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**THE STATUS OF GENERA IN THE
LONCHOPTERIDAE (DIPTERA), AND NEW RECORDS
OF *LONCHOPTERA* FROM TAIWAN**

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The status of genera in the Lonchopteridae (Diptera), and new records of *Lonchoptera* from Taiwan

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Abstract

The family Lonchopteridae (spear-winged flies) comprises a single extant genus, *Lonchoptera* Meigen, 1803, currently with 72 extant and three extinct species. Although eight species have previously been assigned to either *Homolonchoptera* Yang, 1998 (one species) and *Spilolonchoptera* Yang, 1998 (seven species) there seems little to substantiate the erection and persistence of these genera as they are poorly supported by 1 and 2 autapomorphies respectively. It is here proposed that the species assigned to these two genera are in fact consistent with the concept of the genus *Lonchoptera*. Consequently *Homolonchoptera* Yang, 1998 and *Spilolonchoptera* Yang, 1998 are synonymised with *Lonchoptera* Meigen, 1803 **syn. nov.**, giving the following new combinations: *Lonchoptera brevicaudata* (Dong & Yang, 2013) **comb. nov.**, *Lonchoptera chinica* (Yang, 1998) **comb. nov.**, *Lonchoptera curtifurcata* (Yang, 1998) **comb. nov.**, *Lonchoptera hainanensis* (Gao, Zhang & Yang 2021) **comb. nov.**, *Lonchoptera longisetosa* (Yang & Chen, 1998) **comb. nov.**, *Lonchoptera tautineura* (Yang, 1998) **comb. nov.**, *Lonchoptera yangi* (Dong & Yang, 2013) **comb. nov.**, and *Lonchoptera zhejiangensis* (Gao, Zhang & Yang 2021) **comb. nov.** In addition, Yang proposed in 1998 an unnecessary combination change *Spilolonchoptera pictipennis* (Bezzi, 1899), which is re-instated as *Lonchoptera pictipennis* Bezzi, 1899. Finally, previously unpublished Taiwanese records are provided for *Lonchoptera malaisei* Andersson, 1971, *Lonchoptera orientalis* (Kertész, 1914) and *Lonchoptera zhejiangensis* (Gao, Zhang & Yang, 2021).

Keywords: Lonchopteridae, *Lonchoptera*, synonymy, Taiwan.

Introduction

Lonchopteridae are a distinctive family of small (2-5 mm), slender, yellowish, grey or brown flies with strongly developed and often conspicuous macrosetae, distinctively pointed wing apices and sexually dimorphic wing venation (Whittington & Kirk-Spriggs 2021). The diagnostically pointed wings give rise to the generic and family group name *λόγχη* (lance, spear) *πτερόν* (feather or wing) (Agassiz 1847; D'Orbigny 1861; Glaser 1883; Whitney 1889). Adults demonstrate rapid, jerky movements (Smith 1969) and larvae are found in decaying organic matter where they feed by scraping microorganisms from the surface layer (Ferrar 1987).

The bulk of species in the family are assigned to a single genus *Lonchoptera* Meigen, 1803, although there have been several attempts, both historical and recent, to divide this well-established genus into many. I argue here that all species in the family Lonchopteridae are members of *Lonchoptera* and this results in several intentionally new nomenclatural acts that are outlined in this paper.

At the request of Michael Tröster and Marion Kotrba in Munich, working on a project investigating the reproductive system of the Lonchopteridae, I was asked to provide identification support of some specimens from Taiwan. Some of those specimens agreed with the diagnosis for

Spilolonchoptera zhejiangensis Gao, Zhang & Yang (2021), prompting me to reconsider the status of this genus before publishing the new records.

Material and Methods

Morphological observations and identifications were made with a Motic binocular dissecting microscope, 6 to 50x magnification with 10x eyepieces. Terminology and abbreviations concerning gross morphology generally follow Cumming & Wood (2017) and Whittington & Kirk-Spriggs (2021). The taxonomic decisions are made with the express intention of providing new combinations and are intended for nomenclatural purposes in accordance with the International Commission on Zoological Nomenclature (1999). The electronic edition of this article conforms to the requirements of the amended International Code of Zoological Nomenclature.

Label data of material examined have been standardised, so that localities are given first, followed by altitude, date, collector, any other relevant details and lastly the institutional acronyms in brackets. Dates conform to the format ‘day.month.year’, with the day and year in Arabic numerals and the month in lower case Roman (e.g. 8.iii.2003). Where labels share similar data, these are included in one entry, with all dates and collectors for that locality listed and separated by commas. Accession numbers, specimen numbers and institutional collection numbers have been excluded.

Contributing Institution: SNBS – Zoologische Staatssammlung München, Germany.

Nomenclatural checks were conducted in *Systema Dipteroorum* (Evenhuis & Pape 2024), *Zoobank* (2024) and the *Index to Organism Names* (ION) (Clarivate Analytics 2009).

Taxonomy

The first generic name that was proposed for members of this family was *Musidora* Meigen, 1800: 30, with type species *Lonchoptera lutea* Meigen in Panzer, 1809: 20, by designation of Coquillett (1910: 377). First noted as synonymous with *Lonchoptera* Meigen, 1803 by Hendel (1908), who wrote:

“54. *Musidora*. (S.30.) ...2 espèces. ... = 66. *Lonchoptera* Meig., p.272. ... Kein Typus.”
(Hendel 1908: 59).

Musidora Meigen, 1800 was suppressed by opinion 678: 339 (International Commission on Zoological Nomenclature 1963) and the synonymy was finally formalised by Evenhuis & Pape (2017: 42). Hendel’s “Kein Typus.” refers to the lack of a type species for the genus *Musidora*, which, as noted above, was rectified by Coquillett (1910). It just happens that *Lonchoptera lutea* Meigen in Panzer, 1809 by subsequent monotypy (Panzer 1809: 20) was designated as the type species of *Lonchoptera* by Curtis (1839 [illustration plate 761]) and the gender noted as feminine by Melville (1960).

A further generic name, *Dipsa* Fallén, 1810, with type species *Dipsa bifurcata* Fallén, 1810: 26 by monotypy, was later synonymised with *Lonchoptera* by Latreille (1829: 526), but reinstated to full generic status again by Vaillant (1989) only to be reinstated as a junior synonym to *Lonchoptera* again when the synonymy was rejected by Chandler (1998: 103).

The next generic name that was proposed for a species in the family was *Lonchopteryx* Stephens, 1829, made available “by indication”, i.e., by including seven nominal species under it (Figure 1). One of these names, *Lonchopteryx leachii* Stephens, 1829 is *nomen nudum* and hence unavailable and invalid. Andersson (1991) designated the type species as *Lonchoptera tristis* Meigen, 1824.

Curtis (1837) did not list *Lonchopteryx* but favoured the single genus *Lonchoptera*, listing the same six species as listed by Stephens (1829) excepting ‘*leachii*’. Indeed, despite the publication of 116 papers, by about 82 different authors during the intervening years that mentioned or listed

Lonchoptera and species included in it, no author recognised *Lonchopteryx* and the name went unmentioned again until 1909, when Kertész listed *Lonchopteryx* as a synonym of *Musidora*, along with *Dipsa* and *Lonchoptera*. Kertész (1909) made no mention of the *nomen nudum* 'leachii'.

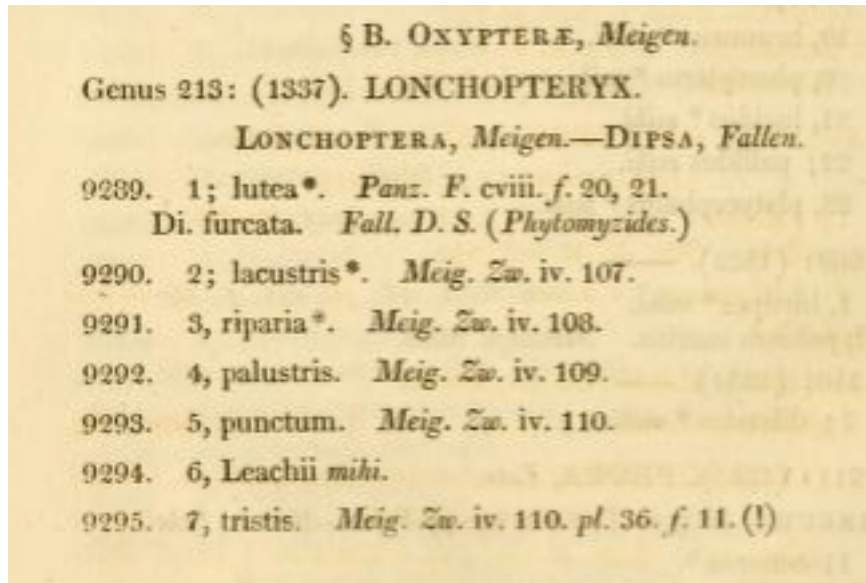


Figure 1. Excerpt of the systematic catalogue of British insects by Stephens (1829, page 326) in which he provides the names *Lonchopteryx* and *leachii*.

That same year Verrall stated: “The Lonchopteridae are limited to the genus *Lonchoptera* ...” (Verrall 1909: 29) and, in 1920, Brunetti finally listed it as a synonym (Brunetti 1920: 388). Whittington & Beuk (2022) incorrectly attributed the synonymy to Sherborn (1927: 3638).

At the seventeenth International Congress of Entomology, on Hamburg, Andersson (1984) proposed breaking *Lonchoptera* into eight genera based on distinctive characters within the male genitalia, but the notion received little acceptance and was not published. Three additional available generic names have since been proposed within this family: *Neolonchoptera* Vaillant, 1989, *Homolonchoptera* Yang, 1998 and *Spilolonchoptera* Yang, 1998.

The monospecific genus *Neolonchoptera* Vaillant, 1989 was distinguished from the sibling genus *Lonchoptera* by a complex calculation of angles between branches and terminal points of wing veins. These apomorphic character states are useful in diagnosing the single European species *Neolonchoptera nevadica* Vaillant, 1989, but in the interpretation of Whittington & Beuk (2022) are insufficient and unsubstantiated as generic characters. Consequently, *Neolonchoptera* Vaillant, 1989 was treated as a junior subjective synonym of *Lonchoptera* Meigen, 1803, by Whittington & Beuk (2022). The name *Neolonchoptera* is therefore available, but invalid and a junior synonym of *Lonchoptera*, and *Lonchoptera nevadica* (Vaillant, 1989) was listed as a new combination by Whittington & Beuk (2022).

The monospecific genus *Homolonchoptera* Yang, 1998, including only *H. tautineura* Yang 1998, was based on a single autapomorphy, lack of sexual dimorphism of the wing, stated by Yang (1998) as:

“Male venation the same as the female, vein *a* (or cua_2+a_1) ends in *cu* (or cua_1) and not reaches wing margin, other characters as the genus *Lonchoptera* Meigen.”

Interpretations of wing venation change over time, so the names of these veins do not conform to current thinking. Following Whittington & Kirk-Spriggs (2021), vein *a*, or cua_2+a_1 is now referred

to as *CuA+CuP*, and *cu* (or *cu*₁) is now referred to as *M*₄ and the vein after *CuA+CuP* joins *M*₄ is referred to as *M*_{4+CuA+CuP} (Figure 2).

In all known male Lonchopteridae, except *H. tautineura*, *CuA+CuP* is rooted in *CuA* and arches across the wing membrane just within the posterior margin of the wing, then rejoins the wing margin without joining or connecting to any other vein. In female Lonchopteridae, including *H. tautineura*, this vein is rooted in *CuA* and arches across the wing membrane just within the posterior margin of the wing, but curves forward to join *M*₄ roughly midway between the junction with *M*₁₊₂ and the posterior wing margin.

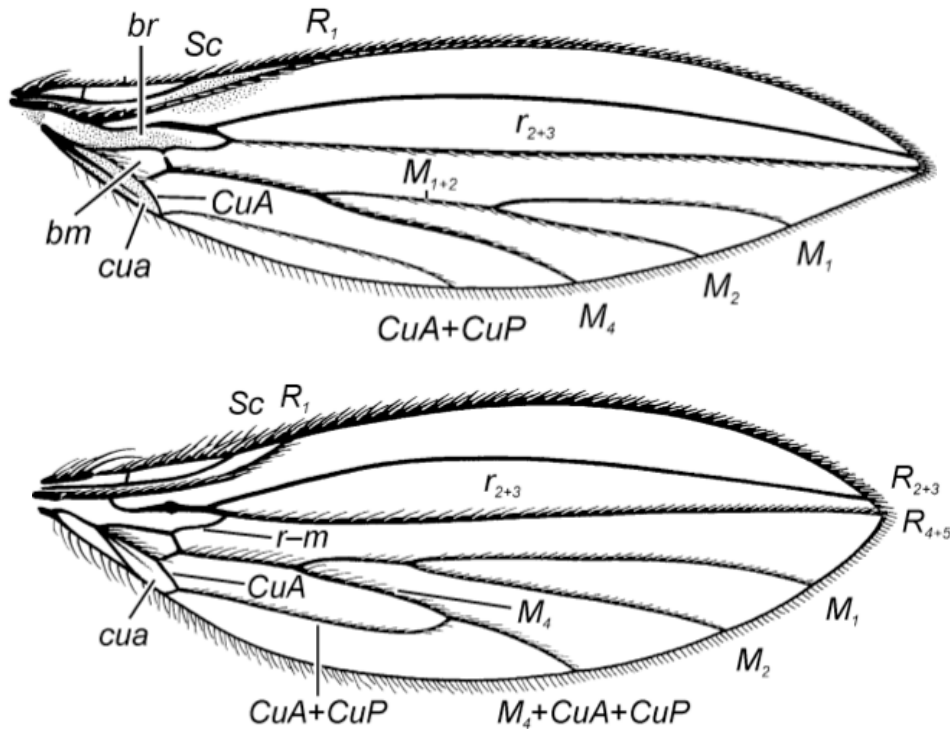


Figure 2. Wing venation of *Lonchoptera*, male (top) and female (bottom) (after Whittington & Kirk-Spriggs 2021).

The lack of sexual dimorphism in the wing venation in *H. tautineura* is unlikely to be a single-specimen aberration, as Yang (1998) examined the male holotype and two male paratypes. It may, however, be an aberration restricted to males of this one species. I postulate that this may even represent the ancestral condition within Lonchopteridae.

While one does not oppose the erection of monotypic genera, this autapomorphy is useful in diagnosing *only* males of *H. tautineura*, but does not enable the diagnosis of females, which agree with the generic concept of *Lonchoptera*. This divergence only weakly supports the concept that *Homolonchoptera* is distinct from *Lonchoptera* and on its own, this autapomorphy in the male (only) is unconvincing evidence for the establishment of a genus separate from *Lonchoptera*. Further research is needed across multiple potential species to clarify if this character state represents a genus unique autapomorphy. I consequently synonymise *Homolonchoptera* Yang, 1998 with *Lonchoptera* Meigen, 1803 **syn. nov.**

The second genus in the same paper, *Spilolonchoptera* Yang, 1998, was based on two autapomorphies - the presence of maculae on the wing membrane and the absence of macrosetae on the fore tibia. When initially described *Spilolonchoptera* included three species: *S. chinica* Yang,

1998 (the type species); *S. curtifurcata* Yang, 1998; and *S. pictipennis* (Bezzi, 1899), which Yang moved from *Lonchoptera*. A further four species have since been added to *Spilolonchoptera*: *S. brevicaudata* Dong & Yang, 2013; *S. yangi* Dong & Yang, 2013; *S. hainanensis* Gao, Zhang & Yang, 2021; and *S. zhejiangensis* Gao, Zhang & Yang 2021.

It is worth noting that the maculate wing is not a new discovery in Lonchopteridae, as *Lonchoptera maculata* Smith, 1974 also has this character state, in addition to having macrosetae on the fore tibia in the following positions: one posterodorsal (*pd*) above the middle of the fore tibia; one anterodorsal (*ad*) just distal to the *pd*; one longer posterodorsal distal to that; one pre-apical posterodorsal and one subapical posteroventral (*pv*).

Furthermore, the second autapomorphy (absence of macrosetae on the fore tibia) only occurs in some species that have been assigned to *Spilolonchoptera*. Originally, Yang (1998) provided the following diagnostic character states for the genus:

“Wing venation with sexual dimorphism as the genus *Lonchoptera* Meigen, but with distinct maculation. Fore tibia without bristles except subapical, and tarsi very stout as the tibia, both completely covered with short black dense hairs” (Yang, 1998: 58).

The introduction to Gao, *et al.* (2021) changes the diagnostic character states to:

“wing slightly blunt, apically with a large brown spot; fore tarsus as wide as fore tibia, only with short setae distally, but without *ad* and *pd* medially” in reference to Yang 1998; Yang & Chen 1998; Dong & Yang 2013 (Gao, *et al.* 2021: 389).

Following this, the description for *S. hainanensis* states:

“Fore tibia with 1 short *ad*, 1 short *pd* and 1 long *pv* apically.”

and that for *S. zhejiangensis* states:

“Fore tibia with 1 *ad* at basal 2/5; apically with 1 short *ad*, 1 short *pd* and 1 long *pv*.”

The generic concept “Fore tibia without bristles [=macrosetae] except subapical” (Yang, 1998) amended to “but without *ad* and *pd* medially” (Gao, *et al.* 2021) conflicts with the two descriptions provided by Gao *et al.* (2021) and fails to distinguish these species from those assigned to *Lonchoptera*.

The chaetotaxy of the legs is agreeably a useful species level diagnostic tool, which varies widely across the family. The seven species placed in *Spilolonchoptera* appear to fall into one end of the continuum observed in this character, which ranges from none in *S. chinica*, as few as one in *Lonchoptera unisetata* Curran, 1934 and *L. hasanica* Kuznetsov & Kuznetzova, 1995, two in some African species (*L. africana* Adams 1905, *L. rava* Whittington, 1991, *L. vespris* Stuckenberg, 1963 and *L. ugandensis* Whittington, 1991), three in many species (*e.g.* *Lonchoptera bifurcata* (Fallén, 1810)) and as many as four in *L. casanova* Andersson, 1971.

The newly introduced diagnostic character states ‘wing slightly blunt’ and ‘fore tarsus as wide as fore tibia’ are equally unsubstantial. Wing slightly blunt is subjective and there appears little difference between the figures supplied by Gao, *et al.* (2021) and specimens of many other species in the genus. Secondly, the character state fore tarsus as wide as fore tibia is for the most part consistent across the genus *Lonchoptera*. What is important, but overlooked by Gao, *et al.* (2021), is whether or not the third fore tarsomere has basal or apical modifications, as is often the case in males. Even so, these would likely only be species level autapomorphies, at least at our current level of understanding the global fauna.

The monophyly of Lonchopteridae remains strongly supported by the synapomorphies: pointed wings with distinctive venation, sexually dimorphic (except in instance of *H. tautineura* Yang, 1998), absence of empodia, and absence of surstyli (Hennig 1976; McAlpine 1989; Cumming *et al.*

1995). There seems insufficient evidence to support genera other than *Lonchoptera* Meigen, 1803 at present, so with the aim of greater nomenclatural stability in the family, *Homolonchoptera* Yang, 1998 and *Spilolonchoptera* Yang, 1998 are established here as **new synonyms** of *Lonchoptera* Meigen, 1803, rendering *Lonchoptera* once more the only extant genus in the family Lonchopteridae.

Accordingly, the following eight new combinations are also formalised: *Lonchoptera brevicaudata* (Dong & Yang, 2013) **comb. nov.**, *Lonchoptera chinica* (Yang, 1998) **comb. nov.**, *Lonchoptera curtifurcata* (Yang, 1998) **comb. nov.**, *Lonchoptera hainanensis* (Gao, Zhang & Yang, 2021) **comb. nov.**, *Lonchoptera longisetosa* (Yang & Chen, 1998) **comb. nov.**, *Lonchoptera tautineura* (Yang, 1998) **comb. nov.**, *Lonchoptera yangi* (Dong & Yang, 2013) **comb. nov.**, and *Lonchoptera zhejiangensis* (Gao, Zhang & Yang 2021) **comb. nov.**

None of these names eight were registered in ZooBank and so do not yet bear LSID (Life Science Identifier) codes. The publications of Dong & Yang (2013), published in *Entomotaxonomia*, and Gao, *et al.* (2021), published in *Zootaxa*, bear the following two LSIDs respectively:

Dong & Yang (2013): urn:lsid:zoobank.org:pub:DB1396B7-D031-416D-8BAE-8C7D594A20B3.

Gao, *et al.* (2021) urn:lsid:zoobank.org:pub:DB1396B7-D031-416D-8BAE-8C7D594A20B3.

The names *Homolonchoptera tautineura*, *Spilolonchoptera brevicaudata*, *S. chinica*, *S. curtifurcata*, *S. hainanensis*, *S. longisetosa*, *S. yangi* and *S. zhejiangensis* and their new combinations in *Lonchoptera* are considered published in compliance with ICZN and all (generic and specific names) are listed as available and valid in *Systema Dipteroformum* (Evenhuis & Pape 2024). In contrast, only *Spilolonchoptera brevicaudata*, *S. hainanensis*, *S. longisetosa*, *S. yangi* and *S. zhejiangensis* are listed in the Index to Organism Names (Clarivate Analytics 2009).

Finally, *Spilolonchoptera pictipennis* (Bezzi, 1899), an unnecessary combination (Yang 1998: 54 (59)), is re-instated as *Lonchoptera pictipennis* Bezzi, 1899.

New records

The material received in this respect from the Bavarian State Collection for Zoology included 42 specimens from Taiwan, which their former colleague Wolfgang Schacht collected during the period 1997-2002. Of these, 35 were pale brown to yellowish specimens, which keyed easily to *Lonchoptera malaisei* Andersson, 1971 (14 specimens) and *L. orientalis* (Kertész, 1914) (24 specimens) with the aid of Andersson (1971), while the final 7 specimens were darker brown and stood out as different from the rest of the sample. These agreed favourably with the description of *L. zhejiangensis* (Gao, Zhang & Yang, 2021).

Lonchoptera malaisei Andersson, 1971

Lonchoptera malaisei Andersson, 1971: 218. Type locality: Kambaiti [25°24'00"N 98°09'00"E], Myanmar. Type depository: NHRS, Stockholm, Sweden.

Diagnosis: pale brown to yellowish; marcosetae on mid tibia short (little longer than maximum width of tibia); third tarsomere of foreleg with paired baso-dorsal peg-like macrosetae; median ventral sclerite on male cerci with four marcosetae; two spines at apex of pregonite, broad postgonite with a lateral finger-like projection. Tibial formula:

t ₁	1d, 1ad, 3pd, 1 long pv, 1 short subapical ad
t ₂	1d, 2ad, 2pd, 1pv
t ₃	1d, 2ad, 2av, 1pd, 1 short subapical d

Materials examined: TAIWAN: 1 male South Taiwan, Kaohsiung Co., Tengir Endem. Sp. Res. St., 23°07'N;120°48'E, 2300–2600m, 8.vii.2000, W. Schacht; 3 males 5 females N-Nantou Co., Road No. 14, Meifeng, NE Puli, 24°05'N;121°08'E, 2100m, 19.v.–9.vi.1998 (2 males, 2 females), 26.vi.–28.vii.1997 (1 male, 1 female), 25.ix.–3.xi.1997 (1 female), 3–23.xi.1997 (1 female), Malaise

trap, C.-S. Lin & W.-T. Yang; 1 female N-Nantou Co., Road No. 14 NE Puli Reyen Shi-Reg., Meifeng, 24°06'N;121°10'E, 2200m, 9–11.ix.2002, W. Schacht *et al.*; 2 male, 2 female Central Taiwan, Road No. 14, Reyen Shi-Reg., E. Tsuifeng, NE Puli, 24°08'N;121°12'E, 2500m, 1.vii.2000, W. Schacht.

Discussion: Andersson (1971) noted that *L. malaisei* Andersson, 1971 has close affinities with *L. orientalis* (Kertész, 1914) and *L. birmensis* Andersson, 1971. The hind tibia of *L. malaisei* has a single post-dorsal macroseta (*cf. L. orientalis* which has two post-dorsal macrosetae). The shorter macrosetae on the middle tibia, two spine-like macrosetae instead of one at end of the pregonite, broad postgonite with a lateral finger-like process, and large ejaculatory apodeme are diagnostic and separate *L. malaisei* from the other two species. Singleton females are near impossible to identify because of uniformity of external morphology. The yellowish-brown specimens in this batch of samples could be either *Lonchoptera malaisei* or *L. orientalis*. In some samples, I noticed that *L. malaisei* males, that had associated females, have lateral brown fasciae on the scutum. The female specimens unassociated with males also have these brown fasciae, hence on balance, I think it more likely that they are *L. malaisei*.

Distribution: Republic of the Union of Myanmar (Andersson 1971); Republic of China (Taiwan).

Lonchoptera orientalis (Kertész, 1914)

Musidora orientalis Kertész, 1914: 675. Type locality: Chip-Chip, Kosempo, Pilam, Republic of China (Taiwan). Type depository: HNHM, Budapest, Hungary.

Lonchoptera orientalis (Kertész, 1914). Combination, Saigusa (1975: 260).

Diagnosis: pale brown to yellowish; macrosetae on mid tibia longer than maximum width of tibia; third tarsomere of foreleg lobed dorsally, with a spine-like macrosetae at apex of lobe; one macroseta located on the apicoventral corner of epandrium longer than the surrounding vestiture; median ventral sclerite on male cerci with three distinct basoventral macrosetae on each side of the median line; pregonite with one bent apical spine and postgonite with a long slender apical part. Tibial formula:

t ₁	1d, 1ad, 3pd, 1pv, 1 short subapical ad
t ₂	1d, 2ad, 2pd, 1pv
t ₃	1d, 2ad, 2av, 2pd, 1 short subapical d

Materials examined: TAIWAN: 6 males, 2 females N-Nantou Co., Road No. 14 NE Puli Reyen Shi-Reg., Meifeng, 24°05'N;121°10'E, 2000m, 10–11.v.2001, W. Schacht *et al.*; 4 males, 5 females Central Taiwan, Road No. 14, Reyen Shi-Reg., Tsuifeng, NE Puli, 24°08'N;121°10'E, 2200m, 28.vi–2.vii.2000, W. Schacht; 2 males, 2 females South Taiwan, Kaohsiung Co., Tengir Endem. Sp. Res. St., 23°07'N;120°47'E, 1600m, 6–10.vii.2000, W. Schacht.

Discussion: Andersson (1971) noted that *L. orientalis* (Kertész, 1914) has close affinities with *L. malaisei* Andersson, 1971 and *L. birmensis* Andersson, 1971. Distinguished from *L. malaisei* by having two post-dorsal macrosetae on the hind tibia (*cf. one post-dorsal macroseta on the hind tibia of L. malaisei*). The modified third tarsomere of fore tarsus and male terminalia are diagnostic and separate *L. orientalis* from the other two species.

Distribution: People's Republic of China (Dong *et al.* 2008); Republic of the Union of Myanmar (Andersson 1971); Republic of China (Taiwan).

Lonchoptera zhejiangensis (Gao, Zhang & Yang, 2021) **comb. nov.**

Spilolonchoptera zhejiangensis Gao, Zhang & Yang 2021: 392. Type locality: Baishanzu (27.83°N 119.18°E), 1590m, Qingyuan, Zhejiang Province, China. Type depository: BAUC, Beijing, China.

Diagnosis: dark brown; wing membrane pale yellow hyaline with brown subapical band touching posterior margin of wing; female S₄ slightly concave along posterior margin with small clusters of macrosetae at the posterior outer corners; epandrium distinctly elongated, twice as long as wide;

pregonite three times longer than wide, widely concave at posterior margin; postgonite long, slender, without lateral process. Tibial formula:

t₁ 1d, 1 short subapical *ad*, *pd* and longer *pv*

t₂ 1d, 2*ad*, 1*pd*, 1 short subapical *d*

t₃ 1d, 2*ad*, 1*pd*, 1 short subapical *ad*, *av* and longer *pv*

Materials examined: TAIWAN, North Nantou Co., Road No. 14 NE Puli: 1 male, 1 female Reyen Shi-Reg., Meifeng, 24°05'N;121°10'E, 2000m, 10–11.v.2001; 1 male Yuanfeng to Taroko NP, 24°07'N;121°16'E, 2700–3000m, 11.v.2001; 2 males, 2 females Taroko NP, Hohuanshan Mt., 24°10'N;121°17'E, 3000m, 12.ix.2002 - all leg. W. Schacht *et al.*

Discussion: Clearly distinct from the other two species in the samples by the banded wing and the dark brown ground colour. These specimens represent a range extension for the species, previously only known from mainland China. Females are recorded for the first time and appear very similar to the males, with the obvious distinction that the wing venation follows the typical female pattern found in *Lonchoptera*.

Although female genital structures have received little attention in this family because of similarity in gross morphology, the shape and setation of *S*₄ does seem distinctive, being slightly concave along posterior margin with small clusters of macrosetae at the posterior outer corners. Further work on female genital characters is needed to better inform species identities, currently based for the most part on characters of the male.

Distribution: People's Republic of China (Gao *et al.* 2021); Republic of China (Taiwan).

Acknowledgements

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References

- Adams, C.F. 1905.** Diptera Africana I. *Kansas University Science Bulletin* 3(6): 149–208.
- Agassiz, L. 1847.** *Nomenclatoris zoologicus, continens nomina systematica generum animalium omnium tam viventium quam fossilium, secundum ordinem alphabeticum disposita, adiectis auctoribus, libris, in quibus reperiuntur, anno editions, etymologia et familiis, ad quos pertinent, in singulis classibus.* [= Fasc. XIII]. Jent & Gassman, Soloduri [= Solothurn, Switzerland], Diptera: 1–42. [In Latin.]
<https://doi.org/10.5962/bhl.title.15763>
- Andersson, H. 1971.** Eight new species of *Lonchoptera* from Burma (Dipt., Lonchopteridae). *Tijdschrift voor Entomologie* 92: 213–231.
- Andersson, H. 1984.** Evolution within the genus *Lonchoptera* (Diptera: Lonchopteridae). Abstract p. 31. *XVII International Congress of Entomology*. Hamburg, Germany.
- Andersson, H. 1991.** Family Lonchopteridae. Pp. 139–142. In: Soós, Á. & Papp, L., (Ed.). *Catalogue of Palaearctic Diptera. Dolichopodidae–Platypezidae. Volume 7.* Budapest: Akadémiai Kiadó.
- Bezzi, M. 1899.** Contribuzioni alla fauna ditterologica Italiana. II. Ditteri delle Marche e degli Abruzzi. *Bollettino della Società entomologica italiana* 30: 121–164. [In Italian.]
- Brunetti, E. 1920.** *The fauna of British India including Ceylon and Burma. Vol. 1. Diptera Brachycera.* Taylor & Francis, London. 401 pp.
<https://doi.org/10.5962/bhl.title.8962>

- Chandler, P.J. (Ed.). 1998.** Checklists of Insects of the British Isles (New Series), Part 1: Diptera (incorporating a list of Irish Diptera). *Handbooks for the Identification of British Insects* 12: xx + 234 pp. Royal Entomological Society.
- Clarivate Analytics. 2009.** Index to Organism Names (ION).
<http://www.organismnames.com/query.htm> Last accessed: 28 June 2024.
- Coquillett, D.W. 1910.** Corrections to my paper on the type-species of the North American genera of Diptera. *The Canadian Entomologist* 42: 375–378.
<https://doi.org/10.4039/Ent42375-11>.
- Cumming, J.M. & Wood, D.M. 2017.** Adult morphology and terminology. Pp. 89–133. In: Kirk-Spriggs, A.H. & Sinclair, B.J. (Eds.). *Manual of Afrotropical Diptera. Volume 1. Introductory chapters and keys to Diptera families*. Suricata 4. South African National Biodiversity Institute, Pretoria.
- Cumming, J.M., Sinclair, B.J. & Wood, D.M. 1995.** Homology and phylogenetic implications of male genitalia in Diptera – Eremoneura. *Entomological Scandinavica* 26: 120–151.
<https://doi.org/10.1163/187631295X00143>
- Curran, C.H. 1934.** The North American Lonchopteridae. *American Museum Novitates* 696: 1–7.
- Curtis, J. 1837.** *A guide to an arrangement of British insects: being a catalogue of all the named species hitherto discovered in Great Britain and Ireland*. J. Pigot, London. 294pp.
- Curtis, J. 1839.** *British Entomology: illustrations and descriptions of the genera of insects found in Great Britain and Ireland, 1823–1840* Volume 8. Taylor, London. p. 456.
<https://doi.org/10.5962/bhl.title.8148>
- Dong Qi-Biao, Pang Bao-Ping & Yang Ding. 2008.** Lonchopteridae (Diptera) from Guangxi, Southwest China. *Zootaxa* 1806: 59–65. [In Chinese with English summary]
- Dong, Q.-B. & Yang, D. 2013.** Two new species of *Spilolonchoptera* (Diptera: Lonchopteridae) from China. *Entomotaxonomia* 35(1): 68–72.
- D’Orbigny, C.V.D. ed. 1861.** *Dictionnaire universel d’histoire naturelle résumant et complétant tous les faits présentés par les encyclopédies les anciens dictionnaires scientifiques les oeuvres complètes de Buffon, et les Traités spéciaux sur les diverses branches des sciences naturelles donnant la description des êtres et des divers phénomènes de la nature l’étymologie et la définition des êtres et des divers phénomènes de la nature l’Etymologie et la Définition des Nomes scientifiques, les Principales Applications des corps organiques et inorganiques, à l’agriculture, à la médecine, aux arts industriels, etc.* Vol. 7. Houssiaux, Paris. 808pp.
<https://doi.org/10.5962/bhl.title.60478>
- Evenhuis, N.L. & Pape, T. 2017.** Battling the un-dead: the status of the Diptera genus-group names originally proposed in Johann Wilhelm Meigen’s 1800 pamphlet. *Zootaxa* 4275: 1–74.
<https://doi.org/10.11646/zootaxa.4275.1.1>
- Evenhuis, N.L. & Pape, T. 2024.** *Systema Dipterorum: The Biosystematic database of World Diptera. version 5.2.* <http://www.diptera.org/> Last accessed: 28 June 2024.
- Fallén, C.F. 1810.** *Specimen entomologicum novam Diptera disponendi methodum exhibens quod Conf. Ampl. Facult. Phil. Lund, publicae disquisitioni subjiciunt.* In Lyceo Carolino die IX Junii MDCCCX. Berlingianis, Lundae (Lund), 26 pp. [In Latin.]
- Ferrar, P. 1987.** *A guide to the breeding habits and immature stages of Diptera Cyclorrhapha (Part 1: text). (Part 2: figures).* Entomonograph Vol. 8. Leiden and Copenhagen: E.J. Brill/Scandinavian Scientific Press.
<https://doi.org/10.1163/9789004533936>
- Gao, S., Zhang, B. & Yang, D. 2021.** Two new species of genus *Spilolonchoptera* Yang, 1998 from China (Diptera, Lonchopteridae). *Zootaxa*, 4980(2): 389–394.
<https://doi.org/10.11646/zootaxa.4980.2.10>
- Glaser, L. 1883.** Etymologische Bemerkungen zur Nomenclatur des Schwärmer (Sphingens). *Entomologische Nachrichten* 9(3): 29–40. [In German.]

- Hendel, F. 1908.** Nouvelle classification des mouches a deux ailes (Diptera L.). D'après un plan tout nouveau par J.G. Meigen, Paris, an VIII (1800 v.s.). Mit Kommentar herausgegeben von Friedrich Hendel. *Verhandlungen der K.-k. Zoologisch-Botanischen Gesellschaft in Wien*, 58: 43–69. [In German & French.]
- Hennig, W. 1976.** Das Hypopygium von *Lonchoptera lutea* Panzer und die phylogenetischen Verwandtschaftsbeziehungen der Cyclorrhapha (Diptera). *Stuttgarter Beiträge zur Naturkunde Serie A*, 283: 1–63.
- International Commission on Zoological Nomenclature (ICZN). 1963.** Opinion 678. *Bulletin of Zoological Nomenclature* 20: 339–342
- International Commission on Zoological Nomenclature (ICZN). 1999.** International Code of Zoological Nomenclature. Fourth edition. International Trust for Zoological Nomenclature, London, xxix + 306 pp. Amended and updated on-line: <https://www.iczn.org/the-code/the-code-online/>. (last accessed November 10, 2021).
- Kertész, K. 1909.** *Catalogus dipterorum hucusque descriptorum. Vol. VI. Empididae, Dolichopodidae, Musidoridae.* Budapestini [=Budapest], Engelmann, 1902–1910.
- Kertész, K. 1914.** Some remarks on *Cadrema lonchopteroides* Walk. With description of a new *Musidora* from the oriental region. *Annals of the Museum of Natural History, Hungary* 12: 674–675.
- Kuznetsov, S.Yu. & Kuznetzova, N.V. 1995.** New species of Lonchopteridae (Diptera) from the Far East with a redescription of *Lonchoptera kamtschatkana* (Czerny). *Dipterological Research* 6(1): 39–48.
- Latreille, P.A. 1829.** *Les crustacés, les arachnides et les insectes: distribués en familles naturelles. Volume 2.* Chez Déterville, Paris. 584 pp. [In French.]
<https://doi.org/10.5962/bhl.title.11575>
- McAlpine, J.F. 1989.** Phylogeny and Classification of the Muscomorpha. Ch. 116 (p. 1371–1518), In: McAlpine, J. F., & Wood, D. M (Eds.). *Manual of Nearctic Diptera. Vol 3.* Hull (Quebec): Agriculture Canada, Research Branch. (Monograph 32). 1333–1581pp.
- Meigen, J.W. 1800.** *Nouvelle classification des mouches a deux ailes (Diptera L.) d'apres un plan tout nouveau.* Perronneau, Paris. 40 pp. [In French.]
<https://doi.org/10.5962/bhl.title.119764>
- Meigen, J.W. 1803.** Versuch Einer Neuen Gattungeintheilung der Europäischen Zweiflügeligen Insekten. *Magazin für Insektenkunde, Herausgegeben von Karl Illiger*, 2, 259–281. [In German.]
- Meigen, J.W. 1809.** [*Lonchoptera lutea*, new species.] Pl. 20. In: Panzer (1809) (q.v.). [In German.]
- Meigen, J.W. 1824.** *Systematische Beschreibung der bekannten europäischen zweiflügeligen Insekten.* Vierter Theil. Schulz-Wundermann, Hamm. xii + 428 pp., pls. 33–41. [In German.]
- Melville, R.V. 1960.** Report on Mr C.W. Sabrosky's proposal for the suppression under the plenary powers of the pamphlet entitled: "Nouvelle classification des mouches a deux ailes" by J.W. Meigen, 1800. Z.N.(S.)191. *Bulletin of Zoological Nomenclature* 18: 9–64.
- Panzer, G.W.F. 1809.** *Favnae insectorum Germanicae initia oder Deutschlands Insecten.* Heft 108. Felsecker, Nürnberg (Nuremberg), 24 pp., 24 pls.
- Saigusa, T. 1975.** Family Lonchopteridae. In: Delfinado, M.D. & Hardy D.E. (Eds.). *A catalogue of the Diptera of the Oriental Region.* University of Hawai'i Press, Honolulu, Hawai'i. 2: 259–260.
- Sherborn, C.D. 1927.** *Index animalium; sive, Index nominum quae ab A. D. MDCCLVIII generibus et speciebus animalium imposita sunt. Section prima. A Kalendis Ianuariis, MDCCLVIII usque ad finem Decembris, MDCCC. Part XIV. Index laminella—Lyzzia.* Longmans, Green & Co. & British Museum (Natural History), London, pp. 3393–3746.
- Smith, K.G.V. 1969.** Diptera, Lonchopteridae. *Handbooks for the identification of British Insects* 10 (2): 1–9.
- Smith, K.G.V. 1974.** A striking new species of *Lonchoptera* (Diptera, Lonchopteridae) from Mount Kinabalu, Borneo. *Journal of natural History* 8: 235–237.

<https://doi.org/10.1080/00222937400770211>

- Stephens, J.F. 1829.** *A systematic catalogue of British insects : being an attempt to arrange all the hitherto discovered indigenous insects in accordance with their natural affinities. Part II. Insecta Haustellata.* Baldwin & Cradock, London. 388 pp.
<https://doi.org/10.5962/bhl.title.8987>
- Stuckenberg, B.R. 1963.** The genus *Lonchoptera* Meigen in Southern Africa (Diptera: Lonchopteridae). *Journal of the Entomological Society of Southern Africa* 26: 128–143.
- Vaillant, F. 1989.** Contribution à l'étude des Diptères Lonchopteridae d'Europe et d'Afrique du Nord. *Bulletin de la Société Vaudoise des Sciences Naturelles* 79(3): 209–229.
- Verrall, G.H. 1909.** Stationomyidae and succeeding families of the Diptera Brachycera of Great Britain. *British Flies* 5: 1–780.
<https://doi.org/10.5962/bhl.title.8944>
- Whitney, W.D. 1889.** *The Century Dictionary, an encyclopedic lexicon of the English language.* Pt.12 J-L. Century Co., New York. 3556pp.
- Whittington, A.E. 1991.** Two new Afrotropical species of *Lonchoptera* Meigen (Diptera: Lonchopteridae). *Annals of the Natal Museum* 32: 205–214.
- Whittington, A.E. & Beuk P.L.Th. 2022.** A description of a new species of Western Palaearctic *Lonchoptera* Meigen (Diptera, Lonchopteridae) from Georgia. *Zoonova* 20: 1–18.
- Whittington, A.E. & Kirk-Spriggs, A.H. 2021.** Lonchopteridae (Spear-winged Flies or Pointed-winged Flies). pp. 1375–1381. In: Kirk-Spriggs, A.H. & Sinclair, B.J. (Eds.). *Manual of Afrotropical Diptera. Volume 3. Brachycera: Cyclorrhapha, excluding Calyptratae.* Suricata 6. South African National Biodiversity Institute, Pretoria.
- Yang, C.K. 1998.** Lonchopteridae, pp. 49–59. In: Xue, W.Q. & Chao, C.M. (Eds.), *Flies of China. Vol. 1.* Liaoning Science and Technology Press, Shenyang.
- Yang, C. & Chen, H. 1998.** The family Lonchopteridae new to Henan, with description of a new species (Diptera: Aschiza). *Fauna and Taxonomy of Insects in Henan* 2: 92–94.
- Zoobank. 2024.** The Official Registry of Zoological Nomenclature. International Commission on Zoological Nomenclature. <https://zoobank.org/> Last accessed: 28 June 2024.

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