequences were aligned using conceptual amino acid translations and were trivial to perform by eye. Ribosomal loci were aligned in Clustal W (Higgins *et al*. 1994) and then adjusted manually based on stem and loop regions. All noncoding regions (439 base pairs) were excluded, yielding a final matrix of 5,419 characters.

Analyses of individual and combined data matrices, using both maximum parsimony and Bayesian methods, were performed and were largely congruent with one another (data not shown). Here we present the results of parsimony analyses for the combined matrices containing all 63 taxa that have at least four of the seven loci sequenced (Fig. 1). We selected this analysis because it includes the most complete set of sequences that contain a representative of the genus *Emperoptera*. These results are comparable to analyses with fewer taxa but more complete character matrices and those with more species but more missing data (Table 1). Maximum parsimony analyses (PAUP*, ver 4.0; Swofford, 2002) were done using a heuristic algorithm with the following settings: number of replicates = 1000, addition sequence = random, branch swapping = TBR, non-coding regions = excluded. Support was assessed using 500 bootstrap replicates (Felsenstein, 1988) with the other settings as above.

Systematics

Genus ***Campsicnemus*** Haliday

Medeterus (*Camptosceles*) Haliday, 1832: 357. Suppressed by I.C.Z.N. (1958: 349) (Opinion 531).

Leptopezina Macquart, 1835: 554. Type species: *Diastata gracilis* Meigen, 1820, by monotypy. *Nomen oblitum*. [Article 23.9.2 of the I.C.Z.N. *Code* (1999) invoked by Evenhuis (2003) in treating this name as a *nomen oblitum*.]

Campsicnemus Haliday *in* Walker, 1851: 187. Type species: *Dolichopus scambus* Fallén, 1823, by validation of I.C.Z.N. (1958: 351) (Opinion 531). *Nomen protectum*. [Article 23.9.2 of the I.C.Z.N. *Code* (1999) invoked by Evenhuis (2003) in treating this name as a *nomen protectum*.]

Emperoptera Grimshaw *in* Grimshaw & Speiser, 1902: 81. Type species: *Emperoptera mirabilis* Grimshaw, 1902, by monotypy. **New synonymy**.

Camptoscelus Kertész, 1909: 306 (unjustified emendation of *Camptosceles* Haliday). Type species: *Dolichopus scambus* Fallén, 1823, automatic.

Because of the results of molecular analysis that shows *Emperoptera* to be nested well within species of Hawaiian *Campsicnemus* (see discussion below) as well as examination of the female ovipositor spines, the length of which are within the range of variation shown by other species of Hawaiian *Campsicnemus*, we return *Emperoptera* to junior synonymy under *Campsicnemus* as originally proposed by Hardy & Kohn (1964).

As a result of the new synonymy of *Emperoptera* under *Campsicnemus*, the following taxa are here transferred to *Campsicnemus*.

Campsicnemus elmoi Evenhuis, ***new replacement name***

Emperoptera hardyi Evenhuis, 1997: 5.

Campsicnemus hardyi (Evenhuis), **n**. **comb**. [Preoccupied by *Campsicnemus hardyi* Tenorio, 1969.

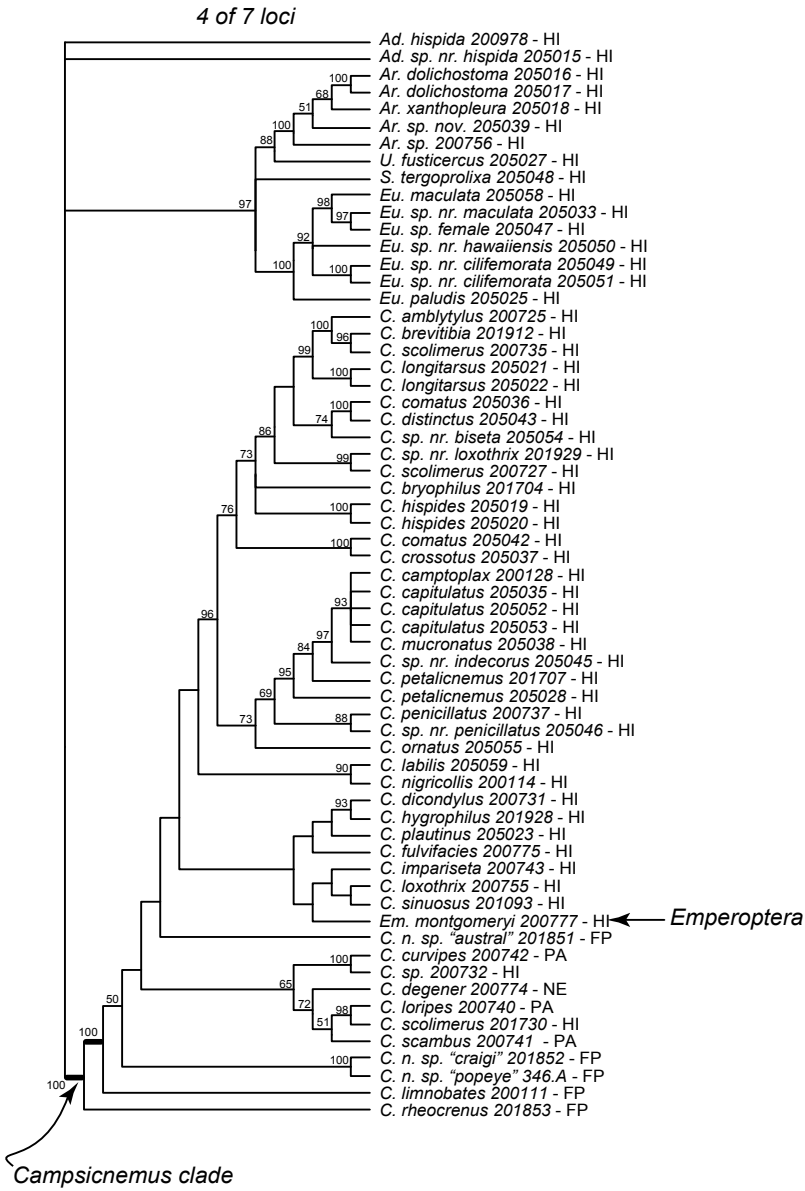

Figure 1. Phylogenetic placement of the genus *Emperoptera* relative to Hawaiian *Campsicnemus*. Geographical abbreviations: FP = French Polynesia; HI = Hawaiian Islands; NE = Nearctic; PA = Palaearctic. Taxonomic abbreviations: *Ad = Adachia; Ar = Arciellia; C = Campsicnemus; Em = Emperoptera; Eu = Eurynogaster; S = Swezeyella; U = Uropachys*.

Table 1. **Results of Maximum Parsimony Analyses**.

Gene Sampling	# Taxa	# PICs	# MPTs	Tree Length	*Campsicnemus* monophyletic?	*Emperoptera* present?	*Campicnemus* + *Emperoptera* clade?
all7	8	514	1	2105	Y	N	N
6of7	18	1111	1	3696	Y	N	N
5of7	42	1437	2	5404	Y	N	N
4of7	63	1537	42	6296	Y	Y	Y
3of7	79	1682	46	7618	Y	Y	Y
2of7	102	1791	13357	8780	N	Y	Y

The transfer of *Emperoptera hardyi* to *Campsicnemus* results in secondary homonymy with *Campsicnemus hardy* Tenorio. *Campsicnemus elmoi* is therefore proposed as a ***new replacement name*** and honors D. Elmo Hardy, the collector of the type specimens from Pu‘u Kukui, West Maui.

Campsicnemus montgomeryi (Evenhuis), **new combination**

Emperoptera montgomeryi Evenhuis, 1997: 11.
Campsicnemus montgomeryi (Evenhuis), **n**. **comb**.

This is apparently the only extant species of species formerly placed in *Emperoptera* and as such was the only material available for molecular analysis. Continued attempts to recollect *C. hawaiiensis* in *kīpuka* along the Saddle Road of the Big Island of Hawai‘i as well as recent collecting (November 2009) on Pu‘u Kukui to recover *C. elmoi* have thus far been unsuccessful.

Campsicnemus zimmermani (Evenhuis), **new combination**

Emperoptera zimmermani Evenhuis, 1997: 14.
Campsicnemus zimmermani (Evenhuis), **n**. **comb**.

Molecular Analysis

Figure 1 shows the results of maximum parsimony analysis of 63 dolichopodid species, including 17 members of the endemic Hawaiian *Eurynogaster* complex, 45 *Campsicnemus* species from Hawai‘i, Europe, North America, and the Pacific, and a single representative of the genus *Emperoptera*, *E. montgomeryi*. This work is the result of an ongoing project, additional character and taxon sampling is currently underway and will expand our understanding of phylogeny within this complex group. Statistical support for many relationships within the *Eurynogaster* group and some clades of *Campsicnemus* is strong. While some basal nodes are not well supported, this analysis does strongly support the placement of *Emperoptera* within the genus *Campsicnemus* (bold lines, bootstrap proportion 100%), a placement that is unlikely to change with additional character and species sampling.

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Appendix. Taxa used for analyses

EURYNOGASTER COMPLEX

Adachia hispida (Hardy & Kohn, 1964)	HAWAIIAN ISLANDS: HAWAI'I: HAVO, Ola'a Puu Unit, 13–14 Nov 2003, 4300', KN Magnacca; O'Grady Lab 200978
Adachia sp. nr. *hispida*	HAWAIIAN ISLANDS: KAUA'I: Kawaikoi Stream, 3500', 18 May 2007, KN Magnacca 07-0447; O'Grady Lab 205015
Arciellia dolichostoma (Hardy & Kohn, 1964)	HAWAIIAN ISLANDS: KAUA'I: Pu'u O Kila Rd, 4080', 17 May 2007, KN Magnacca 07-0430; O'Grady Lab 205016
	HAWAIIAN ISLANDS: KAUA'I: Pihea Trail, 3500', 18 May 2007, KN Magnacca 07-0449; O'Grady Lab 205017
Arciellia xanthopleura (Hardy & Kohn, 1964)	HAWAIIAN ISLANDS: KAUA'I: Pihea Trail, 3600', 18 May 2007, KN Magnacca 07-0450; O'Grady Lab 205018
Arciellia sp. nov.	HAWAIIAN ISLANDS: MAUI: Kaupo Trail, 5000', 4 Aug 2007, KN Magnacca; O'Grady Lab 205039
Eurynogaster maculata Parent, 1940	HAWAIIAN ISLANDS: MAUI: Paliku, crater wall, 6600', 1 Aug 2007, KN Magnacca 07-0719; O'Grady Lab 205058
Eurynogaster paludis (Hardy & Kohn, 1964)	HAWAIIAN ISLANDS: KAUA'I: Pihea Trail, 3600', 18 May 2007, KN Magnacca 07-0451; O'Grady Lab 205025
Eurynogaster sp. nr. *cilifemorata*	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0782; O'Grady Lab 205049
	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 31 Jul 2007, KN Magnacca 07-0702; O'Grady Lab 205051
Eurynogaster sp. nr. *hawaiiensis*	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0783; O'Grady Lab 205050
	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Carson Trail, 4200', 6 Aug 2007, KN Magnacca 07-0803; O'Grady Lab 205031
Eurynogaster sp. nr. *maculata*	HAWAIIAN ISLANDS: MAUI: Pu'u Kukui Trail, 2900-3700', 8 Aug 2007, KN Magnacca 07-0825; O'Grady Lab 205033
Eurynogaster sp. female	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Kula Ppln. Rd, 4150', 31 Jul 2007, KN Magnacca 07-0705; O'Grady Lab 205047
Sweziella tergoprolixa (Hardy & Kohn, 1964)	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0781; O'Grady Lab 205048

Uropachys fusticercus (Hardy & Kohn, 1964)	HAWAIIAN ISLANDS: MAUI: Pihea Trail, 3600', 18 May 2007, KN Magnacca 07-0452; O'Grady Lab 205027
CAMPSICNEMUS – Hawaiian	
Campsicnemus amblytylus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI'I, HVNP, Ola'a Forest, Pole 48 (left side of road), 6–7 Jul 2004, PM O'Grady, M. Giannullo & CD Specht, 247.8; O'Grady Lab 200725
Campsicnemus biseta Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Kaupo Trail, 5500', 4 Aug 2007, KN Magnacca 07-0752; O'Grady Lab 205040
Campsicnemus brevitibia Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI'I: Saddle Road, Kipuka Mosaic, 6 Apr 2004, DJ Preston & MKK McShane; O'Grady Lab 201912
Campsicnemus bryophilus (Adachi, 1954)	HAWAIIAN ISLANDS: MOLOKA'I, Pu'u Kolekole, 3854', 28–30 Jul 2004, PM O'Grady & CD Specht, 283.3; O'Grady Lab 201704
Campsicnemus camptoplax Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Waikamoi Forest Preserve, Pig Hunter's Trail, 16 Dec 2003, PM O'Grady, 241.H; O'Grady Lab 200128
Campsicnemus capitulatus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Carson Trail, 4200', 6 Aug 2007, KN Magnacca 07-0801; O'Grady Lab 205035
	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 31 Jul 2007, KN Magnacca 07-0701; O'Grady Lab 205052
	HAWAIIAN ISLANDS: MAUI: Makawao Forest Reserve, 4500', 31 Jul 2007, KN Magnacca 07-0708; O'Grady Lab 205053
Campsicnemus comatus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Carson Trail, 4200', 6 Aug 2007, KN Magnacca 07-0802; O'Grady Lab 205036
	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0778; O'Grady Lab 205042
Campsicnemus crossotus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Pu'u Kukui Trail, 2900–3700', 8 Aug 2007, KN Magnacca 07-0824; O'Grady Lab 205037
Campsicnemus dicondylus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI'I: Pu'u Maka'ala Trailhead, off Stainback Hwy, 11 Jul 2004, PM O'Grady & M Giannullo, 257.7a; O'Grady Lab 200731
Campsicnemus distinctus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0780; O'Grady Lab 205043
Campsicnemus fulvifacies Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MOLOKA'I: Pu'u Kolekole, 3854', 28–30 Jul 2005, PM O'Grady & CD Specht; O'Grady Lab 200775
Campsicnemus hispidipes Hardy & Kohn, 1964	HAWAIIAN ISLANDS: KAUA'I: Pu'u O Kila Road, 4080', 17 May 2007, KN Magnacca 07-0431; O'Grady Lab 205019
	HAWAIIAN ISLANDS: KAUA'I: Pihea Trail, 3900', 18 May 2007, KN Magnacca 07-0460; O'Grady Lab 205020
Campsicnemus hygrophilus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI'I: Saddle Road, Kipuka 9, 13–15 Aug 2008, NL Evenhuis & M. Nicholson; O'Grady Lab 201928

Campsicnemus impariseta Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI‘I, Pu‘u Maka‘ala Trailhead, off Stainback Hwy, 11 Aug 2004, PM O’Grady & M Giannullo, 257.8b; O’Grady Lab 200743
Campsicnemus labilis Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: stream E of Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0795; O’Grady Lab 205059
Campsicnemus longitarsus Tenorio, 1969	HAWAIIAN ISLANDS: KAUA‘I: Kumuwela Trail, 3500', 17 May 2007, KN Magnacca 07-0417; O’Grady Lab 205021
	HAWAIIAN ISLANDS: KAUA‘I: Pihea Trail, 3500', 18 May 2007, KN Magnacca 07-0443; O’Grady Lab 205022
Campsicnemus loxothrix Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI‘I: HVNP, Upper Ola‘a Forest, end of Wright Rd, 8 Jul 2004, PM O’Grady, M Giannullo, D. Foote, 251.7; O’Grady Lab 200755
Campsicnemus mucronatus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Hanawi Stream, 2000', 12 Nov 1992, DA Polhemus; O’Grady Lab 200115
	HAWAIIAN ISLANDS: MAUI: Makawao Forest Reserve, 4500', 6 Aug 2007, KN Magnacca 07-0809; O’Grady Lab 205038
	HAWAIIAN ISLANDS: MAUI: Ha‘ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0777; O’Grady Lab 205044
Campsicnemus nigricollis Van Duzee, 1933	HAWAIIAN ISLANDS: KAUA‘I, Lumahai River, 9 Nov 1994, DA Polhemus; O’Grady Lab 200114
	HAWAIIAN ISLANDS: KAUA‘I: Namdokam Mtn, 4200', 22 May 2005, DA Polhemus; O’Grady Lab 201913
Campsicnemus ornatus Van Duzee, 1933	HAWAIIAN ISLANDS: O‘AHU: abv. Nu‘uanu Pali lookout, 1500', 29 Jul 2007, KN Magnacca 07-0686; O’Grady Lab 205055
Campsicnemus penicillatus Parent, 1933	HAWAIIAN ISLANDS: HAWAI‘I: Saddle Rd, Kipuka 9, 2004, NL Evenhuis; O’Grady Lab 200737
Campsicnemus perplexus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MAUI: Pu‘u Kukui Trail, 2900–3700', 8 Aug 2007, KN Magnacca 07-0822; O’Grady Lab 205029
	HAWAIIAN ISLANDS: MAUI: Ha‘ikū Uka, Carson Trail, 4200', 6 Aug 2007, KN Magnacca 07-0800; O’Grady Lab 205032
	HAWAIIAN ISLANDS: MAUI: Ha‘ikū Uka, Heed Trail, 4200', 31 Jul 2007, KN Magnacca 07-0700; O’Grady Lab 205056
	HAWAIIAN ISLANDS: MAUI: Haiku Uka, Heed Trail, 4200', 6.viii.2007, KN Magnacca 07-0775; O’Grady Lab 205057
Campsicnemus petalicnemus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: MOLOKA‘I, Pu‘u Kolekole, 3854', 28–30 Jul 2004, PM O’Grady & CD Specht, 283.6; O’Grady Lab 201707
	HAWAIIAN ISLANDS: MAUI: Pu‘u Kukui Trail, 2900–3700', 8 Aug 2007, KN Magnacca 07-0823; O’Grady Lab 205028
Campsicnemus plautinus Adachi, 1953	HAWAIIAN ISLANDS: KAUA‘I: Pu‘u O Kila Road, 4100', 17 May 2007, KN Magnacca 07-0439; O’Grady Lab 205023

Campsicnemus scolimerus Hardy & Kohn, 1964	HAWAIIAN ISLANDS: HAWAI'I: HVNP, Olaa Forest, Pole 48 (left side of road), 6–7 Jul 2004, PM O'Grady, M. Giannullo & CD Specht, 247.8a; O'Grady Lab 200727 HAWAIIAN ISLANDS: HAWAI'I: Tree Planting Rd, off Stainback Hwy, 11 Jul 2004, PM O'Grady & M Giannullo, 256.3c; O'Grady Lab 201730 HAWAIIAN ISLANDS: HAWAI'I: Volcano, 20 Jul 2004, NL Evenhuis; O'Grady Lab 200735
Campsicnemus sinuosus Evenhuis, 2007	HAWAIIAN ISLANDS: HAWAI'I: Saddle Rd, Kipuka 9, 13–15 Aug 2008, NL Evenhuis & M. Nicholson O'Grady Lab 201930
Campsicnemus sp.	HAWAIIAN ISLANDS: HAWAI'I: Tree Planting Rd, off Stainback Hwy, 11 Jul 2004, PM O'Grady & M Giannullo, 256.3a; O'Grady Lab 200728
Campsicnemus sp.	HAWAIIAN ISLANDS: HAWAI'I: Pu'u Maka'ala Trailhead, off Stainback Hwy, 11 Jul 2004, PM O'Grady & M Giannullo, 257.7b; O'Grady Lab 200732 HAWAIIAN ISLANDS: HAWAI'I: HVNP, Upper Ola'a Forest, end of Wright Rd, 8 Jul 2004, PM O'Grady & M Giannullo, D. Foote; O'Grady Lab 200756
Campsicnemus sp. nr. biseta	HAWAIIAN ISLANDS: MAUI: Kaupo Trail, 5500', 4 Aug 2007, KN Magnacca, 07-0753; O'Grady Lab 205054
Campsicnemus sp. nr. indecorus	HAWAIIAN ISLANDS: MAUI: Ha'ikū Uka, Heed Trail, 4200', 6 Aug 2007, KN Magnacca 07-0779; O'Grady Lab 205045
Campsicnemus sp. nr. loxothrix	HAWAIIAN ISLANDS: HAWAI'I: Saddle Road, Kipuka 9, 13–15 Aug 2008, NL Evenhuis & M. Nicholson; O'Grady Lab 201929
Campsicnemus sp. nr. penicillatus	HAWAIIAN ISLANDS: MAUI: Kaupo Trail, 5500', 4 Aug 2007, KN Magnacca 07-0751; O'Grady Lab 205046

CAMPSICNEMUS – Pacific

Campsicnemus n. sp. "*austral"*	FRENCH POLYNESIA: AUSTRAL ISLANDS: RAPA ISLAND: Mt. Perau, 1700-2000', 3 Mar 2002, KR Wood; O'Grady Lab 201851
Campsicnemus n. sp. "*craigi"*	FRENCH POLYNESIA: TAHITI: Mt. Mauru, Faatautia, 720 m, 19 Jul 2006, PM O'Grady; O'Grady Lab 201852
Campsicnemus limnobates Evenhuis, 2000	FRENCH POLYNESIA: MARQUESAS: UA HUKA I: Vaihonu Cascade, 1 Nov 1999, DA Polhemus; O'Grady Lab 200111
Campsicnemus n. sp. "*popeye"*	FRENCH POLYNESIA: TAHITI: Mt. Mauru, 14 Jul 2006, PM O'Grady, NL Evenhuis, DH Hembry, E Claridge, 346.a
Campsicnemus rheocrenus Evenhuis, 2008	FRENCH POLYNESIA, TAHITI: Punaru'u River, 140–160 m, 20 Jul 2006, NL Evenhuis & PM O'Grady; O'Grady Lab 201853

CAMPSICNEMUS – European and North American

Campsicnemus curvipes (Fallén, 1823)	GENBANK ACCESSION: Bernasconi *et al*. (2007) **[COI**: **DQ456892**; **12S**: **DQ464828]** BELGIUM: Ghent-Osse meersen, 1993, M Pollet; O'Grady Lab 200742

Campsicnemus degener Wheeler, 1899	CANADA: NEW BRUNSWICK: Pokeshaw, 4 Sep 2001, SE Brooks & C. Chenard; O'Grady Lab 200774
Campsicnemus loripes (Halliday, 1832)	M Pollet; O'Grady Lab 200740
Campsicnemus scambus (Fallén, 1823)	M. Pollet; O'Grady Lab 200741
OTHER HAWAIIAN GENERA	
Emperoptera montgomeryi Evenhuis, 1997	HAWAIIAN ISLANDS: O'AHU, Mt. Ka'ala, NL Evenhuis; O'Grady Lab 200777

Gene sequences generated in this study will be deposited in Genbank when sampling of Hawaiian and Pacific *Campsicnemus* and related dolichopodids has been completed.