

*Dr. T. Clay with best regards  
Heinrich Klockenhoff*

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**MYRSIDEA KARYI (MALLOPHAGA: MENOPONIDAE),  
A NEW SPECIES FROM CORVUS ORRU  
(PASSERIFORMES: CORVIDAE)<sup>1</sup>**

By **Heinrich F. Klockenhoff<sup>2</sup>**

*Abstract.* A new species of *Myrsidea*, *M. karyi*, from *Corvus orru insularis* is described and illustrated. *M. ceciliae insularis* is elevated to species status. A key to 7 *Myrsidea* taxa from 3 subspecies of *C. orru* is provided.

For a study of the Mallophagan genus *Myrsidea* from Corvidae, I obtained from the Bishop Museum, Honolulu (BISHOP), specimens from *Corvus orru insularis* Heinrich collected on New Britain. Included were 5 ♂ and 3 ♀ which are distinctly different from any known species of this genus I have seen and therefore must be regarded as a new species. Also included were 1 ♂ and 5 ♀ of *Myrsidea ceciliae insularis* Klockenhoff, 1972. Comparison of these additional specimens revealed a number of morphological characters significantly different to warrant separation from *M. ceciliae* Klockenhoff and elevation to species level. Since 7 species and subspecies of *Myrsidea* from 3 subspecies of the host have been described, an illustrated key is provided for the females of these taxa.

KEY TO ♀ OF *Myrsidea* FOUND ON *Corvus orru*

- 1 ( 8) Abdominal tergites I-III not reduced.
- 2 ( 3) Pro-, meso- and metanotum clearly separated; posterior margin of the mesonotum with 12-20 long setae (FIG. 1e) . . . on *Corvus orru insularis* . . . . . **karyi, n. sp.**
- 3 ( 2) Without setae on the posterior margin of the mesonotum.
- 4 ( 5) Metanotum without additional setae (FIG. 1a) . . . on *C. orru ceciliae* . . . . . **ceciliae**
- 5 ( 4) Metanotum with additional setae.
- 6 ( 7) Metanotum with 38-58 additional setae; long and thick setae on the pleurites of the metathorax (FIG. 1f) . . . on *C. o. orru* (and *C. tristis*?) . . . . . **robsoni**
- 7 ( 6) Metanotum with few (6-9) additional setae, without long and thick setae on the metapleurites (FIG. 1b) . . . on *C. orru insularis* . . . . . **insularis, n. stat.**
- 8 ( 1) Tergite I reduced, pleurites I absent or fused with tergite I (FIG. 1c); aster of spines on sternite II weakly developed, setae on sternite I absent (FIG. 6g) . . . on *C. orru insularis* . . . . . **novabritannica**
- 9 ( 8) Tergites I-III reduced to a small sclerite on each side of the body, aster of spines developed, setae on sternite I present (FIG. 6d).
- 10 (11) Distinctly larger, metanotum with many (53-94) additional setae (FIG. 1d) . . . on *C. orru ceciliae* (eastern Australia) . . . . . **s. schizotergum**
- 11 (10) Distinctly smaller, metanotum with less (39-46) setae . . . on *C. orru ceciliae* (northern Australia) . . . . . **schizotergum arafura**

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2. Zoologisches Forschungsinstitut und Museum Alexander Koenig, Adenauerallee 150-164, D 5300 Bonn-1.

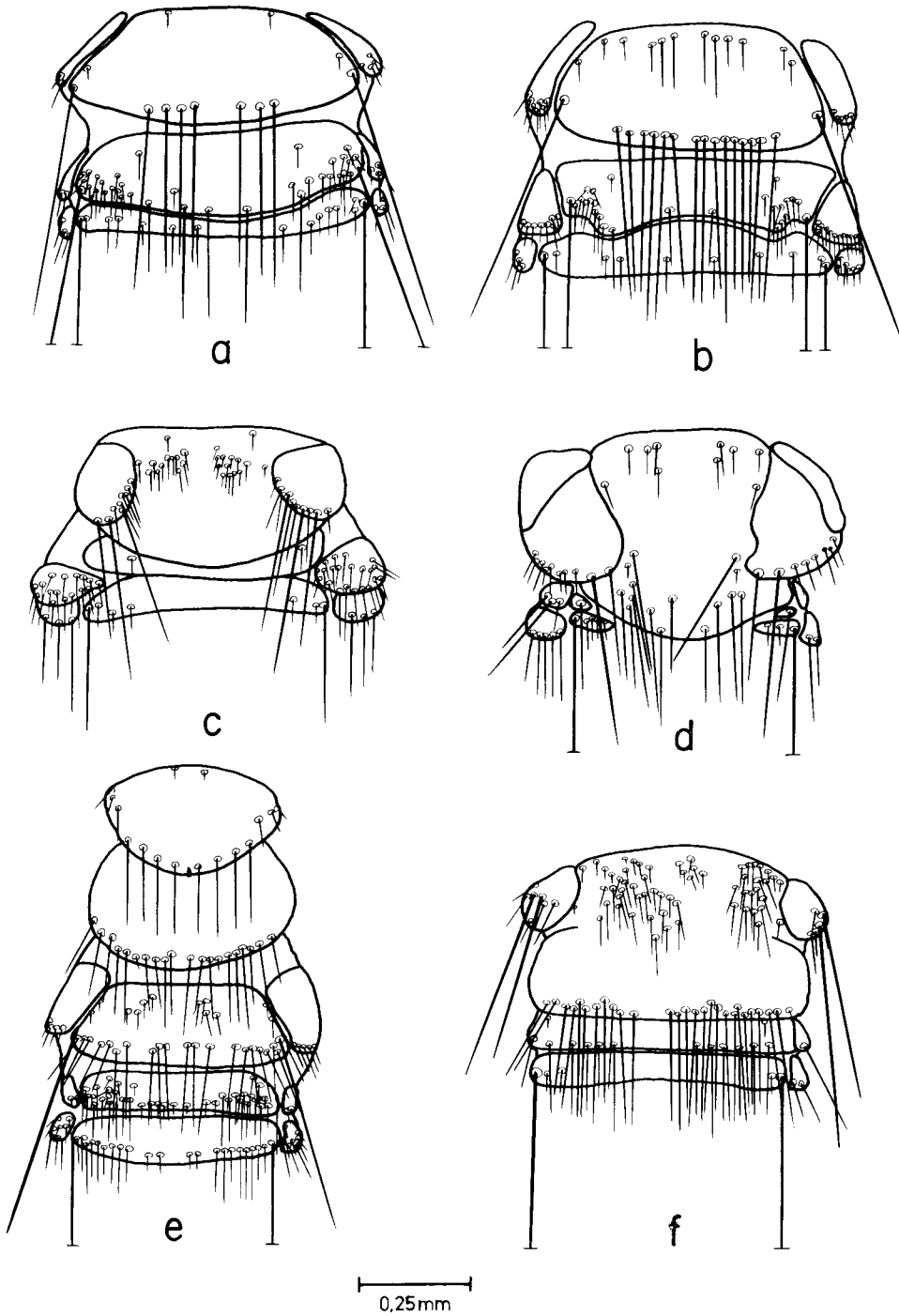


FIG. 1. *Myrsidea* spp., metanotum and tergites I + II (♀): a, *M. ceciliae*; b, *M. insularis*; c, *M. novabritannica*; d, *M. schizotergum*; e, *M. karyi* (pro-, meso- and metanotum); f, *M. robsoni*.

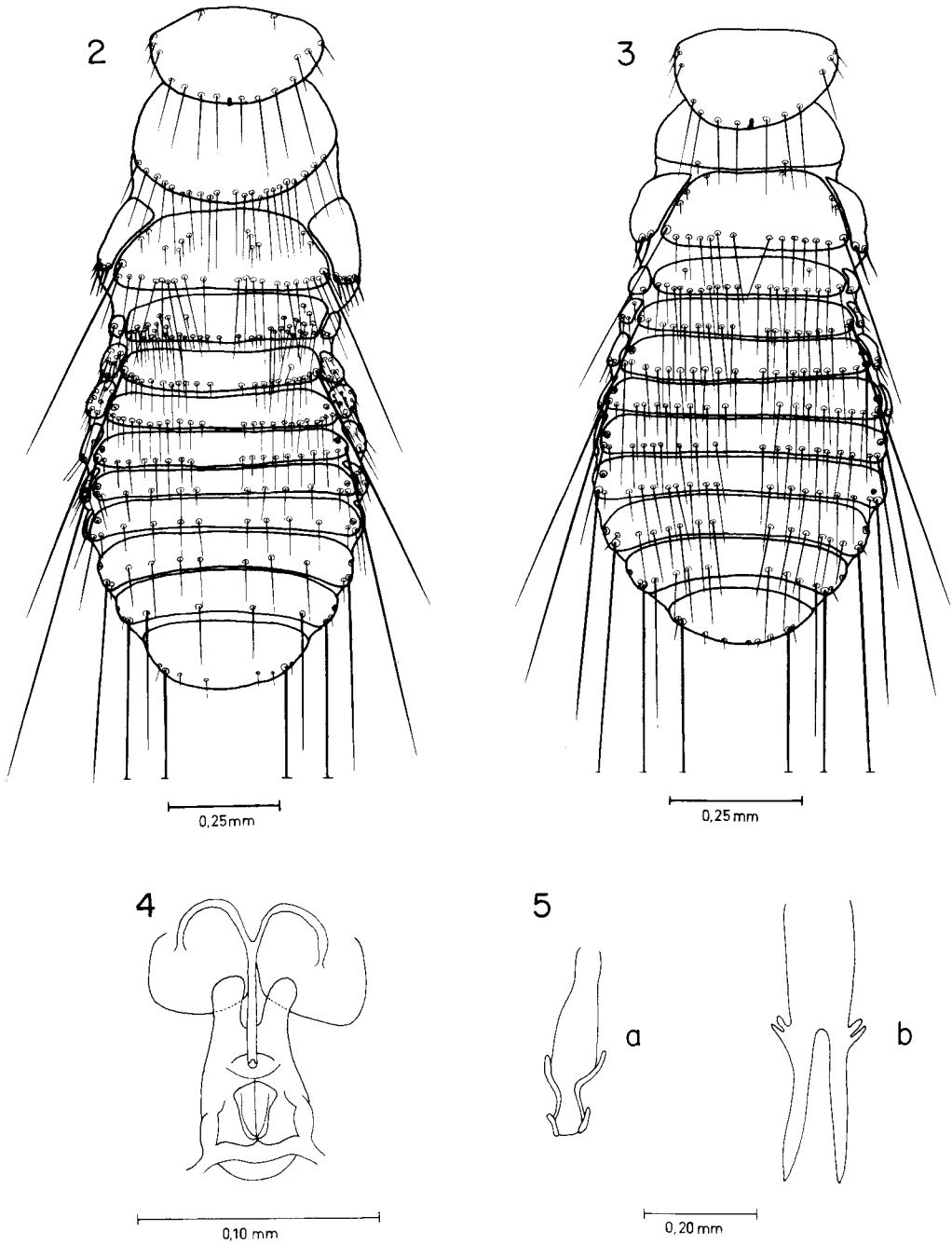


FIG. 2-5. 2-4. *Myrsidea karyi*: 2, ♀, thorax and abdomen, dorsal; 3, ♂, thorax and abdomen, dorsal; 4, hypopharyngeal sclerite. 5. ♂ genital sclerite: a, *M. karyi*; b, *M. novabritannica*.

TABLE 1. Measurements (in mm) of *Myrsidea karyi* (=A) and *Myrsidea insularis* (=B).

PARAMETERS	♀ A (n = 3)		♀ B (n = 7)		♂ A (n = 5)		♂ B (n = 2)
	R†	M	R	M	R	M	R
Head Length (L)	0.40-0.42	0.41	0.51-0.52	0.52***	0.36-0.38	0.37	0.44-0.45
Breadth (B)	0.58-0.60	0.59	0.72-0.76	0.74	0.51-0.53	0.52	0.64-0.65**
Prothorax L	0.22-0.25	0.23***	0.25-0.28	0.26**	0.19-0.22	0.20	0.21-0.22**
B	0.39-0.42	0.41**	0.46-0.50	0.49	0.34-0.36	0.35***	0.41-0.42
Pterothorax L	0.34-0.50	0.44	0.51-0.56	0.53***	0.28-0.31	0.30**	0.36-0.38*
B	0.61-0.64	0.62***	0.76-0.83	0.80***	0.45-0.47	0.46**	0.61-0.62*
Abdomen L	0.88-0.92	0.89	1.08-1.17	1.13***	0.74-0.77	0.75	0.91-0.96*
B	0.64-0.67	0.65**	0.81-0.87	0.84	0.56-0.58	0.57***	0.75-0.77***
Total L	1.63-1.81	1.71	2.22-2.39	2.31*	1.52-1.56	1.54***	1.82-1.93*
Head Index (L:B)	1.41-1.47	1.44	1.41-1.47	1.43***	1.39-1.44	1.42	1.46-1.48***

† R = Range, M = Mean.

\* 0.05 ≥ P > 0.01. \*\* 0.01 ≥ P > 0.001. \*\*\* P ≤ 0.001. Analysis by t-test for differences between *M. pilosa* and *M. karyi* (A) and *M. ceciliae* and *M. insularis* (B).

### *Myrsidea karyi* Klockenhoff, new species

FIG. 1e, 2-4, 5a, 6a-b, 7a

Type-host: *Corvus orru insularis* Heinroth.

The female of *karyi* is similar to *Myrsidea pilosa* (Piaget, 1880) (Klockenhoff 1979, Fig. 1e and 2). It is easily separated from *pilosa* by groups of 6-16 ( $\bar{x}$  = 12.7) small setae on the female metanotum.

*Description.* Pro-, meso- and metanotum clearly separated; posterior margin of the mesonotum with 12-20 ( $\bar{x}$  = 16.0) long setae (♀). Shape of metasternal plate as shown in FIG. 6a (♂) and 6b (♀). Sternite I with setae in ♂ and ♀; in both sexes 3 setae in each aster (FIG. 6a, 6b). Postspiracular setae on tergite I in both sexes absent, in ♀ on tergite III, V and VI, in ♂ on tergite III and V, shorter and finer than on other tergites (FIG. 2, 3). Setae on pleurites VII and VIII as shown in FIG. 7a. Hypopharynx fully developed (FIG. 4). Form of the sclerite in the genital sac as shown in FIG. 5a.

Number of gular setae, ♂ 8-11,  $\bar{x}$  = 9.4 (5), ♀ 11-14,  $\bar{x}$  = 12.3 (3); number of setae on posterior margin of the pronotum, ♂ and ♀ 8, number of setae on the posterior margin of the metanotum, ♂ 10-14,  $\bar{x}$  = 12.2 (5), ♀ 20-23,  $\bar{x}$  = 21.7 (3); number of metasternal setae, ♂ 13-17,  $\bar{x}$  = 15.4 (5), ♀ 16-20,  $\bar{x}$  = 18.7 (3); number of setae in femoral brush, ♂ 23-31,  $\bar{x}$  = 26.8 (9), ♀ 26-31,  $\bar{x}$  = 28.4 (5). In ♀ statistically significant differences (P < 0.001) from *pilosa* are found in number of setae on gular, posterior margin of meso-, and metanotum, metasternal plates and femoral brush; in ♂ gular and posterior margin of metanotum (P < 0.005). Measurements and abdominal chaetotaxy are compared with those of *M. pilosa* in TABLE 1 and 2.

Holotype ♀ (BISHOP 11,647), PNG: BISMARCK ARCH.: NEW BRITAIN, Gaulim, 27.X.1962, H. Clissold, ex *Corvus orru insularis* BBM-NG 20691 (A). Paratypes: 5♂, 2♀, same data as holotype. Holotype and paratypes in BISHOP.

The species is named in honor of Dr K. (Kary) C. Emerson, Arlington, Virginia (USA), to whom I am greatly indebted for advice and generous loan of material.

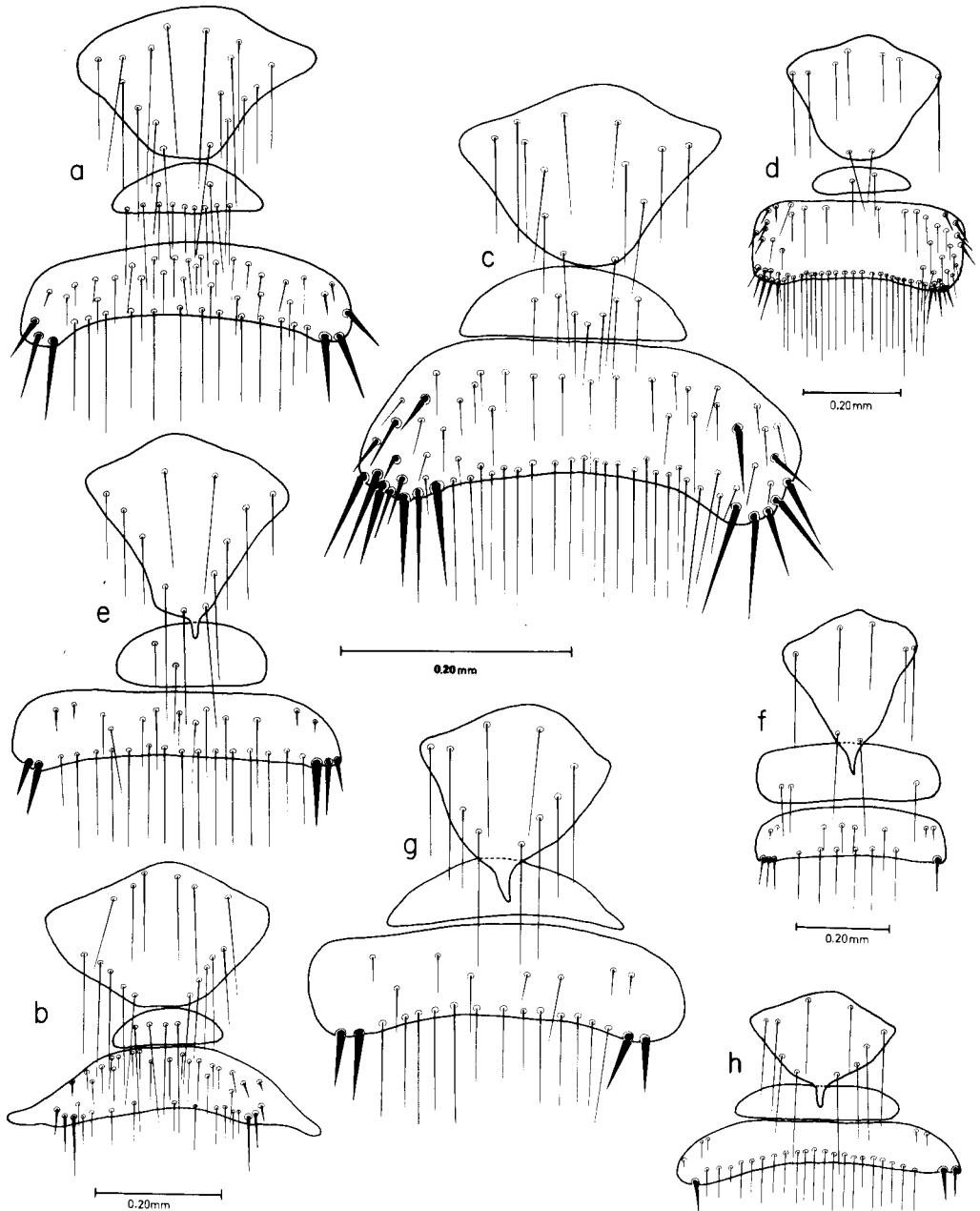


FIG. 6. *Myrsidea* sp., metasternal plate and sternite I and II: a-b, *M. karyi* ♂ and ♀; c-d, *M. insularis* ♂ and ♀; e-f, *M. schizotergum* ♂ and ♀; g-h, *M. novabritannica* ♂ and ♀. a, c, e and g to common scale; f and h to common scale.

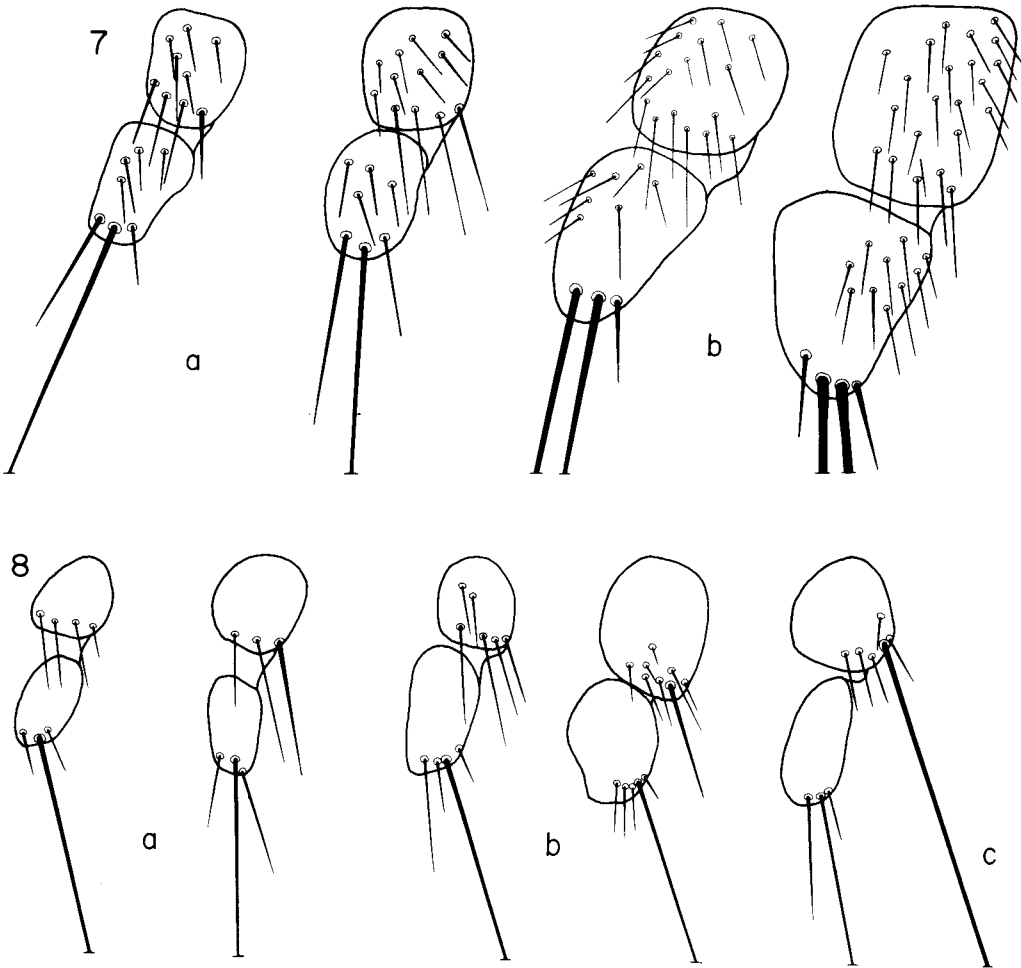


FIG. 7-8. *Myrsidea* spp., pleurites VII + VIII: 7a, *M. karyi* ♂ and ♀; b, *M. insularis* ♂ and ♀; 8a, *M. novabritannica* ♂ and ♀; b, *M. schizotergum* ♂ and ♀; c, *M. robsoni* ♀.

***Myrsidea insularis* Klockenhoff, new status**

FIG. 1b, 6c-d, 7b

*Myrsidea ceciliae insularis* Klockenhoff, 1972: 257, Fig. 6.

Type-host: *Corvus orru insularis* Heinroth.

This species is similar to *Myrsidea ceciliae* Klockenhoff, 1972 (p. 254-57, Fig. 3-5), but is separated by the groups of small setae on the metanotum (♂, 5-6; ♀, 6-9) and by the shape and number of setae on tergite I in the female (FIG. 1a and TABLE 2).

*Description.* Sternite I with setae in both sexes; setae in aster regularly more than 3 (FIG. 5d, e). Hypopharynx and form of sclerite in genital sac as in *M. karyi*.

TABLE 2. Number of tergal, sternal, and pleural setae in *M. karyi* (A) and *M. insularis* (B).

		♀ A		♀ B		♂ A		♂ B
		R†	M	R	M	R	M	R
Tergite	I	37-42	40.33 (3)***	28-37	30.57 (7)*	17-21	19.00 (5)	20-23 (2)
	II	24-25	24.33 (3)***	8-12	10.28 (7)***	17-19	18.00 (5)	19-21 (2)*
	III	23-24	23.67 (3)**	7-10	8.43 (7)***	17-20	18.60 (5)	18-20 (2)**
	IV	16-19	18.00 (3)***	8-14	11.28 (7)***	17-20	18.80 (5)**	27-28 (2)
	V	12	12 (3)	11-16	13.71 (7)***	17-19	18.00 (5)**	27-28 (2)
	VI	12	12 (3)	12-18	15.00 (7)***	17-19	18.20 (5)**	27 (2)
	VII	11-13	11.67 (3)	12-19	15.43 (7)**	15-17	15.60 (5)*	21-26 (2)
	VIII	8	8 (3)	8-13	9.86 (7)*	11-12	11.20 (5)	18-21 (2)**
Sternite	III	28-37	33.33 (3)	35-50	43.71 (7)***	29-37	32.80 (5)	34-43 (2)
	IV	44-50	47.67 (3)	61-81	68.71 (7)***	39-49	46.00 (5)	55-59 (2)
	V	48-55	51.00 (3)	93-118	100.85 (7)*	46-57	52.60 (5)*	76-77 (2)*
	VI	41-45	43.33 (3)	99-103	101.86 (7)	44-57	51.00 (5)	82-83 (2)
	VII	27-37	30.33 (3)	70-82	73.28 (7)***	34-46	39.40 (5)	64-73 (2)
	VIII + IX	32-43	36.33 (3)	44-55	49.42 (7)*	43-49	45.60 (5)***	79-81 (2)
	Pleurite	III	19-25	21.20 (5)***	13-18	14.82 (11)***	8-12	9.44 (10)
IV		23-31	26.20 (5)***	16-28	21.73 (11)***	9-13	10.60 (10)	11-16 (4)***
V		16-24	20.60 (5)***	27-39	31.55 (11)***	11-14	12.89 (9)	17-19 (4)**
VI		16-21	18.00 (6)*	27-40	34.70 (10)***	10-14	12.10 (10)	16-19 (4)***
VII		12-14	13.17 (6)	21-34	26.73 (11)	10-15	11.90 (10)	14-20 (4)
VIII		7-9	7.83 (6)***	10-20	14.17 (12)	6-8	7.00 (10)	9-10 (4)

† R = Range, M = Mean. Nos. of specimens measured in parentheses.

\*  $0.05 \geq P > 0.01$ . \*\*  $0.01 \geq P > 0.001$ . \*\*\*  $P \leq 0.001$ . Analysis by t-test for differences between *M. pilosa* and *M. karyi* (A) and *M. ceciliae* and *M. insularis* (B).

Number of gular setae: ♂, 10-11; ♀, 10-11,  $\bar{x} = 10.7$  (6). Setae on posterior margin of the pronotum: ♂, 7-11; ♀, 6-9,  $\bar{x} = 6.9$  (7); setae on the posterior margin of metanotum: ♂, 11-13; ♀, 15-19,  $\bar{x} = 16.9$  (7). Number of metasternal setae: ♂, 12-13, ♀, 9-12,  $\bar{x} = 10.0$  (6). Number of setae in femoral brush: ♂, 33-35,  $\bar{x} = 33.8$  (4); ♀, 35-45,  $\bar{x} = 38.4$  (13). Number of setae of the vulval margin, 12-17,  $\bar{x} = 15.0$  (5).

In the female all these characters show statistically significant differences from *M. ceciliae* ( $P < 0.001$ ); in the male differences are in the metasternal setae and femoral brush setae ( $P < 0.005$ ). Information additional to the original description on mea-

TABLE 3. Distribution of *Myrsidea* on *Corvus orru* ssp.

HOST	<i>Myrsidea</i> SPECIES	DISTRIBUTION
<i>Corvus o. orru</i>	<i>robsoni</i>	New Guinea (Papua, western district)
<i>C. c. ceciliae</i>	<i>ceciliae</i>	N, E, & SW Australia (Port Essington, Queensland, Kempsey)
	<i>schizotergum schizotergum</i>	E Australia (Queensland)
	<i>s. arafura</i>	N. Australia (Port Essington)
<i>C. o. insularis</i>	<i>insularis</i>	New Britain (Gaulim, Taliliquap)
	<i>karyi</i>	New Britain (Gaulim)
	<i>novabritannica</i>	New Britain (Gaulim, Taliliquap)

surements and abdominal chaetotaxy and statistical differences from *M. ceciliae* are provided in TABLE 1 and 2.

*Type data.* Holotype ♀ (BISHOP 10,204), PNG: BISMARCK ARCH.: NEW BRITAIN, Gaulim, 27.X.1962, H. Clissold, BBM-NG 20691 (A). Holotype and 1 ♂ paratype in BISHOP; 1 ♀ paratype in British Mus. (Nat. Hist).

*Additional material examined.* PNG: BISMARCK ARCH.: NEW BRITAIN: 5 ♀, same data as holotype (BISHOP); ♂, Taliliquap, 22.X.1962, H. Clissold, BBM-NG 20675 (BISHOP).

The male genitalia, especially the form of the sclerite in the genital sac, are of importance in separating species groups within the genus *Myrsidea* (Clay 1966, Klockenhoff 1969). Two species groups of *Myrsidea* parasitize birds of the genus *Corvus*. Taxa with a sclerite as in FIG. 5b are included in the *Myrsidea grandiceps* species group (Klockenhoff 1969, 1977). I propose the name *Myrsidea anaspila* species group for the others with a sclerite, as in FIG. 5a.

The 7 *Myrsidea* taxa described from *Corvus orru* ssp. belong to both species groups: *M. novabritannica*, *M. schizotergum schizotergum* and *M. s. arafura* belong to the *grandiceps* species group; *M. ceciliae*, *M. insularis* and *M. karyi* belong to the *anaspila* species group [♂ of *M. robsoni* (Cummings) unknown (Klockenhoff 1979)]. TABLE 3 shows the sympatric distribution of the 2 species groups on *Corvus orru* ssp.

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