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NEW AND POORLY KNOWN GENERA OF PACHYGASTRINAE (DIPTERA: STRATIOMYIDAE) FROM NEW GUINEA AND THE BISMARCK ARCHIPELAGO[1,2]

By **Maurice T. James**[3]

Abstract: Five new genera, 12 new species and 1 new subspecies are described. New genera are *Anomalacantha,* type *divaricata, Pangomyia,* type *pictipes,* and *Weimyia,* type *bispinosa,* all from New Guinea; *Acyrocerops,* type *furcifera,* from New Ireland; and *Parevaza,* type *longa,* from New Btitain. *Asyncritula* Strand is redefined and *brevis,* from New Guinea, and *pubescens,* from New Britain, described. *Discopteromyia* de Meijere is redefined, a key presented, and *inermis* and *fascipennis,* from New Guinea, described. Other new species and subspecies are *Anomalacantha pedunculata,* from New Guinea; *Pangomyia pallipes,* from New Guinea; *Leveromyia lindneri,* from New Ireland; and *L. geniculata pallipes,* from New Britain.

This paper is the fourth of a series (James 1969, 1976a, 1976b) dealing with the interesting and unusual members of this subfamily in this geographical area. In it I am describing 5 new genera and adding new species to 3 previously monotypic ones, 2 of which as a result require added characterization. All holotypes, except as noted, and most other material studied, are the property of Bishop Museum, Honolulu, Hawaii (BISHOP). One holotype and 1 paratype belong to the University Museum, Copenhagen (UMC); some paratypes have been retained in the Washington State University collection (WSU).

Great caution should be exercised in proposing new genera in this subfamily. However, all new genera in this paper are based on species which show complexes of characters which would make their inclusion in known genera difficult if not artificial. Consequently, increasing the number of genera in this case seems to be the only way to maintain a realistic scheme of classification.

A key to the genera of this subfamily for the transitional area between the Oriental and Australasian Regions will be presented in the final paper of this series.

GENUS **Asyncritula** Strand

Asyncritus Kertész, 1914, Ann. Mus. Nat. Hung. **12:** 542 (not Handlirsch, 1911).

Asyncritula Strand, 1929, Acta Univ. Latviensis **20:** 22, new name for *Asyncritus* Kertész, not Handlirsch.

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2. Materials examined from the Bishop Museum are partly the results of fieldwork supported by grants to Bishop Museum from the U.S. National Science Foundation (G-10734, GB-518, GB-3245), the U.S. National Institutes of Health (AI-01723), and to Dr J.L. Gressitt from the J.S. Guggenheim Foundation (1955-56).
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This genus, as originally defined, traces to section (38) of Kertész's (1916) key to the World genera of Pachygastrinae on the basis of the abdomen being longer than broad. In the type species, *A. limbipennis* (Wulp), the abdomen is oval, 1.20 to 1.25 as long as broad, but in the new species described below it is slightly shorter than broad. Consequently, a redefinition of the genus is necessary. The peculiar wing venation, involving particularly the great length of vein Cu_1 from its origin to its juncture with the discal cell as compared to the unbranched part of the cubitus, is distinctive. The weakening of the costa just basad of the stigma suggests *Camptopteromyia,* to which *Asyncritula* is obviously closely related.

Asyncritula limbipennis (Wulp)

Pachygaster limbipennis Wulp, 1898, Természetrajzi Füsetek **21:** 417.
Asyncritus limbipennis: Kertesz, 1914, Ann. Mus. Nat. Hung. **12:** 542.
Asyncritula limbipennis: Strand, 1929, Acta Univ. Latviensis **20:** 22.

Originally described from males from Erima, Astrolabe Bay, and from Friedrich-Wilhelmshafen, New Guinea, and redescribed and illustrated, somewhat diagramatically, by Kertész (1914) from the same material. The types are unfortunately lost. The males examined by me agree with the descriptions and figures of Kertész except that the scutellum, though parallel sided on its basal part, is much more broadly rounded apically than Kertész's illustration would indicate. The costa is somewhat weakened just before the stigma so that in dried specimens the plane of the wing is somewhat angularly diverted at this point.

The ♀ is described here for the first time.

Frons at transverse sulcus 0.20 head width, widening to 0.27 at vertex and 0.35 across antennal bases; upper frons shining with only a few inconspicuous, short, white hairs; lower frons, face, and genae white tomentose, the border of the white tomentum biarcuate just below transverse sulcus; some short erect white hairs on parafacials. Lower occipital orbits developed as in ♂ but slightly broader, white tomentose and with moderately abundant subappressed white hairs. Ocellar triangle somewhat more prominent than in ♂. Wing as in ♂ but uniformly light brown, not becoming paler or subhyaline at apex. Leg coloration as in ♂ but femora and tibiae lighter brown, femora tending toward brownish yellow at base.

MATERIAL EXAMINED. PNG: New Guinea (NE): 5♀♀: Morobe Distr, Wau, 1100m, 17.I.1963, J. L. Gressitt; 1200m, 16.I.1963, malaise trap, J. Sedlacek, and 1200m, 15 & 21.I.1963, J. Sedlacek. IRIAN: New Guinea (NW): 7 ♂♂, Archbold Lake, Central Mts, 760m, 26.XI-3.XII.1961, sweeping, L. W. Quate; 1 ♂, Kota Nica, nr Hollandia, 24.XII.1961, Quate. (BISHOP.)

Asyncritula brevis James, new species

♂. *Head* black, ocellar triangle and occiput shining, frontal triangle, face, lower occipital orbit, and genae densely white tomentose. Ocellar triangle less prominent than in *A. limbipennis.* Antenna yellow, arista brown, proboscis and palpi dark brown to black. *Thorax* shining, sparsely punctate and very inconspicuously haired, mesonotal hairs clearly evident only on postalar calli, where they are gray; pleura largely bare, propleura largely with subappressed gray hairs, pectus with short black erect to semierect hairs. Legs largely dark brown to black;

middle and hind tarsi yellow, latter becoming brown toward tips; middle basitarsus sometimes black or partly black, hind tibia sometimes extensively yellow to brownish yellow on median 1/3. Wing (FIG. 1) uniformly subhyaline to pale brown except gradually becoming more distinctly hyaline toward base; veins deep brown except yellow area at and just anterior to origin of R_5; stigma long and narrow, gradually narrowing and almost reaching apex of R_4; discal cell narrower than in *A. limbipennis*. *Abdomen* 0.9 as long as wide, oval, widest at apex of 2nd segment, shining to subshining, closely punctured on disc of terga and toward base of venter but becoming less so laterally and apically; hairs short, black, appressed, very inconspicuous. *Length:* 1.9-3.0 mm; of holotype 2.8 mm.

♀. Frons at transverse sulcus 0.13 head width, widening to 0.17 at vertex and 0.26 across antennal bases, shining black and virtually bare above sulcus, densely white tomentose below sulcus and over face and gena. Otherwise, except sexually, as described for the ♂. *Length:* 2.0-2.8 mm.

Holotype ♂ (BISHOP 10,760), PNG: New Guinea (NE): Mokai Vill., Torricelli Mts, 750 m, 1-23.II.1959, W. W. Brandt. Paratypes: PNG: New Guinea (NE): 2 ♂♂, 1 ♀, Mobitei, Torricelli Mts, 750 m, 1-15.IV & 28.II-4.III.1959, Brandt; 3 ♂♂, Bulolo, 730 m, 13, 29 & 31.VIII.1956, E. J. Ford, Jr.; 1 ♂, Maprik area, Sepik, 160 m, 26.VIII.1957, D. E. Hardy; 1 ♀, Maprik, 160 m, 14.X.1957, J. L. Gressitt; 3 ♂♂, 3 ♀♀, and pair on 1 pin, Larat, VII.1907, F. Muir; 1 ♀, Cape Rodney, 2-4.XI.1960, malaise trap, Gressitt; 1 ♂, same data but on *Heterospathe;* New Guinea (SE): 1 ♂, Brown R, 5.XI.1960, on *Daemonorops,* Gressitt; 1 ♀, same data but rain forest; 2 ♂♂, Goilala: Loloipa, Owen Stanley Range, 25.XI-10.XII.1957, Brandt; 2 ♂♂, Kepara-Sengi, nr Kokoda, 500 m, 26.III.1956, Gressitt; 1 ♂, Woodlark I (Murna), Kulumadau Hill, 16.III.1957, Brandt; IRIAN: New Guinea (NW): 1 ♀, Nabire, 5-10 m, 25.VIII-2.1X.1962, malaise trap, J. Sedlacek; 1 ♂, Nabire, S Geelvink Bay, 1-20 m, 2-9.VII.1962, Gressitt; 1 ♂, same location but 10-40 m, 3.X.1962, jungle, light trap, H. Holtmann; 2 ♀♀, SE Biak I, 1.VII.1962, Gressitt & Sedlacek; 1 ♀, SE Japen I, Sumberbaba, Davat R, 3-8.X.1962, jungle, Holtmann; 1 ♂, 1 ♀, Hollandia-Binnen, 100 m, 2 & 25.XI.1958, at light, Gressitt; 1 ♂, Sarmi, 20-23.VII.1959, MV light trap, T. C. Maa; 2 ♂♂, Kutsime, W Swart Valley, 1500 m, 14.XI.1958, Gressitt. (BISHOP, WSU.)

Despite the short abdomen, this species is best referable to *Asyncritula;* to propose a separate genus for it, especially in view of the close relationship of *Asyncritula* and *Camptopteromyia,* would be unwise. *A. brevis* is variable and may represent a species complex, but no separation is apparent in the available material. The coloration of the legs and halter is variable; all tibiae are mainly dark brown to black, though the hind pair may be plainly brown or even yellowish brown on the median 1/3; the middle basitarsus, like the remaining tarsomeres, is usually yellow, uncommonly black; and the halteres may vary from entirely white to entirely black. The mesonotal profile may be rectangular anteriorly, almost as in Kertész's (1914) illustration of *A. limbipennis,* or it may be broadly rounded or intermediate between the 2; this variation may be at least in part due to conditions of preservation.

A. brevis differs from *A. limbipennis* in many respects, particularly by the short abdomen, the distinctly more robust form, the much more glossy body, the subhyaline wing, the long narrow stigma, and the much smaller discal cell. The ocellar triangle is less prominent; the scutellum is somewhat more broadly rounded and more distinctly margined. Vein Cu from its origin to its furcation is about equal to Cu_1 from the furcation to the discal cell; in *limbipennis* the latter is distinctly the longer.

Asyncritula pubescens James, new species

Despite the broken antenna, this species appears best referable to *Asyncritula*. The abdomen is distinctly longer than broad, as in *A. limbipennis*, but *pubescens* differs from that species in many respects, notably by the narrowly separated eyes of the ♂, the more prominent, subappressed pile of the mesonotum, and the digitate marginal scutellar denticles.

♂. *Head* black. Front at narrowest 0.05 head width, widening to 0.20 at vertex and 0.30 across antennal bases, face becoming 0.45 head width at lower corners of eyes. Frons largely dulled with grayish tomentum but lower frons largely shining at sides; parafacial and gena subshining with appressed white tomentum and suberect yellowish white hairs; occipital orbit broad below with white tomentum and whitish hairs, evanescent above; ocellar triangle with subappressed yellowish white hairs; occiput mostly shining with inconspicuous appressed yellowish white to white hairs. Antennal scape and pedicel pale yellow with concolorous hairs (flagellum missing). Proboscis brownish yellow. *Thorax* black. Mesonotum dull to subshining with mostly subappressed yellow to brownish yellow hairs; some black to blackish ones intermixed, especially on prescutum. Scutellum semioval, dull to subshining, its hairs yellow to yellowish white, subappressed, tending to be longer, especially apically, than those of mesonotum. Marginal denticles 8, digitate, 1/4 to 1/5 as long as scutellum, resembling blunt, short spines. Pleura mostly subshining, in places mildly rugulose or with shallowly impressed coarse striae, mostly with scant hairs but with prominent patches of subappressed white hairs on propleuron and broad posterior margin of mesopleuron; hairs of pectus short, suberect, black. Legs mostly brownish yellow, coxae, knees and tibiae dark brown to black. Wing (FIG. 2) pale brown, somewhat darker at apex anteriorly; venation similar to that of *brevis* but vein R_4 more nearly erect, M_3 not as strongly bowed, and the discal cell closer to the wing apex. Halter brownish yellow. *Abdomen* oval, 2× as long as wide, mostly subshining, with scattered yellowish pile dorsally and on apical 2 sterna, black to blackish on other sterna. *Length*: 3.7 mm.

♀. Unknown.

Holotype ♂ (UMC), PNG: New Britain: Yalom, 1000 m, 10.V.1962, Noona Dan Expedition.

Genus **Anomalacantha** James, new genus

This genus differs from all other Pachygastrinae known to me in its curiously spined scutellum (FIG. 7, 8) which terminates in 2 pairs of spines, one set above the other and separated somewhat from each other; both of these are directed somewhat outward, the upper pair directed also upward, the lower downward; a 3rd (and sometimes a 4th) pair, located laterally, are directed outward and backward. In Kertész's (1916) key this genus traces to paragraph couplet 78, 79, but the arrangement of the spines will separate it from *Hexacraspis* (78) and *Oxymyia* (79).

Generic characters. Eyes contiguous in ♂, well separated in ♀. Head oval in profile. Antenna short; flagellum reniform, much higher than long, set well below middle of head, aristate, arista bare. Mesonotum moderately arched, arista transverse suture well impressed. Legs simple. Veins forming discal cell, except at base, and those emerging from it weak; stigma clearly evident though weakly sclerotized and pale in color; R_{2+3} arising approximately at r-m; r-m short but clearly differentiated and distinct; R_4 well developed, fairly long, oblique; discal cell rather large, each basal angle approximately a right angle, anterior and posterior margins approximately parallel. Abdomen distinctly wider than thorax, broader than long, flask shaped from dorsal view, broadest at apex of segment 3 and narrowing at base to about 1/3 its maximum width.

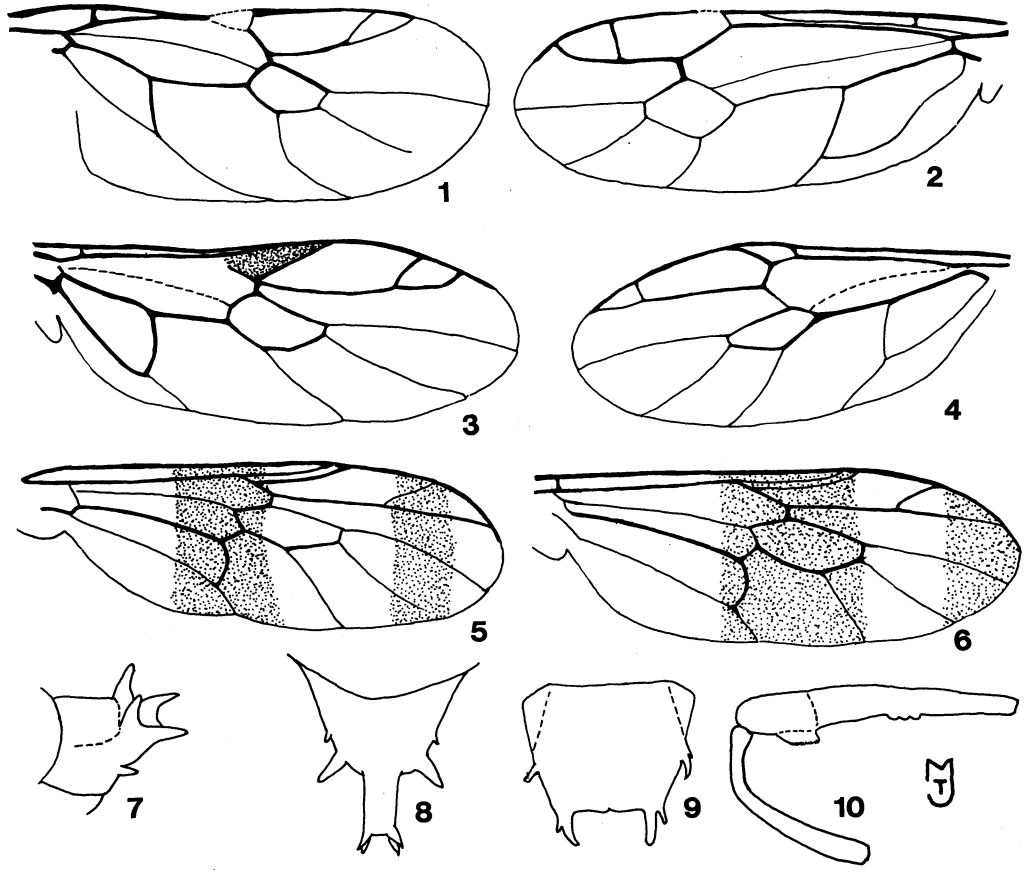

FIG. 1-10. 1-6, wing: 1, *Asyncritula brevis;* 2, *Asyncritula pubescens;* 3, *Pangomyia pictipes;* 4, *Acyrocerops furcata;* 5, *Discopteromyia inermis;* 6, *Discopteromyia fascipennis.* 7-9, scutellum: 7, *Anomalacantha divaricata,* dorsolateral view; 8, *Anomalacantha pedunculata,* dorsal view; 9, *Acyrocerops furcata,* dorsal view. 10, *Acyrocerops furcata,* hind femur and tibia.

Type-species: *Anomalacantha divaricata,* n. sp.

Anomalacantha divaricata James, new species

♀. *Head* about 0.60 as long and 1.10 as wide as high. Transverse sulcus faintly impressed; frons at sulcus 0.30 head width, widening to 0.35 at vertex and 0.35 across antennal bases; eyes at lower angle separated by 0.50 head width. Frontal triangle prominent; occipital orbits on lower 1/2 and genae well developed, former the wider; parafacial broad. Frons, vertex, occiput except orbits, and face medially just below antennal insertions shining black; most of face including parafacials, genae, and lower occipital orbits densely white tomentose; hairs of frons scant, short, white, those of upper occiput more noticeable, semiappressed, black. Antenna set at 0.40 head height; scape short and slender; pedicel short but enlarging considerably toward apex; flagellum reniform, relatively large, about 0.20 as high as head; arista arising above middle of flagellum, less than 2× length of latter, bare. Antenna yellow except for a large brown to brownish black blotch on inner surface of flagellum between base of arista and

base of flagellum. *Thorax* shining to subshining black; mesonotum and scutellum with short, appressed white hairs, pleura mostly bare. Scutellum (FIG. 7) set at a distinct angle to mesonotum, about 0.30 its length, truncated-triangular; lower apical spines about 1/3 as long as scutellum, upper ones shorter, lateral pair shortest of the 3, located about 1/2 way from base to apex of scutellum. Legs mostly yellow; hind coxa largely brown on basal 1/2; front femur brown to dark brown on apical 1/2, middle and hind femora brown to dark brown on subapical 1/3. Wing hyaline; stigma very pale yellow; heavier veins yellow to brownish yellow, weak veins concolorous with membrane. Halter yellow. *Abdomen* black to dark brownish black, subshining to subopaque on most of disc, shining and with only very sparse, inconspicuous hairs on posterolateral part of tergum 3, broad sides and apex of 4, and all of 5; subopaque areas of terga 2-4 with moderately dense setigerous punctures; hairs short, appressed and very inconspicuous, mostly black. Sternum 1 mostly opaque and bare, 2-5 shining with scattered, short, appressed white hairs. *Length:* 2.3-2.5 mm; of holotype 2.5 mm.

♂. Unknown.

Holotype ♀ (BISHOP 10,761), PNG: New Guinea (NE): Wau, 1200 m, 30.I.1963, malaise trap, J. Sedlacek. Paratype: IRIAN: New Guinea (NW): 1 ♀, Nabire, 50 m, 25.VIII-2.IX.1962, malaise trap, J. Sedlacek (WSU).

Anomalacantha pedunculata James, new species

♀. Differs from *A. divaricata* chiefly in the form of the scutellum (FIG. 8), the apex of which is extended into a cylindrical process about 2/3 the length of scutellum proper; the terminal spines are located at the apex of this process and are small; there are 2 pairs of lateral spines, the larger near the base of the apical process, the other small. The legs are more extensively yellow than in *A. divaricata,* the hind femur in the type specimens being entirely yellow, the middle one almost entirely so.

♂. Eyes contiguous about 1/2 way from anterior ocellus to antennal bases. Frontal triangle and face wholly pollinose. Only 1 pair of lateral scutellar spines (possibly a variable character). Otherwise as in the ♀.

Holotype ♀ (BISHOP 10,762), PNG: New Guinea (NE): Wau, 1050 m, 4.XI.1961, malaise trap, J. Sedlacek; paratypes: 1 ♀, same locality as holotype but 1100 m, 17.I.1963, J. L. Gressitt (WSU); IRIAN: New Guinea (NW): 2 ♂♂, Hollandia-Binnen, 100 m, 23.XI.1958, at light, Gressitt (BISHOP). Also 1 ♀ (not a type, damaged, scutellar process broken), PNG: New Guinea (NE), Wau, 1200 m, 8.I.1962, malaise trap, J. Sedlacek.

GENUS **Pangomyia** James, new genus

This genus traces quite unsatisfactorily in Kertész's (1916) key. The abdomen is oval, 1.5 to 1.6 as long as wide and slightly wider than the thorax. The origin of vein R_{2+3} is interstitial with, or sometimes very slightly anterior to, cross vein r-m. If the former is taken to be the case, *Pangomyia* traces to *Evaza* (and its synonym *Pseudoevaza*), from which it may easily be distinguished by the lack of scutellar spines and the entirely different wing venation, particularly the relatively short basal (unbranched) part of the cubitus. If R_{2+3} is considered as rising before r-m, this genus traces to the African *Enypnium* except that in the latter the antennae arise at about the middle of the head in profile. The wing venation in *Enypnium* is quite different (compare my FIG. 3 with Kertész 1914: 536, fig. 67): in *Enypnium* the basal section of the cubitus is shortened, though not as much so as in *Pangomyia;* the origin of R_{2+3} is very clearly before r-m; the discal cell is narrow and much less angular;

cell R_4 is unusually elongated; the wing is narrow and brown with hyaline spots; and other differences occur.

The first part of the name *Pangomyia* is derived from PNG, the standard abbreviation for Papua New Guinea.

Type-species: *Pangomyia pictipes,* n. sp.

Pangomyia pictipes James, new species

♀. *Head* as long and 1.5 as wide as high. Frons at transverse sulcus 0.25 head width, widening slightly to antennal bases and to 0.35 head width at vertex; lower angles of eyes separated by 0.40 head width; from front view genae descending slightly below level of eyes; genae narrow; occipital orbits very narrow, almost evanescent above, well developed but narrow below. Antennae set about 1/3 of head height and only slightly above oral margin. Transverse sulcus poorly impressed. Head black; vertex and frons above sulcus shining, bare except a hardly noticeable fringe of short, very inconspicuous hairs adjacent to eye; lower frons densely white tomentose except a broad triangular median area adjacent to upper frons at sulcus, there extending from eye to eye, thence produced ventrad almost to antennal base; facial orbits likewise densely white tomentose. Antennal scape and pedicel brownish yellow; flagellum 0.8 as long as high, brown to dark brown; arista 1.7 to 2.0 as long as rest of antenna combined, mostly white but yellowish at extreme base, micropubescent. Proboscis black with black hairs. *Thorax* black. Mesonotum in profile a rounded right angle anteriorly; scutellum in or approximately in same plane as mesonotum; transverse suture only shallowly impressed, supra-alar convexities not developed; scutellum 1/3 as long as mesonotum, only feebly margined apically and on the apical 1/3 laterally, unspined but with a row of short, blunt tubercles on the margined area. Mesonotum and scutellum thickly punctured, hairs arising from these punctures inconspicuous, short, appressed, largely yellowish white on median 1/3 from middle of prescutum to base of scutellum, some white hairs near notopleural suture, otherwise black; pleura shining with much more conspicuous and longer white hairs over much of the area. Legs mostly yellow; front coxa largely brown to dark brown; apical 1/3 to 1/2 of front femur and basal 1/3 to 1/2 of front tibia, also narrower apices of other femora and bases of other tibiae, dark brown to black; rest of front tibia brownish yellow; front tarsus wholly black, 1st 2 tarsomeres flattened and almost as broad as tibia, 1st about 2/3 as long as its tibia, 2nd short. Wing (FIG. 3) uniformly brown, veins darker brown than membrane; Cu_1 from furcation to discal cell about 2/3 as long as cubitus before furcation; stigma triangular; R_{2+3} arising at or slightly before r-m; R_4 present; discal cell relatively large, broad anteriorly. Halter mostly brownish yellow, stalk bright yellow basally. *Abdomen* black, oval, almost as broad as thorax, broadening to base of 3rd segment, 1.5 to 1.6 as long as broad; thickly punctate, hairs similar to those of mesonotum and scutellum, pale laterally, venter subshining except sternum 1 opaque, with white appressed hairs. Ovipositor, including cerci, mostly brownish yellow with short, erect, white hairs on terminal segment and cerci. *Length:* 4.0-4.5 mm; of holotype 4.4 mm.

♂. Head about 0.9 as long as high. Eyes briefly contiguous above frontal triangle, then broadening gradually to ocellar triangle; frontal triangle densely white tomentose except for a narrow median glabrous vitta extending from its apex to base of antennae. Lower eye facets distinctly smaller than upper and line of separation clear but not sharply marked. Upper occipital orbits absent. Pale hairs of middle 1/3 of mesonotum brighter yellow and more clearly evident than in the ♀. Front basitarsus and 2nd tarsomere broadened but not as conspicuously so as in ♀. *Length:* 3.9-4.3 mm.

Holotype ♀ (BISHOP 10,763), PNG: New Guinea (NE): Wau, 1250 m, 14.V.1965, malaise trap, J. & M. Sedlacek. Paratypes: PNG: New Guinea (NE): 4 ♀♀, same data as holotype but 15.V.1965, light trap, 4.V.1965, and 17.X.1965, J. & M. Sedlacek; 1 ♂, same data but 17.X.1965, malaise trap, J. Sedlacek; 5 ♀♀, 1 ♂, same but 1200 m, 25.X, 10,20,22,25,30.XII.1965, malaise trap, J. & M. Sedlacek; 2 ♀♀, 3 ♂♂, same but 1200 m,

21-25.I.1961, 25,29.VII.1961, 22.VIII.1961, and 1.IX.1961; 2 ♀♀, 2 ♂♂, same but 1-10.V.1963, 16.I.1963, 30.I.1963 and 21.I.1963; 1 ♀, same but 1100 m, 17.I.1963; 1 ♀, 1 ♂, same but 1800 m, 20.IX1964; 1 ♂, same but 1190 m, 15.IX.1964; 1 ♀, 3 ♂♂, Karimui, S of Goroka, 1000 m, 2,2-3,5,6.VI.1961, J. L. & M. Gressitt; 1 ♀, 1 ♂, Sepik, Maprik area, 26.VIII.1957, D. Elmo Hardy; 1 ♂, Adelbert Mts, Wanuma, 800-1000 m, 25.X.1956, *Alpinia,* J. L. Gressitt; 1 ♂, same but palm; 1 ♂, Mt Missim, 1400 m, 25.IX.1964, malaise trap, M. Sedlacek; 1 ♂, Western Highlands, Baiyer R, 1150 m, 9.X.1958, *Alpinia,* Gressitt; 1 ♂, Wampit V, nr Gurakor Vill., nr Wau, 950 m, 7.VII.1956, D. Elmo Hardy; IRIAN: New Guinea (NW): 1 ♀, Vogelkop, Kebar Val., W of Mankowari, 550 m, 4-13.I.1962, S. & L. Quate; 2 ♂♂, Star Mts, Sibil Val., 1245 m, 8.X-8.XI.1961, L. W. Quate; 4 ♂♂, 2 ♀♀, Waris, S of Hollandia, 450-500 m, 27.VI.1930 & 16-23.VII.1959, T. C. Maa. (BISHOP, WSU.)

Pangomyia pallipes James, new species

Closely similar to *P. pictipes* but antenna yellow except flagellum in part orange; legs almost wholly yellow, middle and hind femora becoming orange-yellow toward apices; wing subhyaline, becoming slightly infumated basad of apex of discal cell; stigma and veins basad of discal cell brown, other veins yellow to yellowish brown. *Length:* 4.0 mm.

♀. Unknown.

Holotype ♂ (BISHOP 10,764), PNG: New Guinea (NE): Eliptamin Val., 1200-1350 m, 1-15.IX.1959, W. W. Brandt.

GENUS **Weimyia** James, new genus

This genus traces to *Evaza* in the key of Kertész (1916) but may readily be distinguished from that genus by the 2-spined scutellum (an uncommon character in the Pachygastrinae; cf *Leveromyia, Discopteromyia,* and the American *Spyridopa* and *Panacris*), the entirely different wing venation, and the flask-shaped abdomen. The wing is closely similar to that of *Pangomyia;* the basal section of the cubitus is shortened, Cu_1 from the furcation to the discal cell consequently being long; the origin of R_{2+3} is interstitial with r-m; the stigma is triangular; the discal cell is relatively large. The abdomen is about 1.3 as long as wide and flask-shaped, the 1st and usually part of the 2nd segment being parallel sided, the remainder of the abdomen being approximately circular from dorsal view and moderately convex. The vane-like style of *Lenomyia* and much different venation, notably the origin of R_{2+3} well before r-m, will readily distinguish that genus; the filiform antenna, much larger size, prominently banded wings, and other characters will easily separate *Discopteromyia* from *Weimyia*.

The 1st part of the generic name is an acronym for Wau Ecology Institute.

Type-species: *Weimyia bispinosa* James, n. sp.

Weimyia bispinosa James, new species

♀. *Head* 0.80 as long and 1.30 as wide as high. Antennae set at 0.20 head height. Gena narrow; occipital orbit developed for full height of head, about as wide as gena on upper part, 2× or more that width below. Transverse sulcus of frons feebly developed; frons narrowest at that point, 0.23 head width, widening to 0.30 at vertex, 0.35 across bases of antennae, and 0.40 between lower angles of eyes. Head black, mostly shining, densely white tomentose on frons below transverse sulcus and on parafacials; hairs white, suberect and scattered on upper frons, subappressed on parafacials, appressed to subappressed on occiput. Antenna bright yellow, arista brown; scape and pedicel small, flagellum relatively large, about 1/3 height of head and 0.80 as high; arista about 2× as long flagellum, bare. Proboscis brown to dark brown. *Thorax* black, only apex of scutellum and spines brownish yellow, shining to subshining, more glossy on pleura; mesonotum prominent anteriorly in profile but broadly rounded; transverse suture fairly well impressed, supra-alar convexities low; scutellum elevated at a slight angle from mesonotal profile, the spines in turn forming a slight angle with scutellum; scutellum about 1/4 as long as mesonotum, spines about as long as scutellum. Thorax with white hairs, short and appressed on mesonotum and scutellum, longer and subappressed to suberect on pleura. Legs simple except anterior basitarsus somewhat widened and flattened; anterior tarsus black, legs otherwise, including coxae, yellow. Wing hyaline basad of stigma; stigma brown; cells R_4, R_5, and M_2 tending to pale brown, sometimes nearly hyaline. Veins yellowish brown to brown. Halter bright yellow. *Abdomen* subshining to shining, black, sometimes in part dark castaneous; pile short, appressed, white, some on venter subappressed. lateral hairs, even at base of abdomen, no longer than those on disc. Ovipositor yellow to brownish yellow. *Length:* 3.2-3.9 mm; of holotype 3.4 mm.

♂. Eyes subcontiguous on upper 1/2 of frons, separating somewhat toward anterior ocellus, frons there glabrous; frontal triangle and facial orbits wholly densely white tomentose. Antenna set at about 0.30 head height. Lower occipital orbit about as wide as gena, upper orbits lacking. Antennal flagellum smaller than in ♀. Front basitarsus but little expanded. *Length:* 2.4-3.6 mm.

Holotype ♀ (BISHOP 10,765), PNG: New Guinea (NE): Wau, 1250 m, 14.II.1963, malaise trap, J. Sedlacek. Paratypes: PNG: New Guinea (NE): 7 ♀♀, same as holotype but 1200 m, 3.VIII, 22.VIII, & 26.X.1963; 2 ♂♂, Popondetta, 60 m, 2.1X.1963, malaise trap, J. Sedlacek; New Britain: 2 ♂♂, 1 ♀, Gazelle Peninsula, Gaulim, 130 m, 28.X.1962, Sedlacek; 1 ♀, same but Mt Sinewit, 900 m, 5-9.XI.1962, malaise trap, Sedlacek; 1 ♂, same but Bainings, St. Paul's, 350 m, 8.IX.1955, J. L. Gressitt; 1 ♂, same but Warengoi Val., 100 m, 24.V.1956, Gressitt; 2 ♂♂, same but Kerawat, 60 m, 11.IX.1955, Gressitt (BISHOP, WSU); Dyaul: 1 ♀, Sumuna, 9.III.1962, Noona Dan Exped. 1961-2 (UMC).

GENUS **Acyrocerops** James, new genus

Similar in wing venation (FIG.4) to *Acyrocera* Lindner; veins R_1 and R_2 emerge separately from the discal cell rather than from the same point. The antennal structure is more like that of *Leveromyia* than that of *Acyrocera*, the terminal piece being a vane-like style rather than an arista. The scutellum (FIG. 9) is 4-spined, the apical pair being in turn asymetrically furcate and the lateral one on 1 side showing an indication of furcation; the hind femur (FIG. 10) is clavate and tuberculate below, its tibia strongly bowed compensatorily on its basal part.

This genus will trace either to *Lophoteles* or *Saldubella* in Kertész's key, but the lamellate style and the armature of the scutellum will readily separate it from both those genera.

Type-species: *Acyrocerops furcifera,* n. sp.

Acyrocerops furcifera James, new species

♀. *Head* 0.8 as high and 0.7 as long as wide. Frons about 0.15 head width at transverse sulcus, almost parallel sided from sulcus to anterior ocellus, then widening to 0.3 at vertex, immediately below sulcus widening to 0.20 head width, then narrowing to 0.15 across antennal bases, face then widening to 0.20 across lower angles of eyes. Genae and lower occipital orbits well developed, upper orbits lacking. Head black; frons above sulcus shining, virtually bare; genae and occiput with sparse, appressed pile except on cerebrale, where it is thicker and more conspicuous; frons below sulcus and face densely white tomentose. Antennal scape, pedicel, and base of flagellum brownish yellow, apex of flagellum and style black; scape and pedicel with black setulae, style black pilose; basal flagellomeres well differentiated, the flagellar complex about 1.5 as long as wide and 1.5 as long as either scape or pedicel; style about 3× as long as rest of antenna. Proboscis black at base, labella yellow. *Mesonotum* in profile prominent and rounded anteriorly; dorsal margin almost flat, scutellum approximately on level with mesonotum and spines at only a slight angle to scutellum; mesonotal transverse suture well impressed, supra-alar convexities low; scutellum (FIG. 9) about 1/3 length of mesonotum; apical spines about 1/3 length of scutellum, each with an outward spine-like process at base which is about as long as the lateral spine and which may possibly be interpreted as a separate spine in contact with its apical fellow; lateral spine in type simple on 1 side, on the other with indication of a lateral furcation. Thorax black; large part of prescutum and middle of supra-alar convexities shining and bare, some appressed yellow hairs, however, forming 3 prescutal stripes, the lateral ones expanded anteriorly; posterior part of prescutum, postscutum except supra-alar convexities, and scutellum, including spines, with appressed, short, yellow hairs. Propleuron, posterior 1/2 of mesopleuron, and sternopleuron with white appressed hairs, pleura otherwise mostly shining. Coxae and femora mostly shining to subshining black; narrow bases and apices of femora and basal 2/5 of hind tibia brown; tibiae otherwise and tarsi yellow. Hind femur (FIG. 10) elongated and strongly clavate; 2 or 3 rounded tubercles ventrally just basad of middle; a prominent keel-like tubercle ventrally on its apical 1/4; hind tibia on apical 2/5 narrowed and arcuate to match the thickened apex and ventral keel of the femur. Wing (FIG. 4) pale brown; venation similar to that of *Acyrocera argyraspis* Lindner (cf Lindner 1937, fig. 2). Halter except stalk brown at base. *Abdomen* oval, broadest at base of segment 3, 1.8 as long as broad; black, shining to subshining except sternum 1, mostly with short, appressed white hairs. *Length:* 3.8 mm.

♂. Unknown.

Holotype ♀ (BISHOP 10,766), PNG: New Ireland: Schleinitz Mts, Lelet Plateau, X.1959, W. W. Brandt.

GENUS **Parevaza** James, new genus

Close to *Evaza*. Its body is conspicuously long and slender, its mesonotum being 1.5-1.6 as long as the width between the wing bases, and the abdomen 3.5-4.0 as long as wide; the abdomen is almost parallel sided except near its apex; the arista is densely short plumose to the tip, the hairs being several times as long as the width of the arista; vein R_{2+3} arises at or very slightly beyond r-m. In *Evaza* the thorax and abdomen are much more robust, the latter being oval; the arista is bare or short pubescent, the hairs at most no longer than the width of the arista; vein R_{2+3} arises distinctly beyond r-m. In both genera the antenna is set distinctly below the middle of the head in profile and the scutellum is 4-spined.

Type-species: *Parevaza longa,* n. sp.

Parevaza longa James, new species

♂. *Head* 0.95 as long and 1.65 as wide as high. Head black. Eyes briefly subcontiguous, frons at narrowest less than 1/2 as wide as diameter of anterior ocellus; eye facets becoming much smaller below but without line of

demarcation; frons above subcontiguity shining with some fine longitudinal striae laterally, front below and middle of face shining and bare, lower face especially laterally with white tomentum. Occiput shining to subshining, only inconspicuously pilose, without orbits except below, genae narrow. Antenna including hairs of scape and pedicel bright yellow, arista and its hairs black; ratio of segments and arista 2:1:4:14; flagellum 0.9 as wide as long. Palpus and proboscis bright yellow with mostly brown to black hairs; palpus large, terminal segment as long as antenna minus arista. *Thorax* mostly black, mostly subshining to dull but with some bare shining areas anteriorly and laterally on mesonotum and on pleura, otherwise thickly punctured; humerus mostly reddish brown, apical margin of scutellum and its spines yellow. Scutellum about 1/2 as long as mesonotum, median spines about as long as scutellum, lateral ones shorter; scutellum almost on a plane with mesonotum. Transverse mesonotal suture only moderately impressed; supra-alar convexities hardly noticeable. Pile of mesonotum and scutellum short, appressed, inconspicuous, mostly yellow; that of pleura white. Legs including coxae mostly yellow; front tarsus and apical tarsomere of hind leg brown to brownish black; front tarsus moderately flattened, its basitarsus 0.65 as long as respective tibia. Wing pale brown, more distinctly so anteriorly and toward apex, becoming hyaline at base. Halter yellow. *Abdomen* black, subshining to dull and thickly punctured dorsally, with inconspicuous, short, appressed, mostly black hairs, mostly subshining ventrally and with less dense but more conspicuous, mostly yellow hairs, those of sternum 5, however, black. *Length:* 5.8–7.5 mm; of holotype 7.1 mm.

♀. Unknown.

Holotype ♂ (BISHOP 10,767), PNG: New Britain: Walo, North Coast, 21.VII.1956, E. J. Ford, Jr. Paratypes: PNG: New Britain: 1 ♂, Gazelle Peninsula, Keravat, 60 m, 11.IX.1955, J. L. Gressitt; 1 ♂, same but Vunakanau, 3.VII.1956, Malmalwan, cacao, D. Barrett; IRIAN: New Guinea (NW): 1 ♂, Waris, S of Hollandia, 450–500 m, 27–30.VII.1957, sweeping, T. C. Maa; 1 ♂, Nabire, S Geelvink Bay, 1–20 m, 2–9.VII.1962, Gressitt; 1 ♂, Vogelkop, Sucumi Camp, nr head of Ransiki R, 300 m, 6.VIII.1957, D. Elmo Hardy. (BISHOP, WSU.)

GENUS **Discopteromyia** de Meijere

Discopteromyia de Meijere, 1913, Nova-Guinea **9:** 316.

A remarkable genus of large size for a pachygastrine. It was proposed for a single species, *D. bicincta* de Meijere, l.c., based on a unique ♀ from "Bivak-Insel," New Guinea. In Kertész's key it traces correctly except that the scutellum may be either unspined or 2 spined, depending on the species; the antennal structure, however, is distinctive, being filiform. The wings are hyaline or yellow with prominent dark brown to black cross bands. The intensity of color of these bands is obviously much greater than de Meijere's illustration would indicate. De Meijere characterizes them as black in his description of *D. bicincta,* although his illustration suggests that they are quite light in color; they are dark brown to black in both my species. Venation is somewhat variable but in all species vein R_{2+3} arises well before r-m and continues parallel to R_1 and very close to it; R_4 is long and bowed; r-m is well developed; the basal and anal cells are all long and narrow. The oval or flask-shaped abdomen is 2.0 to 2.25 as long as wide.

The following key, based admittedly on a very small amount of material, will separate the known species.

1. Scutellum with a pair of spines; hyaline areas of wing membrane colorless; all or most of discal cell included within basal dark fascia of wing 2
   Scutellum unarmed; hyaline areas of wing membrane distinctly yellow, more intensely so between the 2 dark fascia; only extreme base of discal cell, basad of crossvein r-m, included within basal dark fascia of wing . . . . . **inermis,** n. sp.
2. Discal cell entirely black; apical dark fascia of wing reaching wing apex; tergum 4 predominantly white pilose. . . . . **fascipennis,** n. sp.
   Discal cell apically, also wing apex, hyaline; tergum 4 mostly blackish brown haired, with only a trace of white hairs on 2 lateral patches . . . . . **bicincta**

Discopteromyia inermis James, new species

♂. *Head* in profile oval, 0.70 as long and 1.20 as wide as high. Transverse sulcus poorly developed. Frons about 0.20 head width and parallel sided from antennal bases to near anterior ocellus, widening to 0.25 at vertex; face widening to 0.25 between lower corners of eyes. Gena narrow. Occipital orbit undeveloped except on lower concavity of eye. Frons metallic blue-green; median longitudinal area from ocellar triangle to transverse sulcus slightly raised above parafrontals, shining and bare; parafrontals subshining, punctured, with shaggy golden hairs; frons below sulcus and face subshining, blue-green, with fairly dense, shaggy, long appressed golden hairs, those just above oral margin tending to be subappressed and directed somewhat outward to each side of oral margin. Antenna bright reddish yellow, becoming brown toward apex; ratio of scape, pedicel, and individual flagellomeres 20:15:17:12:10:8:7:7:7:11 (head width by comparison 100). Flagellum cylindrical, as wide at base as apex of pedicel, terminal 2 flagellomeres narrowing, last distinctly so, rounded at apex. Pile of scape and pedicel inconspicuous, short, yellow; flagellum thickly set with sensoria and appearing pollinose under magnifications of 100× or less, without hairs except scattered, inconspicuous, appressed ones on 1st flagellomere. Palpus robust, 3.0 as long as head width, 2-segmented, brown with conspicuous, mostly black, appressed hairs. Proboscis dark brown to black. *Thorax* dark bluish green, the color brighter in places under certain lights. Mesonotal profile moderately convex, curving regularly anteriorly to just above the cervix and posteriorly to apex of scutellum. Metanotum black with prominent cross striations. Mesonotal suture well impressed; supra-alar convexities not prominent. Scutellum semioval, not margined, with only small apical and apicolateral denticles which are easily overlooked; scutellar spines absent. Pile of mesonotum and scutellum appressed, shaggy, golden, most noticeable on a large triangle which covers anterior part of prescutum and whose apex reaches the suture on a postsutural area just before the scutellum, extending onto base of latter, and on the apex of scutellum, including a dense marginal fringe. Conspicuous appressed white to silvery pile over much of the pleura. Coxae black with silvery pile; legs otherwise reddish yellow with concolorous hairs. Wing (FIG. 5) with R_{2+3} arising well before r-m, latter short but well developed; discal cell attenuated apically, terminal vein forming its posterior border (M_3) 1.5 as long as basal (that part of Cu_1 bordering discal cell) (comparable proportions 1:1 in *D. bicincta,* 1:1.5 in *D. fascipennis*); basal and anal cells long and narrow. Wing yellowish hyaline at base, with 2 broad dark brown bands, 1 crossing the base of the discal cell and the apices of the cells basad of it, the other subapical but leaving the wing apex subhyaline; membrane between and beyond these bands distinctly yellow. Halter yellow. *Abdomen* flask shaped, about 2× as long as wide, widest at base of segment 4, which is about 2× basal width of abdomen; dorsal profile moderately and evenly strongly convex from base to apex, ventral profile slightly concave; metallic blue to blue-green with appressed, well-distributed hairs which are yellow to golden on terga 1-5 and sterna 4 & 5 and white on sterna 1-3. Genitalia yellow; aedeagus bifid; dististyle broadly oval. *Length:* 8.0 mm.

♀. Unknown.

Holotype ♂ (BISHOP 10,768), PNG: New Guinea (NE): Morobe Distr, Wau, Mt Missim, 2300 m, 22.III.1966, J. L. Gressitt.

Discopteromyia fascipennis James, new species

Though the only specimen available lacks the antennal flagellum, it is clearly a *Discopteromyia* and quite close to the type species, with which it is here compared. The most important differences are given in the key.

♀. *Head* 1.30 as wide as high. Frons and face 0.22 head width, parallel sided from anterior ocellus to lower angles of eyes. Antennal scape and flagellum reddish yellow. Mesonotal pile variegated, largely yellow to brownish yellow but with a large irregular patch of black hairs on posterior part of prescutum on each side of middle, pile of disc of postscutum varied black and yellow. Scutellar spines short but distinct, 1/3 as long as scutellum, slender, horn-like, polished black and bare. Hairs of pleura yellow to yellowish white. Wing venation (FIG. 6) as in *D. bicincta* except that part of Cu_1 bordering discal cell much longer than M_3 (cf description of *D. inermis*); basal band covering apical 2/5 of basal and anal cells, all of discal cell, and extending to apex of stigma and of vein Cu_1; apical band beginning at apex of R_4 and extending undiminished to wing apex. Abdomen with terga 1, 2, & 4 and sterna 1 & 2 largely to wholly with appressed white hairs, a median black-haired basal spot on tergum 2, broad lateral triangles extending most of length of 4; terga 3 & 5 and sterna 3–5 mostly with dark brown to black pile, a small median patch at base of tergum 5 with yellowish white pile. *Length:* 8.5 mm.

♂. Unknown.

Holotype ♀ (BISHOP 10,769), PNG: New Guinea (NE): Karimui, 1080 m, 14.VI.1963, M. Sedlacek.

GENUS **Leveromyia** Lindner

Leveromyia Lindner, 1937, Ann. Mag. Nat. Hist. (10) **20**: 391.

This genus was proposed by Lindner for the reception of a single species, *L. geniculata* Lindner, from Guadalcanal, Solomon Islands. This species apparently extends, as a subspecies, into the Bismarck Archipelago, where, in addition, a distinctive but clearly congeneric additional one occurs.

Leveromyia lindneri James, new species

Readily distinguishable from *L. geniculata* by the wholly yellow legs, the subcontiguous eyes of the ♂, and the much more extensively pilose prescutum.

♀. Head as long and 1.20 as wide as high; frons at narrowest 0.13 head width, widening to 0.25 at vertex and 0.20 across antennal bases; face approximately parallel sided. Head black; frons above transverse sulcus glossy, below it, also on face and broad lower occipital orbits, white tomentose. Upper occipital orbits narrow and bare. Thorax, including wings and legs, as in *L. geniculata* except as follows: mesonotum regularly and evenly with short yellow appressed pile except extreme anterior margin (largely bare presuturally in *L. geniculata*); pile of pleura longer and more noticeable; scutellar spines shorter, about 1/2 length of scutellum; legs except hind coxa wholly yellow, the femora becoming orange-yellow toward apical 1/2 and hind femur with a suggestion of brown (coxae, at least broad apices of femora and broad bases of tibiae dark brown to black in *L. geniculata*). Abdomen largely white to yellow haired. *Length:* 3.0 mm.

♂. Similar to ♀ but eyes subcontiguous (separated by about 1/3 diameter of anterior ocellus) for about 1/2 distance from anterior ocellus to antennal bases. Lower occipital orbits narrow but with shaggy white hair as in the ♀. Genitalia withdrawn and not dissected. *Length:* 2.7 mm.

Holotype ♀ (BISHOP 10,770), PNG: New Ireland: Kavieng, 2.VII.1959, J. L. Gressitt. Paratype: 1 ♂, same data as holotype.

Leveromyia geniculata pallipes James, new subspecies

♀. Very similar to the typical form; the legs are almost wholly yellow, only the apex of the hind femur a pale brown to brownish yellow, and the frons is slightly broader at its narrowest part, 0.15 head width. *Length:* 3.1 mm.

Holotype ♀ (BISHOP 10,771), PNG: New Britain: Vudal, SW of Keravat, 13.XII.1954, T. C. Maa.

Further collecting and examination of material will be necessary to determine the status of this form, but it appears to be a more northern insular subspecies of *L. geniculata* which, in its typical form, is known only from the Solomon Islands.

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