The Old World Stenomidae: A Preliminary Survey of the Fauna, Notes on Relationships, and Revision of the Genus *Eriogenes* (Lepidoptera: Gelechioidae)

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The Old World Stenomidae: A Preliminary Survey of the Fauna, Notes on Relationships, and Revision of the Genus *Eriogenes* (Lepidoptera: Gelechioida)

*W. Donald Duckworth*
ABSTRACT

Duckworth, W. Donald. The Old World Stenomidae: A Preliminary Survey of the Fauna, Notes on Relationships, and Revision of the Genus Eriogenes (Lepidoptera: Gelechioidea). Smithsonian Contributions to Zoology, number 147, 21 pages, 9 figures, 7 maps, 1973.—A preliminary review of the presently known composition of the microlepidopterous family Stenomidae in the Old World is provided, including observations on distribution of the family, relationships with other families in the superfamily Gelechioidea, and a catalog of the Old World genera and species. The genus Eriogenes is revised and transferred from the Xyloryctidae to the Stenomidae, and one new species is described.
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**Introduction**

For many years the microlepidopterous family Stenomidae has been viewed as a uniquely New World family with little, if any, representation in the Old World fauna. The development of this concept is difficult to trace precisely; however, to a large extent it stems from the confusion among earlier workers over the relationship between the Stenomidae and the closely related family Xyloryctidae coupled with a lack of detailed studies dealing with either family.

Although both families were originally proposed by Edward Meyrick, his concepts concerning them fluctuated through the years primarily due to his steadfast refusal to utilize characters other than wing venation for his higher classification. This dependance on a single character source led to numerous misconceptions, particularly with the higher categories. As the venational characters he originally used to separate the xyloryctids and stenomids began to break down with the continuing discovery and description of new species, Meyrick (1915) merged the two families under the older name Xyloryctidae. From this point he proceeded during the remainder of his lifetime to describe hundreds of species from both the Old and New World tropics under the family Xyloryctidae.

Other workers, principally August Busck, continued to utilize the original two-family concept placing the New World species and genera in Stenomidae. This geographical distinction was further emphasized by Busck (1934) when in his Stenomidae portion of the Lepidopterorum Catalogus series he only included genera and species from the New World. Thus, through omission, the genera and species from areas other than North and South America remained largely unknown and, until the present, uncataloged. In addition, the Xyloryctidae (sensu stricto) have never been cataloged and remain essentially unstudied.

In recent years a number of papers have reflected the distinctiveness of the two families; however, due to the nature of the studies (faunistic, type catalog) they do not provide a sufficiently clear picture of the two families to serve as a basis for future studies. Clarke (1955a) provides a thorough account of Meyrick's treatment of xyloryctids and stenomids in his introductory material to the catalog of Meyrick types; however, his detailed treatment (1955b) of the type specimens does not include species from Australia where the majority of xyloryctids and Old World stenomids occur.

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Diakonoff (1954) provided a complete and accurate definition of the two families based on his study of the Microlepidoptera of New Guinea. His descriptions coupled with those of Common (1970) based on the Australian fauna provide the most comprehensive characterization of the two families yet published. Both studies, however, are restricted in scope and the latter provides only fragmentary information below family level.

During the course of revisionary studies of the Western Hemisphere Stenomidae conducted by the present author in recent years, the lack of information concerning the Old World elements of the family has presented increasing difficulties, particularly in relation to higher category relationships and evolutionary trends. The present paper is intended to provide a partial remedy to this situation and, more importantly, to serve as a starting point for more comprehensive studies. An attempt has been made to provide as complete a catalog as possible of the previously described taxa that have been assigned to the family or that have been determined to be more appropriately placed in the family. No finality is suggested for this catalog, rather it is anticipated that numerous modifications will become necessary as additional information is obtained.

A detailed revision of the genus *Eriogenes* Meyrick is included and represents the first step toward a more thorough understanding of the Old World stenomid fauna and its relation to the remainder of the family. Previously assigned to the Xyloryctidae, the genus is herein transferred to the Stenomidae and a new species is described.

The comments which follow concerning the relationships between the Xyloryctidae and Stenomidae, as well as the statements concerning the distribution of the Old World stenomid fauna, are preliminary. A great deal more work remains to be accomplished, especially at the generic and specific levels, before more precise evaluations can be made. In the meantime, it seems appropriate to bring together as much of the existing information as possible in order to facilitate future studies.

The author wishes to acknowledge with gratitude the aid and cooperation of the following individuals and institutions who, through their support and encouragement, have materially aided the present study: Mr. Allan Watson, Mr. P. E. S. Whalley, Dr. Klaus Sattler, British Museum (Natural History); Dr. J. F. Franclemont, Cornell University; Dr. I. F. B. Common, Commonwealth Scientific and Industrial Research Organization, Canberra, Australia, for lending types and other specimens in their charge for study. Special thanks are extended to Dr. Ian F. B. Common, C. S. I. R. O., Canberra, Australia and Mr. John S. Dugdale, Department of Scientific & Industrial Research, Nelson, New Zealand, for their aid in documenting the stenomid fauna of their respective areas.

The author also wishes to acknowledge the assistance of Mr. George Venable, departmental illustrator, for the artwork; Mrs. Vera Milbank, technician, for bibliographic assistance; and the National Museum of Natural History Photographic Laboratory for the photographs.

**Classification and Relationships**

The greatest difficulty encountered in attempting to define the family Stenomidae is the lack of knowledge concerning the two most closely related families, Xyloryctidae and Oecophoridae. Fortunately, at least for purposes of the present study, the stenomids are relatively distinct morphologically, and while the oecophorids and xyloryctids are yet to be clearly separated from each other, it is possible to distinguish the stenomids from them to a satisfactory degree and to indicate certain relationships.

The Stenomidae are distinguished by the following combination of characters: labial palpus upcurved, generally robust, apical segment usually shorter than second segment; antenna long-ciliated in the male, scape without pecten; ocelli absent; maxillary palpus 4-segmented, usually partially encircling base of proboscis; forewing with veins 7 and 8 (R₄ and R₅) usually separate, vein 2 (CuA₂) usually arising at or near lower angle of discal cell; hind wing with vein 8 (Sc + R₁) approaching 7 (R₄), or 7 (R₄) curved upward near upper angle of discal cell, veins 6 (M₁) and 7 (R₆) usually stalked; abdomen without spines on terga; male genitalia with harpe simple to complex, bearing specialized setae which are frequently bifurcate apically.

As pointed out by Hodges (1966) many of the genera currently assigned to the Xyloryctidae ap-
pear to be improperly placed, and until the family is carefully studied it is impossible to provide an accurate analysis of family limits; however, in my opinion, the following characters provide the most satisfactory definition possible at this time: labial palpus upcurved; antenna simple, ciliated or pectinated in male, scape without pecten; maxillary palpus 3- or 4-segmented, usually partially encircling base of proboscis; forewing with veins 7 and 8 (R₄ and R₅) usually stalked, vein 2 (CuA₂) arising well before lower angle of discal cell; hind wing with vein 8 (Sc -|- K₆) separate and diverging from 7 (R₁) well before upper angle of discal cell, veins 6 (M₁) and 7 (R₅) approximated, connate or stalked; abdomen with spines on posterior half of terga or along posterior margins; male genitalia with harpe usually simple, without specialized setae.

Diakonoff (1954) presented virtually the only discussion of the relationships between the Stenomidae and Xyloryctidae to be found in the modern literature. His conclusions were based primarily on the New Guinea fauna and thus do not necessarily define either family in relation to their total range and composition. In fact, there is evidence which indicates that he did not always adhere to his family definitions for placement of the New Guinea genera. For example, the genus Eriogenes, revised and transferred to the Stenomidae in the present study, was included in the Xyloryctidae by Diakonoff (1954:127) with the following comment: "Meyrick regarded this genus to be related with Agriophara (Stenomidae) which is certainly erroneous. The insect is a true Xyloryctid, in our opinion, allied to Cryptophasa, and does not show any connections with the Stenomidae." In fact, thorough study of the genus reveals that Eriogenes agrees in every respect with the characters Diakonoff lists as distinctive for the Stenomidae and, as discussed elsewhere in the present paper, demonstrates a closer relationship with the Neotropical stenomids than to any portion of the Old World fauna recognized to date.

As discussed in the introduction, the confusion concerning the families Xyloryctidae and Stenomidae has a long history and involves personalities as well as evaluation of characters. Personalities no longer intrude into the problem; however, the rela-

MAP 1.—Generalized distribution of Old World Stenomidae.

Geographical Distribution

A generalized diagram of the distribution of Old World stenomids is provided in Map 1. The patterns shown are based only on type-localities to avoid errors of misidentification in those groups not studied in detail. Maps 2-6 indicate the precise species localities for the various genera again based on type-localities only. Map 7 provides the total known distribution of the genus *Eriogenes* and is discussed in detail in the treatment of that genus.
Perhaps the most significant aspect of the distribution shown in Map 1 is the obvious absence of records from most of the Oriental Region. This reflects, of course, the serious lack of collecting of Microlepidoptera accomplished to date in this important area. The impact of our ignorance of the Oriental Region, as it relates to Microlepidoptera, is brought into focus when it is realized that there is increasing evidence, convincingly summarized and elaborated by Smith (1970), that the original center of distribution of flowering plants (angiosperms) was, in all probability, southeastern Asia and adjacent Malesia. Viewed in conjunction with the probability that the Order Lepidoptera owes its diversity and success to the development of the flowering plants, information concerning the Microlepidoptera from the Oriental Region becomes basic to an understanding of the origin and dispersal of the group. Thus, it seems reasonable to assume that until additional field sampling is achieved, any comments concerning relationships in the Old World Microlepidoptera are exceedingly tenuous.

With the previous statements in mind, it seems to me appropriate to examine the currently known distribution of the Old World stenomid fauna, albeit imperfect, and to consider possible explanations for the patterns observed.

When the various localities are examined in detail a definite tropical character to the distribution of Old World stenomids emerges. Also, most of the localities are in areas of tropical rain forest or tropical montane forest as defined by Eyre (1968) with the exception of southeastern Australia. This
pattern coincides with observations on the Neotropical stenomid fauna (Duckworth, 1969, 1971) and, in my opinion, it is in this type of habitat that stenomids have flourished and achieved their initial diversification in both the Old and New World. Secondary penetration of dryer habitats has occurred but appears to be less important to the overall family dispersal. The best example of this pattern can be seen in the genera from Madagascar (Maps 5 and 6) where only one species is described from the western savanna area, the remainder occurring in the tropical forests which extend along the eastern portion of the island.

A great deal more study at the generic level must be accomplished before additional interpretation of Old World stenomid distributions can be made. The one genus which has been examined in detail during the present study, *Eriogenes*, does indicate a distinct relationship between the Old and New World elements of the family and, furthermore, appears to possess characteristics reflective of an ancestral condition. If this is found to be the case for other Old World genera, especially in the Southeast Asia-Malesia area, it would seem likely that the generalized model of angiosperm distribution proposed by Smith (1970) would hold true for stenomids as well. In the case of stenomid entry into the New World, data at this point would appear to favor Smith's southern route along eastern Australia and the New Caledonian-New Zealand insular chain into the West Antarctic Archipelago and, utilizing island stepping stones, into South America. There is no evidence, at this point, which suggests a route crossing Beringia to the north; the Nearctic stenomid fauna appears to have originated in the Neotropical Region and is only marginally successful in temperate habitats (Duckworth, 1971).
Revision of the Genus Eriogenes Meyrick

The genus Eriogenes was established by Meyrick (1925) with a single included species, E. mesogypsa, with the indication that it was apparently closely related to Agriophara. Diakonoff (1954) included Eriogenes in the family Xyloryctidae in his study of the New Guinea Microlepidoptera, noting that Meyrick’s placement of the genus as a relative of Agriophara (Stenomidae) was in error. Contrary to that opinion, in the present study it has been determined that Eriogenes is, in fact, more appropriately placed in the Stenomidae and shows no relationship to the xyloryctids in any character other than gross superficial appearance. In addition, detailed study of the morphological characters within the genus, particularly the genitalia, suggest a relationship to certain genera in the Neotropical portion of the family.
Morphology

Superficially, the members of this genus are large, robust, densely scaled moths which resemble certain noctuids, or some of the larger xyloryctids such as Cryptophasa, in general appearance. Although comprised of only two species, the genus exhibits a number of morphological characters worthy of special emphasis.

HEAD.—In both species the eye index is 1.0 or greater, ranging from 1.0 to 1.3, suggesting that these moths are nocturnal in adult activity patterns. For additional discussion of the eye index and its significance refer to Duckworth (1971) and Powell (1973). The maxillary palpi are 4-segmented. The labial palpi are 3-segmented; the apical segment is reduced and variable in size and shape between the two species. The proboscis is reduced and hidden between the basal segments of the labial palpi when in the normal coiled position.

THORAX.—The thorax is very robust and clothed laterally and ventrally with long hair scales. The wing venation is homogeneous and no characters of specific significance were observed. The occurrence of a cross vein between the upper edge of the cell and vein 8 (Sc + R1) in the hind wing, mentioned by Diakonoff (1954), is variable and not a dependable character at either the generic or specific level.

ABDOMEN.—No structures of generic significance were observed on abdominal segments 1-8. Perhaps the most notable aspect of this area of the body is the absence of secondary sexual structures, with the exception of a small eversible ventral pouch covered with a small mass of erectile hair scales in the intersegmental membrane between segments 7 and 8 in E. meyricki.

MALE GENITALIA.—By far, the most significant and intriguing structural characters in this genus are found in the male genitalia. The harpe consists of a simple lobe rather uniformly clothed over the apical half with specialized setae. These specialized setae are broadened and multilobed apically, the number of lobes varying but apparently always more than two. The uncus is large, broadly articulated with the tegumen basally, and somewhat recurved near the midpoint. The gnathos is pendulous and produced into a heavily sclerotized plate apically. The anellus consists of a simple plate with two lateral lobes. Both the shape of the gnathal plate and the size and shape of the lateral lobes of the anellus vary between the two species and serve to distinguish them specifically. The aedeagus is produced apically, and the vesica is armed with cornuti in E. meyricki and unarmed in E. eriogenes.

FEMALE GENITALIA.—No female specimens are known for the species in this genus.

Geographical Distribution

This genus is presently known to occur only in New Guinea and adjacent islands, including Ceram in the Moluccas (Map 7). The lack of records for the two species of Eriogenes seriously restricts any effort to analyze distribution patterns or to project ranges in any definitive fashion. The absence of biological data, especially host plant information, further complicates matters and renders all observations made at this point tentative.

The most interesting aspect of the distribution patterns for the two species of Eriogenes is the divergence from mainland New Guinea into different adjacent island groups. E. meyricki is recorded from Ceram in the southern Moluccas, the Central Range on mainland New Guinea, and throughout the Bismarck Archipelago. On the other hand, E. mesogypsa extends from the Idenburg River in West Irian, southeastward into the D'Entrecasteau and Louisiade island groups. Similar patterns have been noted for butterflies (Zeuner, 1943; Carpenter, 1953) and they appear to correlate with the geological history of New Guinea (Toxopeus, 1950; Holloway and Jardine, 1968).

In the Miocene the northern ranges of New Guinea were a part of a "Melanesian arc" of islands which included the North Moluccas and Talaud Islands to the west and the Bismarck and Solomon Islands to the east. Farther south, land which now constitutes the central range of New Guinea appeared in late Miocene, well isolated from the Melanesian arc. During the Pliocene-Pleistocene further uplifting occurred in the central range and gradually the central and northern ranges were joined. Other portions of New Guinea (e.g., Vogelkop) undoubtedly existed as separate islands during the Pleistocene. Thus, the butterfly fauna, as
analyzed by Holloway and Jardine (1968) reflects three faunal elements; one-third endemic, one-third with Sunda-based affinities, and one-third Melanesian. They further conclude that this heterogeneity results from the Melanesian and endemic elements having risen separately through dispersal from Asia into the Melanesian arc and into the formerly separate southern part of New Guinea since the Miocene. Although insufficient data are available to confirm or reject a similar pattern in Eriogenes, it is interesting to note that *E. meyricki* displays a "Melanesian" pattern and *E. mesogypsa* appears to be more "endemic" in distribution.

The currently known distribution of the genus also suggests the possibility that species of *Eriogenes* may occur farther west into Indonesia. This area is virtually unknown insofar as Microlepidoptera are concerned (Diakonoff, 1954) and undoubtedly served as a major point of dispersal to the New Guinea region.

Available data suggest the possibility of a significant altitudinal difference for the two species of *Eriogenes*. *E. mesogypsa* is much the better documented species in this regard and appears to occur at lower elevations up to approximately 2500 feet. One record, from Goodenough Island, indicates a range in elevation from 2500 feet to 4000 feet; however, the consistency of other records would suggest that this specimen was probably captured at the lower limits of this range. Also, there is a specimen from the Jimmi River, in the Western Highlands, with an altitude record of 4700 feet. This appears to be an error in that the Jimmi River is situated in a low valley at an elevation generally less than 2500 feet. At one point, according to Gressitt (1956), the river elevation is 460 meters (1508 ft). *E. meyricki*, on the other hand, is recorded from Ceram at an elevation of 4600 feet, Telefomin in central New Guinea at 4500 to 5500 feet, and the other specimens from Rook, St. Matthias and New Britain Islands are without elevation data. Rook Island has elevations above 2500 feet and thus the potential for correlation; however, St. Matthias is a much lower
island and would not appear to fit the concept. Yet Hartert (1924), in a paper on the birds of St. Matthias, indicates the island consists of a relatively high plateau (2130 ft) partly covered with thick forest which might be suitable habitat for species that occur at greater altitudes on the higher islands.

**CLASSIFICATION AND RELATIONSHIPS**

Although a great deal of the Old World stenomid fauna remains to be studied in detail, and undoubtedly is yet to be discovered, the genus *Eriogenes* is of considerable significance in that it appears to be more closely related morphologically to the Neotropical genus *Chlamydasitis* and its allies than to any Old World genus. As pointed out in a previous paper (Duckworth, 1971), *Chlamydasitis* and several related genera seem to constitute a major division within the family, characterized, in part, by their possession of multilobed, palmate-type specialized setae on the harpe in the male genitalia. *Eriogenes* has a less specialized type of multilobed setae on the harpe, which suggests the possibility that it represents a more primitive stage in the development of this character. In addition, virtually every structure of the male genitalia demonstrates both a relationship with *Chlamydasitis* and a more generalized character state than is found in that genus. For example, in *Chlamydasitis* the specialized setae are restricted to the outer costal margin of the harpe, there is a tendency for reduction in the length of the uncus, the harpe shows a tendency to divide into a costal lobe and sacculal lobe, and the gnathos may be long and pendulous or entirely absent. In *Eriogenes* the specialized setae are uniformly distributed over the apical half of the harpe, the uncus is very long, the harpe is a large simple lobe, and the gnathos is long and pendulous. Thus, in each of these structures, a clear relationship exists between the genera in terms of similarities of structure, with *Eriogenes* possessing less reduction and modification than *Chlamydasitis*. After consideration of these and other characters (e.g., maculation and venation), *Eriogenes*, in my opinion, represents a distinct link between the Old and New World stenomid faunas and possibly displays characteristics reflective of an ancestral condition.

**Genus Eriogenes Meyrick**

*Eriogenes* Meyrick, 1925:159. [Type-species: *Eriogenes mesogypsa* Meyrick by monotypy.]

Head densely scaled, lateral tufts raised. Male antenna heavily ciliated ventrally, slightly fasciculate. Labial palpus recurved, not reaching vertex, thickened with heavy scaling. Proboscis reduced, concealed between labial palpi; maxillary palpus 4–segmented. Thorax and abdomen densely covered with long hair scales. Legs with all tibia and tarsi expanded with hair scales. Forewing with costa slightly arched, apex rounded, termen oblique, tornus rounded; with 12 veins, all separate, discal cell extending beyond midpoint, 2 (CuA2) from end of cell, 7 (R4) to termen. Hind wing broader than forewing; with 8 veins, 3 and 4 (CuA1 and M3) connate, 6 and 7 (M1 and R4) connate, upper edge of cell curved upward toward vein 8 (Sc + R1) at apical four-fifths.

**MALE GENITALIA.**—Uncus simple, curved slightly ventrad from middle; gnathos pendulous, fused apically forming gnathal plate; harpe simple, apical half clothed with apically multilobed specialized setae; anellus with lateral lobes; vinculum fused;

**Key to the Species of Eriogenes**

**BASED ON EXTERNAL FEATURES**

| Apical segment of labial palpus one-third to one-half the length of second segment; forewing with discal spot on outer margin of median white fascia | ...................... *E. mesogypsa* Meyrick |
| Apical segment of labial palpus less than one-third the length of second segment; discal spot within median white fascia | ...................... *E. meyricki*, new species |

**BASED ON THE MALE GENITALIA**

| Anellus with lateral lobes long, falciform; vesica of aedeagus without cornuti | ........................................... *E. mesogypsa* Meyrick |
| Anellus with lateral lobes short, truncate; vesica of aedeagus with cornuti | ........................................... *E. meyricki*, new species |
Figures 1-4.—Head, legs, genitalia morphology: 1, caudolateral view of head of *E. mesogypsa*; 2, legs of *E. mesogypsa*; 3, male genitalia of *E. mesogypsa* (left harpe removed); 4, male genitalia of *E. meyricki* (left harpe removed).
aedeagus produced apically, vesica of aedeagus with or without cornuti.

**FEMALE GENITALIA.**—Unknown.

**DISCUSSION.**—This genus is readily separated from other Old World stenomid genera by the reduced proboscis, distinctive maculation of the forewings, robust thorax and abdomen covered with long hair scales, and distinctive male genitalia. In the latter, the long uncus, pendulous gnathos, and simple harpe with multilobed specialized setae are characteristic.

No female specimens of species in this genus are known and, consequently, it is impossible to provide distinguishing characteristics based on structures of the female genitalia.

**Eriogenes mesogypsa** Meyrick

**FIGURES** 1–3, 5–8; **MAP** 7

**Eriogenes mesogypsa** Meyrick, 1925:159.

**Alar expanse** 30–35 mm.

Antenna with scape light brown suffused with white, shaft light brown dorsally. Head dark brown medially, whitish tufts posterior to antennae, face brown suffused with white; labial palpus dark brown, apical segment and apex of second segment sprinkled with white, apical segment one-third to one-half the length of second segment. Thorax and tegulae brown suffused with white dorsally. Legs white shaded with light brown; foreleg with coxa overcast with pale brown; femur, tibia, tarsi overcast with dark brown; midleg with tarsi brown; hind leg with tarsi white. Abdomen light brown to white. Forewing brown, darker basally, a median, triangulate, white fascia from costa to dorsum, discal spot dark brown on outer margin of white fascia, apical third brown along costa suffused with white toward tornus, a faint, outwardly curved brown line from costal three-fourths to tornus, cilia with interrupted brown line basally, white beyond. Hind wing light brown to white, cilia light brown basally, white beyond.

**MALE GENITALIA** (WDD 4199, lectotype).—Uncus rounded apically; gnathal plate sharply narrowing before apex, apex narrowly recurved; harpe broadly rounded apically; anellar plate with ventral margin straight, two upright, falciform lateral lobes; aedeagus long, narrow, more than one-half the length of harpe, apex produced into a broad, knifelike flange; vesica without cornuti.

**FEMALE GENITALIA.**—Unknown.

**TYPE.**—Lectotype male, British Museum (Natural History).

**TYPE-LOCALITY.**—Kumusi River, Northeast British New Guinea at low elevation.

**HOST PLANT.**—Unknown.

**DISTRIBUTION.**—Presently known from New Guinea and adjacent islands at low elevations.

**ADULT RECORDS.**—NEW GUINEA: Kumusi River, low elevation; Bernhard Camp, Idenburg River, 50 m (Jan.); Hydrographer Mountains, 2500 ft (Jan., Feb.); Western Highlands, Jimi River, 4700 ft (July, Sept.). D'ENTRECASTEAU ISLANDS: Goodenough Island, 2500–4000 ft (April, May, June). MURUA (Woodlark Island); Kulamadau (Jan., May). LOUISIADE ARCHIPELAGO: Sudest Island (Tagula), Mount Riu, 2000 ft (Jan., Feb., March, April); Rossel Island, Mount Rossel, 2100 ft (Nov., Dec.); Rossel Island, Abaliet (Nov., Dec.); Misima Island, Umana Camp, 500 ft (June, July).

**DISCUSSION.**—Meyrick originally described this species from four specimens and noted that one of the four, from Ceram, was somewhat atypical. During the course of this study it was determined that the specimen from Ceram represented a separate species which, although very similar superficially, may be readily distinguished by both genitalia characters and maculation. In addition to the original three specimens, in excess of twenty additional specimens of *E. mesogypsa* from various localities have been studied.

For the most part, the material studied was collected many years ago and, consequently, it is impossible to determine the effect of time on the scale colors. Meyrick (1925) indicates a copper sheen in his original description which is not discernible in the specimens now, and it should be noted that the original series was collected at least ten years before Meyrick's description. In addition, most of the specimens, including the original series, are mouldy and somewhat greased. Thus, the colors are undoubtedly much duller than would be found in fresh specimens. I suspect the brown wing colors are more red-brown than they appear in the specimens now; however, additional information on this subject must await procurement of fresh material.
FIGURES 5–9.—Head morphology, wing venation, left wings: 5, head of *E. mesogypsa*, frontal view, scales removed (labial palpus of *E. Meyricki* below); 6, maxilla of *E. mesogypsa*; 7, wing venation of *E. mesogypsa*; 8, left wings of *E. mesogypsa*; 9, left wings of *E. meyricki*. 
Eriogenes meyricki, new species

**Figures 4, 9; Map 7**

Alar expanse 27–35mm.

Antenna with scape and dorsum of shaft light brown mixed with white. Head light brown medially, whitish tufts posterior to antennae, face light brown; labial palpus dark brown basally to middle of second segment, lighter brown mixed with white to apex, apical segment less than one-third length of second segment. Thorax and tegulae brown, heavily suffused with white. Legs as in *E. mesogypsia*. Abdomen pale brown to white ventrally, brown dorsally. Forewing brown, a median, irregularly shaped, white fascia from costa to dorsum, discal spot dark brown within the outer margin of white fascia, apical third with two relatively distinct transverse brown lines, one bordering the outer margin of white fascia, the other extending from apical three-fourths of costa to dorsum before tornus, cilia white with interrupted brown line basally. Hind wing brown, cilia brown.

**Male Genitalia** (WDD 4200, holotype).—Uncus truncate apically; gnathal plate gradually narrowing to broadly recurved apex; harpe acute apically; anellar plate with ventral margin indented at midpoint, two short, truncate lateral lobes; aedeagus short, broad, less than one-half the length of harpe, apex produced into a narrow, apically acute projection; vesica with two large, heavily sclerotized cornuti.

**Female Genitalia.**—Unknown.

**Type.**—Holotype male, British Museum (Natural History).

**Type-Locality.**—Central Ceram, 4600 ft.

**Host Plant.**—Unknown.

**Distribution.**—Presently known from the Moluccas, New Guinea, and the Bismarck Archipelago.

**Adult Records.**—MOLUCCAS: Ceram, 4600 ft (Jan.). NEW GUINEA: Telefomin (Eliptamin), 4500–5500 ft (June, Sept.). BISMARCK ARCHIPELAGO: Rook Island (July); New Britain, Keravat (no date). ST MATTHIAS GROUP: St. Matthias Island (July).


This species seems very closely related to *E. mesogypsia* and may be separated by the characters indicated under the discussion pertaining to that species. In general, it seems *E. meyricki* is on the average smaller than *E. mesogypsia*, occurs at higher elevations, and is darker in maculation.

### Catalog of the Old World Stenomidae

Included in the following catalog are all those genera and species which have been assigned to the Stenomidae by previous workers or determined more appropriately placed with the family during the present study. The information provided concerning location of types has been gathered from various sources and where questionable the data is preceded by a question mark. The genera are arranged alphabetically and the included species are also listed alphabetically under the generic headings. Type-locality data are essentially as found in the original description, with an occasional addition (state, district, province) for clarity.

As mentioned in the introduction, no finality is implied for this catalog. Many of the species included have not been studied and the genera are, in many cases, poorly defined. Thus, the catalog is intended as a point of departure for future studies and a summation of the family's current composition in the Old World.

**Genus Agriophara Rosenstock**

**Map 2**

*Agriophara* Rosenstock, 1885:39. [Type-species: *Agriophara cinerosa* Rosenstock by subsequent designation, Fletcher, 1929:9.]
**Hypeuryntis** Meyrick, 1897:389. [Type-species: *Hypeuryntis coricopa* Meyrick by monotypy.]

   Type-locality: Paniai Lake, New Guinea.  
   Type: holotype female, Rijksmuseum van Natuurlijke Historie, Leiden.

   Type-locality: Moreton Bay, Queensland, Australia.  
   Type: holotype male, British Museum (Natural History).

   Type-locality: Wirrabara, South Australia, Australia.  
   Type: syntypes of both sexes, British Museum (Natural History).

   Type-locality: Iebele Camp, 2250 m, West Irian, New Guinea.  
   Type: holotype male, Rijksmuseum van Natuurlijke Historie, Leiden.

   Type-locality: Duaringa, Queensland, Australia.  
   Type: holotype male, South Australia Museum, Adelaide.

   Type-locality: Mount Lofty, South Australia, Australia.  
   Type: syntypes of both sexes, British Museum (Natural History).

   Type-locality: Mt. Alexander Range, Victoria, Australia.  
   Type: holotype male, British Museum (Natural History).

   Type-locality: Sydney and Bathurst, 2500 ft, New South Wales, Australia.  
   Type: syntypes of both sexes, British Museum (Natural History).

   Type-locality: Moreton Bay, Queensland; Sydney, New South Wales, Australia.  
   Type: syntypes of both sexes, British Museum (Natural History).

    Type-locality: Wellington, New Zealand.  
    Type: holotype male, British Museum (Natural History).

    Type-locality: Duaringa, Queensland, Australia.  
    Type: holotype male, South Australia Museum, Adelaide.

    Type-locality: Brisbane, Queensland, Australia.  
    Type: holotype male, South Australia Museum, Adelaide.

    Type-locality: South Australia.  
    Type: holotype male, British Museum (Natural History).

    Type-locality: Gisborne, Victoria, Australia.  
    Type: syntypes of both sexes, Australian National Insect Collection, Canberra.

    Type-locality: Gisborne, Victoria, Australia.  
    Type: holotype male, Australian National Insect Collection, Canberra.

    Type-locality: Sydney and Bathurst, 2500 ft, New South Wales, Australia.  
    Type: syntypes of both sexes, British Museum (Natural History).

    Type-locality: Sydney, New South Wales, Australia; Deloraine, Tasmania.  
    Type: syntypes of both sexes, British Museum (Natural History).

    Type-locality: Iebele Camp, 2250 m, West Irian, New Guinea.  
    Type: holotype female, Rijksmuseum van Natuurlijke Historie, Leiden.

    Type-locality: Sydney, New South Wales, Australia.  
    Type: holotype male, British Museum (Natural History).

    Type-locality: Parkside, South Australia; Duaringa, Queensland, Australia.
Type: syntypes of both sexes, South Australia Museum, Adelaide.
Type-locality: Parkside, South Australia, Australia.  
Type: holotype male (without abdomen), South Australia Museum, Adelaide.
Type-locality: Brisbane, Queensland, Australia.  
Type: syntype males, Australian National Insect Collection, Canberra.
Type-locality: Parkside, South Australia, Australia.  
Type: syntypes of both sexes, South Australia Museum, Adelaide.
Type-locality: Brisbane, Queensland, Australia.  
Type: holotype, British Museum (Natural History).
Type-locality: Woodlark Island, New Guinea.  
Type: holotype male, British Museum (Natural History).
Type-locality: Australia.  
Type: holotype female (without abdomen), British Museum (Natural History).
Type-locality: Biagi, Mambare River, 5000 ft., New Guinea.  
Type: holotype male, Deutsches Entomologisches Institut, Berlin.
Type-locality: Woodlark Island, New Guinea; Cooktown, Queensland, Australia.  
Type: syntypes of both sexes, British Museum (Natural History).
Type-locality: Moss Forest Camp, 2600–2800 m, West Irian, New Guinea.  
Type: male holotype, Rijksmuseum van Natuurlijke Historie, Leiden.
30. *A. nodigera* Turner [Agriophara], 1900:11.  
Type-locality: Warwick, Queensland, Australia.  
Type: holotype female, Australian National Insect Collection, Canberra.
Type-locality: Lower Mist Camp, 1400–1600 m, West Irian, New Guinea.  
Type: holotype female, Rijksmuseum van Natuurlijke Historie, Leiden.
Type: holotype male, British Museum (Natural History).
33. *A. phasmatopa* (Meyrick) [Stenoma], 1910:460.  
Type-locality: Gizo, New Georgia, Solomon Islands.  
Type: syntype males, British Museum (Natural History).
34. *A. plagiostema* Turner [Agriophara], 1897:32.  
Type-locality: Brisbane, Queensland, Australia.  
Type: holotype male, Australian National Insect Collection, Canberra.
35. *A. platyscia* Lower [Agriophara], 1908:117.  
Type-locality: Tasmania.  
Type: holotype female (without abdomen), South Australia Museum, Adelaide.
Type-locality: Brisbane, Queensland, Australia.  
Type: syntypes of both sexes, Australian National Insect Collection, Canberra.
37. *A. polistis* (Lower) [Agriophara], 1923:55.  
Type-locality: Dorrigo, New South Wales, Australia.  
Type: syntype males, South Australia Museum, Adelaide.
Type-locality: Florida, Solomon Islands.  
Type: holotype male, British Museum (Natural History).
Type-locality: Broken Hill, New South Wales, Australia.  
Type: holotype male, South Australia Museum, Adelaide.
Type-locality: Cyclops Mountains, 400–900 m, West Irian, New Guinea.  
Type: holotype male, Rijksmuseum van Natuurlijke Historie, Leiden.
Genus Amontes Viette

MAP 6

Amontes Viette, 1958:116. [Type-species: Amontes princeps Viette by original designation.]

   Type-locality: env. de Perinet, forêt d'Analamazoatra, 910 m, Madagascar.

Genus Aproopta Turner

MAP 3

Aproopta Turner, 1919:171. [Type-species: Aproopta melanclaeana Turner by monotypy.]

   Type-locality: Katoomba, New South Wales, Australia.
   Type: holotype male, Australian Museum, Sydney.

Genus Eriogenes Meyrick

MAP 7

Eriogenes Meyrick, 1925:159. [Type-species: Eriogenes mesogypsa Meyrick by monotypy.]

1. E. mesogypsa Meyrick [Eriogenes], 1925:159.
   Type-locality: Kumusi River, Northeast British New Guinea, at low elevation.
   Type: lectotype male, British Museum (Natural History).

   Type-locality: Central Ceram, 4600 ft, Moluccas.
   Type: holotype male, British Museum (Natural History).

Genus Herbulotiana Viette

MAP 5

Herbulotiana Viette, 1954:17. [Type-species: Herbulotiana abceda Viette by original designation.]

   Type-locality: baie d'Antongil, Madagascar.

   Type-locality: Plateau Soaindrana, 2070 m, Massif de l'Andringitra, Central Madagascar.

   Type-locality: route d'Anosibe, km 57, Madagascar Est.

   Type-locality: baie d'Antongil, Madagascar.

   Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Madagascar.

   Type-locality: baie d'Antongil, Madagascar.

   Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Madagascar.

8. H. collectella Viette [Herbulotiana], 1956a:111.
   Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Nord-Est Madagascar.

9. H. halarcta (Meyrick) [Agriophara], 1917:59.
   Type-locality: Antananarivo, Madagascar.
   Type: holotype male, British Museum (Natural History).

    Type-locality: baie d'Antongil, Madagascar.

    Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Madagascar.

    Type-locality: env. de Perinet, forêt d'Analamazoatra, 910 m, Madagascar Est.

Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Madagascar.

Type-locality: env. de Ranomafana, district d'Ifanadiana, 700 m, Madagascar Est.

Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Nord-Est Madagascar.

Type-locality: baie d'Antongil, Madagascar.

Genus *Mnarolitia* Viette


Type-locality: env. de Morafenobe, forêt de Mahajeby, Ouest Madagascar.

Type-locality: env. de Perinet, forêt d'Andranoratra, 910 m, Madagascar Est.

Genus *Mocquerysiella* Viette


Type-locality: baie d'Antongil, Nord-Est Madagascar.

Type-locality: env. de Maroantsetra, forêt d'Ambodivoangy, Nord-Est Madagascar.

Genus *Neospastis* Meyrick

*Neospastis* Meyrick, 1917:59. [Type-species: *Agriophara encryphias* Meyrick by original designation.]

Type-locality: Nilgiris, Pykara, 7000 ft, India.
Type: lectotype male, British Museum (Natural History).

2. *N. encryphias* (Meyrick) [Agriophara], 1907a:743.
Type-locality: Khasi Hills, Assam, India.
Type: lectotype male, British Museum (Natural History).

3. *N. ichnaea* (Meyrick) [Stenoma], 1914:118.
Type-locality: Anshi, Kanara, India.
Type: lectotype male, British Museum (Natural History).

Genus *Nothochalara* Diakonoff

*Nothochalara* Diakonoff, 1954:135. [Type-species: *Nothochalara sordida* Diakonoff by original designation.]

Type-locality: Araucaria Camp, 800 m, West Irian, New Guinea.
Type: holotype female, Rijksmuseum van Natuurlijke Historie, Leiden.

Genus *Phylomictis* Meyrick

*Phylomictis* Meyrick, 1890:74. [Type-species: *Phylomictis maligna* Meyrick by monotypy.]

1. *P. arctans* Lucas [Phylomictis], 1900:159.
Type-locality: Brisbane, Queensland, Australia.
Type: syntypes of both sexes, South Australia Museum, Adelaide.

Type-locality: Brisbane, Queensland, Australia.
Type: holotype female, South Australia Museum, Adelaide.

Type-locality: Burpengary, near Brisbane, Queensland, Australia.
Type: holotype male, Australian National Insect Collection, Canberra.

Type-locality: Brisbane, Queensland, Australia.
Type: holotype male, British Museum (Natural History).

5. *P. leucopelta* (Lower) [*Comoscotopa*], 1902:240.
Type-locality: Mount Gambier, South Australia, Australia.
Type: holotype male, South Australia Museum, Adelaide.

Type-locality: Brisbane, Queensland, Australia.
Type: holotype male, British Museum (Natural History).

Type-locality: Melbourne, Victoria, Australia.
Type: holotype male, British Museum (Natural History).

Type-locality: Parkside, South Australia, Australia.
Type: holotype female (without abdomen), South Australia Museum, Adelaide.

Type-locality: May Orchard, Brisbane, Queensland, Australia.
Type: syntypes of both sexes, South Australia Museum, Adelaide.

Type-locality: Brisbane, Queensland, Australia.
Type: syntype male, Australian National Insect Collection, Canberra.

Type-locality: Brisbane, Queensland, Australia.
Type: holotype female, British Museum (Natural History).

**Genus Proscedes Diakonoff**

MAP 3

*Proscedes* Diakonoff, 1954:137. [Type-species: *Proscedes torquigera* Diakonoff by original designation.]

Type-locality: Rattan Camp, 1200 m, West Irian, New Guinea.
Type: holotype male, Rijksmuseum van Natuurlijke Historie, Leiden.

**Genus Synchalara Meyrick**

MAP 4

*Synchalara* Meyrick, 1917:60. [Type-species: *Agriophara rhombota* Meyrick by original designation.]

Type-locality: Maskeliya, Ceylon.
Type: lectotype male, British Museum (Natural History).

Type-locality: Khasi Hills, Assam, India.
Type: lectotype male, British Museum (Natural History).

Type-locality: Mt. Tafa, 8500 ft, New Guinea.
Type: male holotype, British Museum (Natural History).

Type-locality: Khasi Hills, Assam, India.
Type: lectotype male, British Museum (Natural History).

5. *S. rhombota* (Meyrick) [*Agriophara*], 1907a:981.
Type-locality: Khasi Hills, Assam, India.
Type: lectotype male, British Museum (Natural History).
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