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DIPLURA FROM THE BISMARCK ARCHIPELAGO AND THE SOLOMON ISLANDS

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Abstract. A collection of 53 specimens of Diplura includes 5 species: 2 campodeids (*Campodea* cf. *tillyardi* and *Lepidocampa weberi*) and 3 japygids. Campodeids were represented only in the samples from the Bismarck Archipelago. *Indjapyx duporti*, previously known only from Vietnam, and *Parajapyx isabellae* seem to be common species in both the Bismarck Archipelago and the Solomons. *Mesjapyx immsi* (Silvestri), n. comb., originally described from India, is new to the Bismarck Archipelago. A revised key to genera of Japyginae, tribe Japygini, is presented.

I examined a collection of 53 specimens of Pacific campodeids and japygids resulting mainly from the *Noona Dan* Expedition, 1961–1962 (Petersen 1966) and, to a lesser extent, the Danish Rennell Expedition, 1965 (Wolff 1968). Nearly all specimens at hand were obtained as Berlese samples. Petersen (1966) commented that Thysanura occurred in this Berlese material. However, Paclt (1971) mentioned no specimens of Thysanura s.s. having been collected in Berlese samples. The apparent confusion may have been due to misuse of the Latin name for 2 different orders, the Diplura having been formerly included in the order Thysanura as a suborder (Entognatha).

Although the fauna of the Solomons is known to be rich in campodeids (Bareth & Condé 1972), no representatives of the family were found in the present collection.

All specimens were mounted on slides in mounting medium prepared from polyvinyl alcohol, water, lactic acid, and glycerine. All specimens are deposited in the Zoologisk Museum, Copenhagen.

CAMPODEIDAE

Campodea cf. **tillyardi** Silvestri, 1931

Specimens examined. All from *Noona Dan* Expedition, Berlese samples, mounted individually on slides. BISMARCK ARCH.: LAVONGAI I: Banatam, 2 (sample no. 16) [with *Lepidocampa*], 1 (no. 17) [with *Lepidocampa* and *Mesjapyx*], 2 (no. 19), 20.III.1962; 8 (no. 20) [with *Lepidocampa*], 2 (no. 24), same data except 23.III.1962.

Remarks. The antennal articles vary in number. Condé (1980) found 19–24 articles on antennae in a New Caledonia population, and Womersley (1939) found 19–22 in Australian populations. The largest number of antennal articles seen in the present series examined is 21 (there are few mature specimens from the Bismarck Archipelago). Two or 3 specimens of an unidentified species of *Campodea* (*Indocampa*) from New Ireland (Condé 1982: 740) are near the series of cf. *tillyardi* examined. Should

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they prove to be the same species, *Campodea* cf. *tillyardi* would have been collected in the Bismarck Archipelago by 2 expeditions.

Lepidocampa weberi Oudemans, 1890

Specimens examined. All from *Noona Dan* Expedition, Berlese samples, mounted individually on slides. BISMARCK ARCH.: DYAUL I: Sumuna, 1 (sample no. 4), 6.III.1962; LAVONGAI I: Banatam, 5 (no. 15), 1 (no. 16) [with *Campodea*], 1 (no. 17) [with *Campodea* and *Mesjapyx*], 20.III.1962, 1 (no. 20) [with *Campodea*], same data except 23.III.1962; NEW BRITAIN: Valoka, 3 (no. 72), 2 (no. 73), 1 (no. 74), 1 (no. 75), 6 (on 7 slides, no. 76), 13.III.1962; DUKE OF YORK I: Manuan, 1 (no. 86), 21.VII.1962.

Remarks. In addition to the above localities, the species is known to occur on the islands of New Guinea and New Ireland. Condé (1982) analyzed populations from both islands (104 specimens in all). Figures based on a single New Guinea specimen were published as *Lepidocampa weberi* Oudemans by the late H. Womersley (1945: 227, Fig. 3). However, on his reprints, Womersley has written in ink on p. 228, "*Lepidocampa* cf. *weberi*," implying that he later had doubt about the original identification.

JAPYGIDAE

Indjapyx duporti (Silvestri, 1929)

Specimens examined. All except last specimen listed from *Noona Dan* Expedition, Berlese samples, mounted individually on slides. BISMARCK ARCH.: DYAUL I: Kollepine, 1 (sample no. 8), 12.III.1962; MUSSAU I: Boliu, 1 (no. 56), 7.VI.1962; MANUS I: Lorengau, 1 (no. 70), 22.VI.1962; NEW BRITAIN: Valoka, 1 (no. 72), 13.VII.1962. SOLOMON IS: RENNELL I: Niupani, 1 (sample no. 125), 29.VIII.1962. 1, coll. by Torben Wolff, "Rennell Island" (no exact locality given), 15.III.1965, from soil in primary forest.

Remarks. Antennae of adults are composed of 36 articles each. The species is best characterized by Silvestri (1929): "Species haec ad *J. indicus* proxima est, sed capite postice setis brevissimis haud vestito, forcipis tuberculis basalibus minus numerosis saltem distincta est." (My translation: This species is related to *J. indicus* from which it, however, differs by the lack of extremely short bristles at the back of the head, as well as less numerous predental tubercles of the forceps.) The species was transferred to *Indjapyx* by me (Paclt 1957).

Distribution. This species was previously known only from the type-locality: Indosinae, Ben Thuy, Annam [Vietnam]. The 4 specimens from the Bismarcks and the 2 from the Solomons represent new records for the species.

Mesjapyx immsi (Silvestri, 1930), **new combination**

Japyx immsi Silvestri, 1930: 447, Fig. IX–X.

Specimens examined. All from *Noona Dan* Expedition, Berlese samples, mounted individually on slides. BISMARCK ARCH.: LAVONGAI I: Banatam, 4 (sample no. 15), 1 (no. 17) [with *Campodea* and *Lepidocampa*], 20.III.1962; 1 (no. 25), same data except 24.III.1962.

Remarks. The antennae are composed of 26 articles each. Numbers of predental tubercles given for the holotype are 4 (left arm of forceps before the postmedian

TABLE 1. Variation of *Mesjapyx immsi* from the Bismarck Archipelago.

BERLESE NO. (SPM. NO.)	BODY LENGTH (mm)	PREDENTAL TUBERCLES ON FORCEPS ARM	
		LEFT	RIGHT
15 (1)	2.5	3	3
15 (2)	3.5	4	5
15 (3)	4.2	4	5
15 (4)	3.5	5	5
17	4.0	5	5
25	3.5	4	4

tooth) and 5 (right arm of forceps before the postmedian tooth). Body length of the holotype is 3.0 mm. Table 1 shows the variation in these characters among the above series of 6 specimens from the Bismarck Archipelago.

Distribution. *Mesjapyx immsi* was previously known only from the type-locality: Kumaun (India).

Parajapyx isabellae (Grassi, 1886)

Specimens examined. From *Noona Dan* Expedition, Berlese samples, BISMARCK ARCH.: MUSSAU I: Boliu, 1 (sample no. 51), 4.VI.1962. SOLOMON IS: GUADALCANAL I: Honiara, 1 (sample no. 100), 4.VIII.1962.

Remarks. The antenna is invariably composed of 18 articles. Specimens from Musau and Guadalcanal measure (antennae excluded) 2.0 mm and 2.3 mm long, respectively. They correspond to the definition of this pantropical (and largely pan-subtropical) species (Silvestri 1929, Paclt 1977).

Distribution. *Parajapyx isabellae* has not been previously recorded from either the Bismarck Archipelago or the Solomon Is.

DISCUSSION

The proposed new combination in *Mesjapyx* makes it highly desirable to revise the position of that genus in the key to genera of Japyginae [see Paclt (1957)] as follows.

PARTIAL KEY TO GENERA OF THE TRIBE JAPYGINI
[Revised from Paclt (1957)]

7. Pronotum with 14 + 14, meso- and metanotum with 15 + 15 long bristles (macrochaetae?); 2 rows of tubercles on each arm of forceps; urite VII nearly parallel-sided; antennae with 33–36 articles ..... **Opisthjapyx** Silvestri
   Pronotum with not more than 7 + 7 macrochaetae 8
8. Inner margins of forceps without teeth but with denticles placed in proximal ½; distal ½ narrow, nearly parallel-sided (Paclt 1957: Fig. 34); median glandular organ of urosternite I with discs; antennae with 30 articles ..... **Rectojapyx** Pagés
   Distal ½ of forceps with more or less convergent margins 9
9. Urotergite VIII with prescutum and scutum each subdivided medianly; urite VII

nearly parallel-sided; median glandular organ without discs; right arm of forceps with 3 rows of tubercles; antennae with 31 articles ..... **Urojapyx** Pagés
Prescutum and scutum of urotergite VIII not subdivided medianly 10
10. Median glandular organ with discs (cupules, Paclt 1957: Fig. 8) 11
Median glandular organ without discs (Paclt 1957: Fig. 9) 13
11. Right arm of forceps with uniserial tubercles, forceps asymmetrical .. **Metajapyx** (Silv.)
Both right and left arm of forceps with biserial tubercles 12
12. Forceps nearly symmetrical ..... **Japyx** Haliday
Forceps asymmetrical ..... **Dipljapyx** Silv.
13. Lateral coxal organs simple 14
Lateral coxal organs composed 17
14. Right arm of forceps with uniserial tubercles or without any tubercles 15
Both right and left arm of forceps with biserial tubercles 16
15. Forceps nearly symmetrical ..... **Mesjapyx** Silv.
Forceps asymmetrical ..... **Burmjapyx** Silv.
16. Forceps nearly symmetrical ..... **Indjapyx** Silv.
Forceps asymmetrical ..... **Teljapyx** Silv.
17. Right arm of forceps with uniserial tubercles ..... **Megajapyx** (Verh.)
Both right and left arm of forceps with biserial tubercles ..... **Ultrajapyx** Paclt

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