

ZOOLOGY

NOTES ON AMERICAN ALBUNEIDAE  
(CRUSTACEA DECAPODA, ANOMURA) WITH THE DESCRIPTION  
OF A NEW GENUS AND SPECIES

BY

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(Communicated by Prof. H. BOSCHMA at the meeting of September 24, 1960)

During a study of American Albuneidae in the collections of the Rijksmuseum van Natuurlijke Historie, Leiden, the British Museum (Nat. Hist.), London, and the U.S. National Museum, Washington, D.C., three species were found that proved to be of unusual interest. One of these, collected at Curaçao, is so aberrant that it cannot be placed in any of the existing Albuneid genera; a new genus, *Zygopa*, is now erected for it. The second species is probably identical with *Lepidopa chilensis* Lenz from Chile and Peru, but if this is the case, the original description is misleading in so many details that recognition of the species from it is well nigh impossible; a description of the present material is given here. Of the third species, *Lepidopa richmondi* Benedict from the Caribbean area and Brazil, additional details are provided and its differences from *Lepidopa benedicti* Schmitt are enumerated.

The abbreviation *cl.* designates carapace length.

***Zygopa* new genus**

**Definition.** A genus of Albuneidae which is most closely related to the genus *Lepidopa* Stimpson, 1858. It may be distinguished from that and most other genera of the family by (1) the shape of the eyes which are small and fused together, and by (2) the anterior margin of the carapace which instead of having a single median tooth possesses two submedian teeth separated by a concavity. As far as I am aware the latter feature is shown elsewhere in this family only by *Albunea intermedia* Balss.

Other important characters of the genus are that (1) the lateral tooth of the carapace is placed on the carapace proper and not on the lateral plate, (2) the longer antennular flagellum consists of about 20 articles, (3) the scaphocerite is well developed and reaches to the end of the penultimate segment of the antennal peduncle, (4) the antennal flagellum consists of only one article, (5) the exopod of the third maxilliped is lamelliform, (6) the first pereopod is chelate, (7) the telson is rather elongate, triangular in the male, tongue-shaped in the female.

The type and only species is

**Zygopa michaelis** new species

Sint Michiels Baai, south coast of Curaçao, Netherlands Antilles; sandy bottom; depth about 4 m; 1-18 January 1957; J. S. ZANEVELD & L. B. HOLTHUIS. — 6 ♂♂ (cl. 8-12 mm), 14 ♀♀ (cl. 5-10 mm).

**Description.** The carapace is about as long as wide. It is widest in the middle, narrowing both anteriorly and posteriorly. The median part of the anterior margin is concave. This emargination is flanked at each side by a small submedian tooth. The distance between the intermediate and submedian teeth is greater than that separating the two submedian teeth. The four teeth lie in an approximately horizontal line, being separated from one another by concave parts of the anterior margin. The intermediate teeth are blunter than the submedian. Between the intermediate tooth and the anterolateral angle of the carapace the anterior margin runs obliquely backward and outward; near the intermediate tooth it is directed almost straight posteriorly to curve later outward. The anterolateral angle of the carapace is blunt. A strong tooth is present on the carapace itself somewhat behind the anterolateral angle and above the *linea anomurica*. Behind the tooth the carapace is somewhat constricted. The upper surface of the carapace is conspicuously sculptured. In the anteromedian region a number of rounded granules is visible. A distinct groove extends from the lateral margin just before the lateral tooth obliquely inward, it disappears before reaching a second groove which runs almost transversely inward from the constriction of the lateral margin behind the lateral tooth. A groove extends along the whole of the posterior half of the lateral margin of the carapace and curves abruptly inward at its anterior end. Furthermore a U- or W-shaped groove is present in the median region of the carapace slightly behind its middle, while obliquely behind each end of this U-shaped groove there are two other grooves, of which the left is L-shaped, and the right its mirror image. On the carapace there are also transverse rows of pits, which are most numerous in the posterior part. The carapace is fringed with hairs, but except for two oblique oval areas in the extreme anteromedian part, its dorsal surface is naked. The posterior margin is wide and concave, being somewhat angular in the middle. Anteriorly a large plate which carries no tooth forms the lateral wall of the carapace, posteriorly it becomes membranaceous with numerous small calcified plates.

The abdominal somites are similar to those found in *Lepidopa* and *Albunea*. The first is partly covered by the carapace and shows a sharp convex transverse carina in the posterior part. The second, third, and fourth somites have the pleura well developed, that of the second somite being largest and broadest, and somewhat curved forward. The pleura of the third somite are far less strongly curved, while those of the fourth are directed straight outward. The fifth and sixth somites have no pleura. The fifth is shorter than the fourth, which in its turn is shorter than the

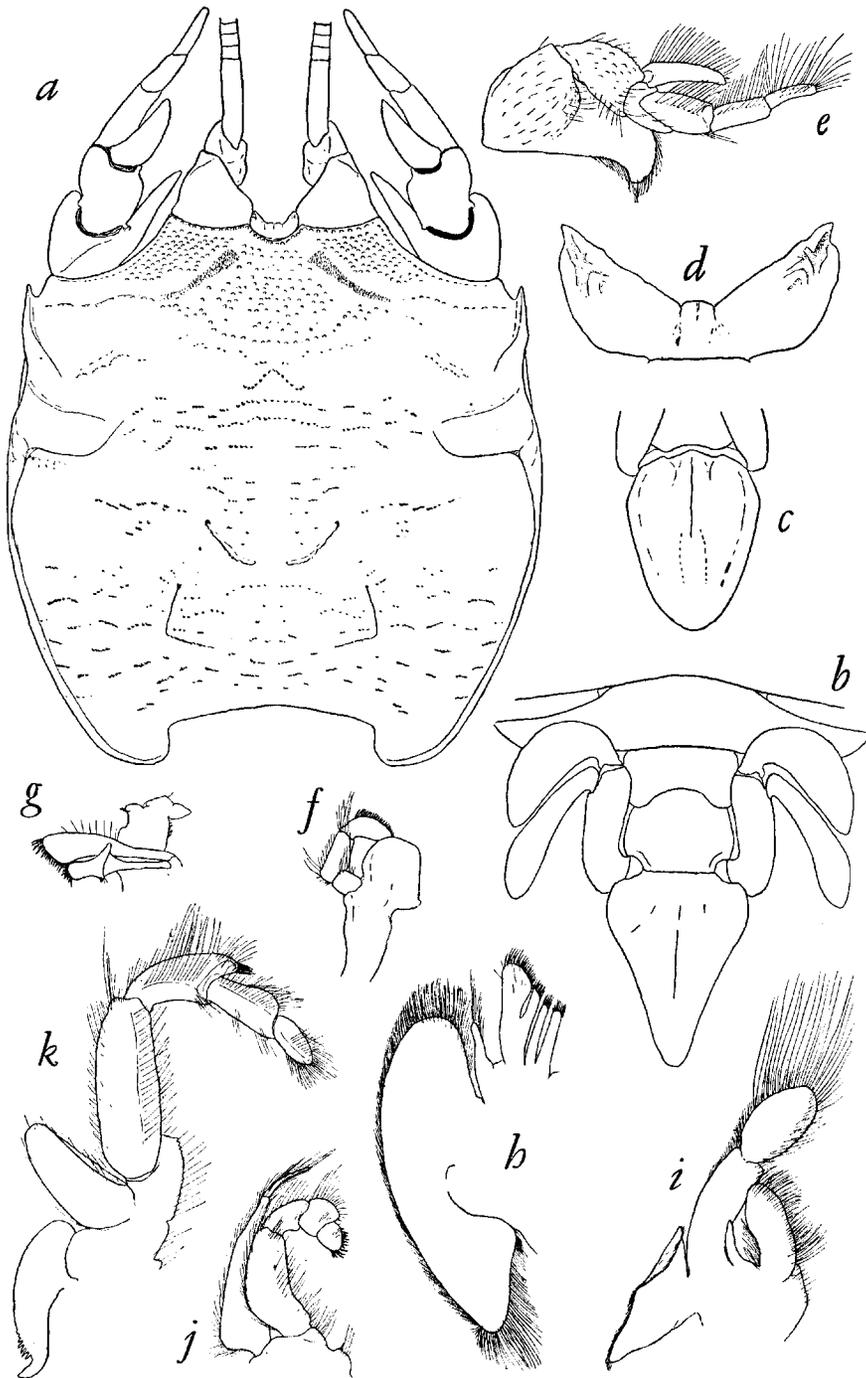


Fig. 1. *Zygopa michaelis* nov. gen., nov. spec., paratypes. *a*, body in dorsal view; *b*, posterior part of abdomen of male; *c*, telson of female; *d*, eyes; *e*, antenna; *f*, mandible; *g*, maxillula; *h*, maxilla; *i*, first maxilliped; *j*, second maxilliped; *k*, third maxilliped. *a-c*, *e-k*,  $\times 6$ ; *d*,  $\times 26$ .

sixth. In the males the telson is elongate triangular with the lateral angles broadly and the top rather narrowly rounded; the lateral margins are slightly concave; it is decidedly longer than broad and the greatest breadth is just above its base. In the females the telson is also longer than broad, but it is bluntly tongue-shaped, the lateral margins are evenly convex and the top is broadly rounded; here too the greatest breadth lies just above the base.

The eyes are strongly reduced and hardly project beyond the anterior margin of the carapace. They are fused together as a single small yoke-shaped structure. No pigment is visible, neither were optical elements observed. The lateral ends of the combined organ are rather pointed, directed forward, and show a small depression.

The antennular peduncles which are rather heavy, have a broad basal segment with a small but distinct narrow process on the inner side. The

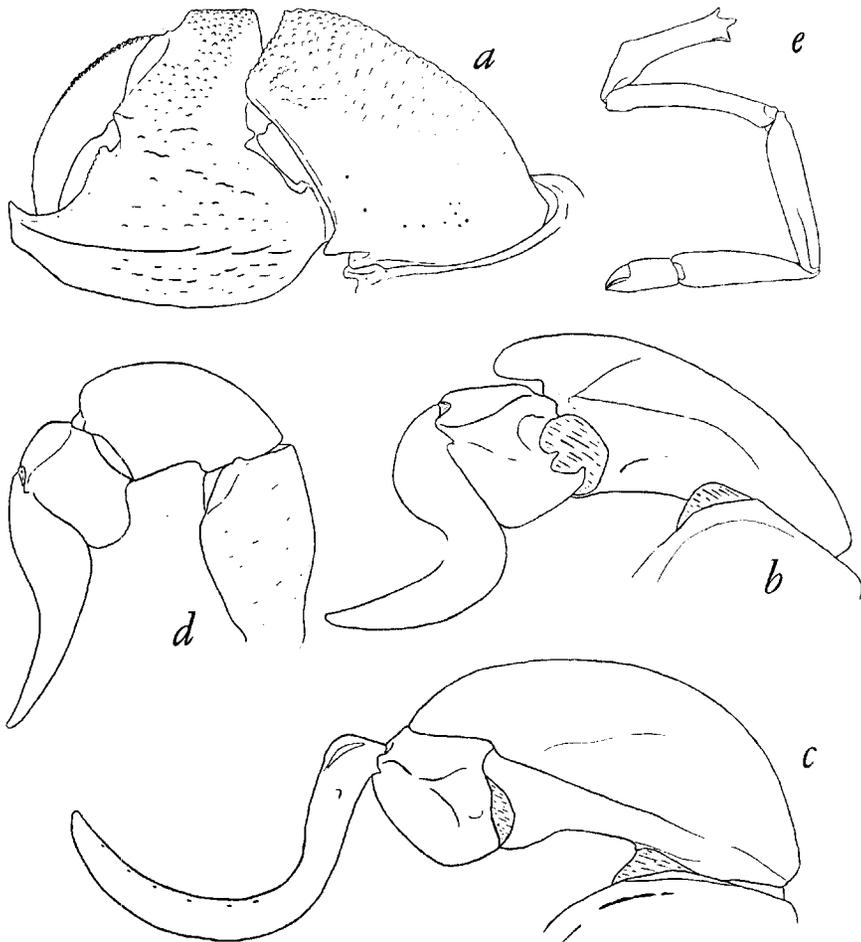


Fig. 2. *Zygopa michaelis* nov. gen., nov. spec., paratype. a, first pereopod; b, second pereopod; c, third pereopod; d, fourth pereopod; e, fifth pereopod. a-e,  $\times 6$ .

second segment is laterally compressed and, when folded back, fits in a hair-fringed hollow in the basal segment. The third segment is narrow, cylindrical, and longer than the second. There are two flagella: one is longer than the peduncle and consists of 20 or 21 articles; the other is extremely short, being formed by two or three articles and does not reach beyond the second article of the long flagellum.

The basal segment of the antenna is broad and rounded, extending medially as a flattened plate. The scaphocerite is rather large, elongate, and curved, reaching beyond the fourth segment of the peduncle. The antennal flagellum is reduced to a single article which is about as long as the last segment of the peduncle.

The mandible is strong and bears a three-jointed palp. The maxillula has the lower lacinia decidedly narrower than the upper, and the palp is very broad. The maxilla is of the normal shape. The first maxilliped has the coxal and basal endites distinctly separated; the palp is distinct but not very large; the exopod consists of two broad segments; the epipod is well developed. The second maxilliped is of the usual shape; the exopod consists of two segments, the last being narrow and rather short. The third maxilliped has the dactylus more than half as long as the propodus. The carpus is anterodorsally produced over the articulation with the propodus, but this dorsal lobe does not reach the middle of the propodus. The exopod consists of a single segment, which, however, is large and broadly oval in outline. The epipod is large and shows tooth-like lobes in the distal part.

The branchial formula is as follows:

	maxillipeds			pereiopods				
	1	2	3	1	2	3	4	5
pleurobranchs	—	—	—	—	—	—	—	1
arthrobranchs	—	—	1	2	2	2	2	—
podobranchs	—	—	—	—	—	—	—	—
exopods	1	1	1	—	—	—	—	—
epipods	1	—	1	—	—	—	—	—

The first pereiopods are chelate. The dactylus is sickle-shaped. Its lateral surfaces are smooth, and its upper surface is granular with scattered hairs. The cutting edge bears a single tooth in its basal part. The inner surface of the palm and the fixed finger are largely smooth and pitted, showing only a few longitudinal ridges most of which are inconspicuous and short, but one is much stronger and extends along the lower margin of both palm and finger. Soft hairs are implanted along these ridges and in the pits. The outer surface of the palm is granular in the upper part, and shows longitudinal ridges in its lower half. A long ridge extends from near the tip of the fixed finger backward almost to the base of the palm, being interrupted in the basal part. The tip of the fixed finger is truncate.

The cutting edge bears a large blunt tooth, the anterior margin of which is crenulate. The upper part of the carpus is granular as in the palm. The outer surface of the merus shows short transverse ridges and a downy pubescence. The dactylus of the second pereopod is sickle-shaped. The outer margin forms a regular curve; the basal part of the inner margin is convex and evenly rounded; the concave part in the middle of the margin is also rounded and not angular. The carpus is produced dorsally and reaches over the articulation with the propodus. In the third leg the dactylus is narrower and far more slender than in the second, but it also is sickle-shaped. The basal part of the lower margin is rounded, the rest is widely concave and also evenly rounded. The dactylus of the fourth leg is elongate, gradually tapering to a narrow point; the upper margin is convex, being more so in the basal than in the distal half; the inner margin is slightly convex in the basal half, concave in the distal. The fifth leg is slender and bears a chela.

Colour. Both the living and the preserved specimens are chalky white without iridescence.

Habitat. The type material was collected on three different occasions between 1 and 18 January 1957 in Sint Michiels Baai on the south coast of Curaçao. During dredging operations in the bay performed by the Royal Netherlands Navy, rather fine white sand was taken by suction dredge from a depth of about 4 m at some distance from the shore and deposited on the flat deck of the operating vessel. The *Zygopa* material was collected (together with specimens of *Albunea*, *Callianassa*, etc.) from the sand flowing out of the suction pipe.

Remarks. The position of the lateral tooth of the carapace, which is placed on the carapace itself and not on the lateral plate, shows that *Zygopa* is closer related to *Lepidopa* than to *Albunea*. Still it shows a strong superficial resemblance to *Albunea intermedia* Balss, which likewise possesses no rostrum and has the dactyli of the second to fourth pereopods very similar to those of *Zygopa*. The species described by BALSS, however, may at once be distinguished by the large scale-like eyes, by the position of the lateral tooth which is placed on the lateral plate, and by the spinulose anterior margin of the carapace.

The generic name *Zygopa* refers to the yoke-shaped eyes of the animals. The specific name *michaelis* is not only given because of the name Sint Michiels Baai of the type locality, but also for my little nephew MICHAEL A. HOLTHUIS, who during my extremely pleasant stay (November 1956–March 1957) with his parents in Curaçao, showed so much interest in the crabs that I collected then.

**Lepidopa** Stimpson, 1858

*Lepidopa* Stimpson, 1858, Proc. Acad. nat. Sci. Phila., 1858: 230. Type species by original designation: *Hippa scutellata* Fabricius, 1793, Ent. Syst. 2: 474. Gender: feminine.

*Lepidops* Stimpson, 1860, Ann. Lyc. nat. Hist. New York 7: 113. (Erroneous spelling of *Lepidopa* Stimpson, 1858).

*Lepidops* Miers, 1878, Journ. Linn. Soc. Lond. Zool. 14: 331. (Emendation of *Lepidopa* Stimpson, 1858).

The identity of the type species of this genus has been subject to difference in interpretation resulting in the application of the specific name *scutellata* to two different species of Hippideae. Some authors considered FABRICIUS's species to belong to the genus which is correctly named *Hippa* Fabricius, 1787, but which many older authors indicated as *Remipes* Latreille, 1804. This standpoint is taken by MIERS (1878: 319) in his revision of the Hippideae. MIERS based his views on two specimens of *Hippa cubensis* (de Saussure) without locality labels preserved in the collection of the British Museum, which were considered by him to be the types of FABRICIUS's *Hippa scutellata*. This view must be incorrect as FABRICIUS's description in no way fits DE SAUSSURE's species. ORTMANN (1896: 230, footnote) therefore was certainly right when he came to the conclusion that "die Londoner Stücke können unmöglich die Typen von *H. scutellata* sein". ORTMANN's viewpoint has been generally accepted and the name *scutellata* consequently is no longer used for *Hippa cubensis*. The second, and most accepted interpretation of the identity of *Hippa scutellata* Fabr. is that it should be used for a species of the genus *Lepidopa* as currently understood by carcinologists. The first author to tie the name *scutellata* definitely to a species of *Lepidopa* was H. MILNE EDWARDS (1837, 2: 204, pl. 21 figs. 9-13), who employed the name *Albunea scutellata* for it. This combination had already been used by FABRICIUS (1798: 397) and DESMAREST (1825: 173), but these authors did not add anything to the original description of FABRICIUS (1793), while H. MILNE EDWARDS's description and especially his figures leave no doubt as to the generic identity of his material. H. MILNE EDWARDS's viewpoint was accepted by most subsequent authors including STIMPSON (1858), who made the species the type of his new genus *Lepidopa*. Even MIERS (1878: 332) after having earlier (on p. 319) in the same paper used the Fabrician name *scutellata* for a species of *Hippa*, used the same name *scutellata*, but now with DESMAREST (1825) cited as the oldest author, for a *Lepidopa*. Since neither DESMAREST (1825) nor H. MILNE EDWARDS (1837) described *Albunea scutellata* as a new species, but only dealt with what they thought to be FABRICIUS's *Hippa scutellata*, MIERS's usage is entirely incorrect. However, most subsequent authors, notably ORTMANN (1896: 226) and SCHMITT (1935: 209) used the name *Lepidopa scutellata* (Desmarest, 1825) for a species of the present genus.

In order to get some light in this most confused situation, it is essential

to know the identity of FABRICIUS's *Hippa scutellata*. The original description of that species (FABRICIUS, 1793: 474) runs as follows:

“H[ippa] thorace subintegro ciliato, manibus chelatis.

Habitat — Mus. Britann.

Statura parva praecedentium [= *Hippa symnista* (L.)]. Thorax ovatus, laevis margine vix dentato, at pilis longioribus ciliato, antice rotundato, postice angustiori. Chelae leaves.”

A careful consideration of this description shows that it fits neither *Hippa* nor any *Lepidopa*. The presence of chelae excludes all of the species of the family Hippidae. In the Albuneidae the carapace certainly cannot be described as “oval, smooth, with the margins hardly denticulate, fringed with long hairs, rounded anteriorly, narrowing posteriorly”. In my opinion there can be little doubt that the affinity of *Hippa scutellata* is not to be found in the Anomura, but in the Brachyura. Actually, FABRICIUS's description fits perfectly for the species *Thia residua* (Herbst, 1799) (= *Thia polita* Leach, 1815), a species of crab (family Thiidæ) found in European waters. I believe that, if used at all, the specific name *scutellata* Fabricius, 1793, should be employed for the type and only species of the genus *Thia* Leach, 1815.

The logical consequence of the identification of *Hippa scutellata* Fabricius, 1793, with *Thia polita* Leach, 1815, is that the generic name *Lepidopa* Stimpson, 1858, becomes a subjective junior synonym of the name *Thia* Leach, 1815, as the two species are the respective types of these two genera. To sink *Lepidopa* as a synonym of *Thia*, however, would be absurd as it is perfectly clear that STIMPSON when erecting *Lepidopa* intended that name for the Anomuran genus which at present always is indicated by that name, and not the genus of Brachyura to which it under the strict application of the International Code legally belongs. We are here dealing with a clearcut case of a new genus based upon a misidentified type species. Therefore an application will be submitted to the International Commission on Zoological Nomenclature requesting the use of their Plenary Powers to indicate as the type of *Lepidopa* Stimpson, 1858, the species *Lepidopa venusta* Stimpson, 1859, making it possible in this way to continue the use of the generic name *Lepidopa* in the sense in which it has been employed by all authors dealing with it.

### ***Lepidopa* ? *chilensis* Lenz, 1902**

*Lepidopa chilensis* Lenz, 1902, Zool. Jb. Suppl. 5: 749, p. 23 fig. 5.

*Lepidopa chilensis* Haig, 1955, Lund Univ. Årsskr. (n. ser.) (sect. 2) 51 (12): 11 (here references to older literature).

#### Rijksmuseum van Natuurlijke Historie, Leiden

El Paraiso near Huacho, Peru; in sandy bottom, littoral zone; 4 December 1955; W. K. WEYRAUCH. — 4 ♀♀ (1 ovigerous), cl. 10 to 11 mm.

Ancon, 35 km N. of Lima, Peru; in sandy bottom, littoral zone; 7 January 1956; W. K. WEYRAUCH. — 2 ♀♀, cl. 9 and 11 mm.

## British Museum, London

Mollendo, Peru; Percy Sladen Expedition, 1938. — 1 ♀, cl. 14 mm.

## U.S. National Museum, Washington

Lurin, about 30 km S. of Lima, Peru; W. H. KOEPECKE. — 2 ♀♀ (1 ovigerous), cl. 8 and 11 mm.

The specimens from Lurin were directly compared with the type material of *Lepidopa chilensis* Lenz by Dr. H.-E. GRUNER of the Berlin Zoological Museum. Dr. GRUNER, who kindly permitted me to make use of his observations, stated that the type is in so poor a condition that he was not able to positively identify the Peruvian specimens as belonging to LENZ's species, but that this is quite well possible.

LENZ's description is rather short and his figures are not very helpful so that it is practically impossible to recognize the species from them alone. The concavity of the anterior margin of the carapace between the rostrum and the anterolateral tooth is deeper in our material than shown in LENZ's figure; it is concave in the inner, convex in the outer half. The distance between the rostrum and the anterolateral tooth is smaller than figured by LENZ, being only slightly greater than the distance between the anterolateral tooth and the lateral margin. The lateral tooth is small and does not project beyond the anterior margin of the carapace. The second and third lateral teeth mentioned and figured by LENZ do not exist in our specimens; it is possible that LENZ mistook the anterior end of the lateral plate and the transverse groove in the anterior part of this plate for teeth. The situation of the grooves on the upper surface of the carapace which is shown in figure 3a, is different from the arrangement given in LENZ's figure. The telson is not "dreieckig, abgerundet", but more quadrangular, as seems also to be indicated by LENZ's figure which, however, must have been drawn by someone who did not understand the structure of the telson. In my specimens the eyes are broader than shown in LENZ's figure; this may be due to the fact that the eyes usually are placed at an angle with the horizontal plane and therefore may be foreshortened in LENZ's figure. LENZ's so-called "Stachel" at the base of the antennular flagellum is nothing but the shorter flagellum which consists of 2 or 3 articles and does not reach beyond the second article of the long flagellum. The carpus of the third maxilliped is strongly produced at the upper distal angle, and reaches almost to the distal end of the propodus, which itself is slightly produced anterodorsally. The exopod of this maxilliped is slender. The dactyli of the second to fourth pereopods are of the common type found in *Lepidopa*; they are figured here.

*Lepidopa ? chilensis* is most closely related to *L. myops* Stimpson, but differs in that (a) the rostrum is narrower, (b) the eyes are of a different shape, being wider and more anterolaterally produced, (c) there is no trace of a cornea visible, neither at the anterior nor on the external

margin of the eye, (d) the lateral tooth of the carapace is shorter, falling far short of the anterior margin of the carapace, (e) the tip of the telson is narrower, (f) the propodus of the third maxilliped is more anterodorsally produced, and the merus is more concave and wing-like in the anterolateral part, (g) the incision in the dactylus of the third pereiopod is narrower.

**Distribution.** So far the species has only been reported from Chile, viz., from the type locality Iquique (province of Tarapaca, N. Chile) and from Curaumilla (province of Valparaiso, Central Chile). The species has not previously been reported from Peru. An examination of topotypical

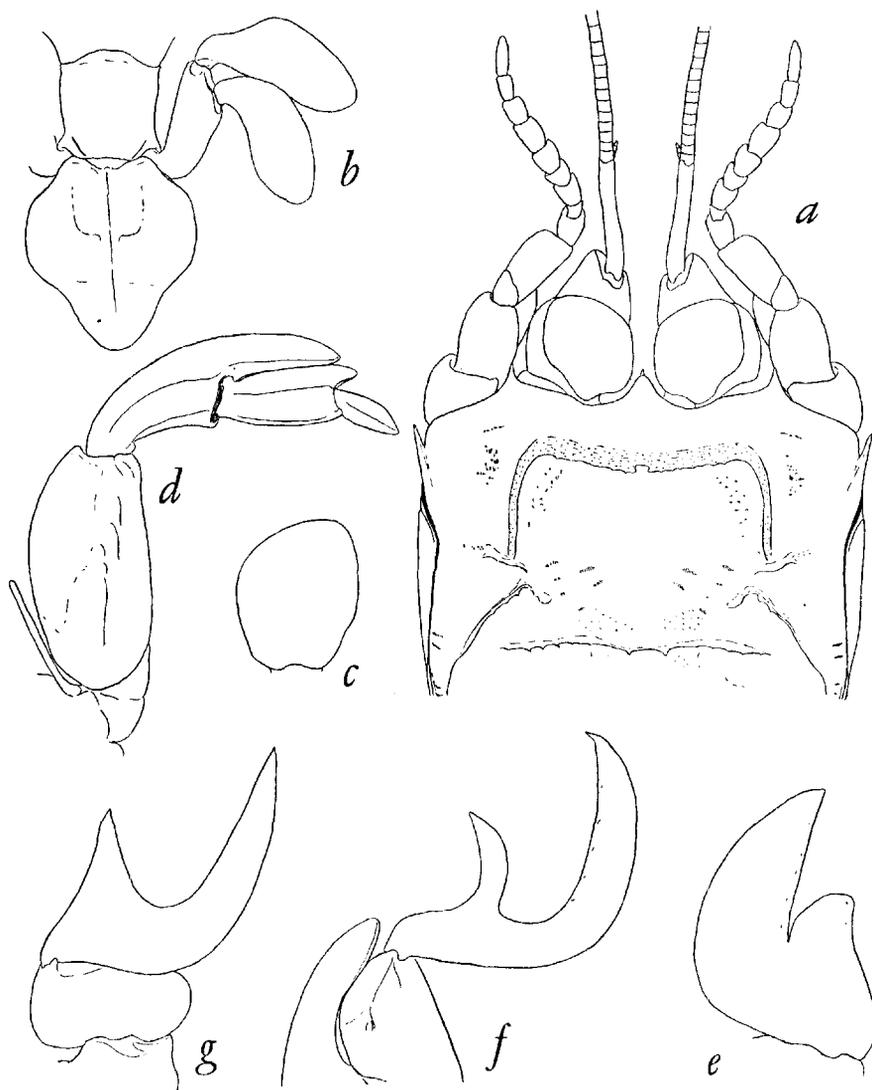


Fig. 3. *Lepidopa ? chilensis* Lenz. a, anterior part of body in dorsal view; b, sixth abdominal somite, telson and uropod; c, eye; d, third maxilliped; e, dactylus of second pereiopod; f, dactylus of third pereiopod; g, dactylus of fourth pereiopod. a-g,  $\times 6$ .

material is necessary to finally settle the problem of the specific identity of the present Peruvian material.

The specimens mentioned and figured by GORDON (1938: 188, fig. 1a) as *Lepidopa* sp. from St. Lucia, Peru, were examined and proved to be specifically distinct from the above Peruvian specimens. A comparison of the St. Lucia material with specimens of *Lepidopa venusta* Stimpson from Sabanilla, Colombia, and from Tampa Bay, Florida, failed to show any specific differences, so that for the time being I consider these specimens as belonging to STIMPSON's species. As I was unable to find any locality on the Peruvian coast named Santa Lucia, it might be possible that the material actually originates from Santa Lucia, British West Indies, and is not Peruvian after all.

### ***Lepidopa richmondi* Benedict, 1903**

*Lepidopa richmondi* Benedict, 1903, Proc. U. S. Nat. Mus. 26: 895, fig. 8.

*Lepidopa fernandesi* Mendes, 1945, Arq. Mus. Paranaense 4: 117, pl. 13.

#### U.S. National Museum, Washington

Puerto Rico; received 1935; S. T. DANFORTH. --- 1 ♀, cl. 15 mm.

Ile à Vache, Haiti; 2 May 1930; Parrish Smithsonian Expedition. --- 1 ♀, cl. 10 mm.

Greytown, Nicaragua; C. W. RICHMOND. --- 1 ♀, cl. 7 mm (holotype).

Ipanema, Rio de Janeiro, Brazil; 27 December 1922; H. M. SMITH. --- 1 ♀, cl. 13 mm.

Praia Grande, São Francisco, Brazil; 8 October 1925; W. L. SCHMITT. --- 2 ♀♀, cl. 9 and 10 mm.

This species is very closely related to *Lepidopa benedicti* Schmitt (= *L. scutellata* auct. non Fabr.) and has often been confused with it. A study of the above specimens and of the extensive series of *Lepidopa benedicti* present in the collections of the U.S. National Museum made it possible to find characters additional to those given by BENEDICT (1903) for the distinction of the two species. The fact that the types of both species were available for examination proved to be most helpful.

The differences in the eyes as given by BENEDICT (1903) often are not very clear and are difficult to be expressed in words. It is possible to find specimens of the two species which differ hardly at all in this character. Some differences not mentioned by BENEDICT and shown by my material are the following:

1. The sinus formed by the anterior margin of the carapace behind the eyes is evenly concave in all specimens of *L. richmondi* seen by me, while in most specimens of *L. benedicti* there is a little incision in the lateral part of this sinus; the difference is well shown in BENEDICT's (1903) figures of the two species. The character is not wholly reliable, however. Although the incision is absent in all my specimens of *L. richmondi*, it is not invariably present in those of *L. benedicti*.

2. The anterolateral tooth of the carapace is stronger in *L. benedicti* than in *L. richmondi*.

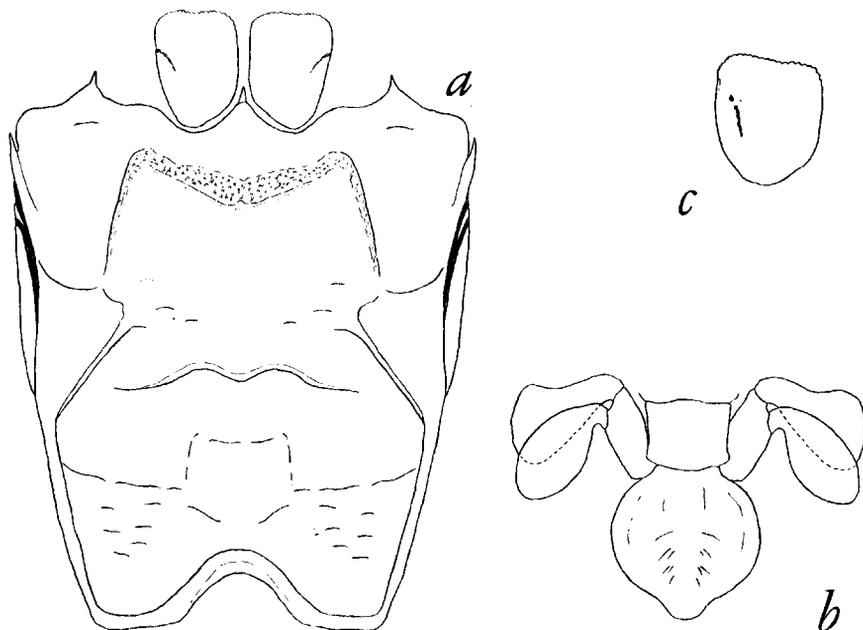


Fig. 4. *Lepidopa richmondi* Benedict, holotype. *a*, carapace and eyes; *b*, sixth abdominal somite, telson and uropods; *c*, eye. *a*, *b*,  $\times 9$ ; *c*,  $\times 12$ .

3. Although the pattern of the grooves on the dorsal surface of the carapace is practically identical in the two species, it shows one important difference which proves to be fully constant in my material and which is one of the clearest distinguishing characters. In *L. richmondi* a groove runs close to and parallel with the posterior margin of the carapace, being uninterrupted in the middle; in *L. benedicti* this groove is widely interrupted in the median region, the two halves of the groove follow only the posterior part of the concave median portion of the posterior margin of the carapace, and instead of curving medially towards each other, they continue forwards and gradually fade away.

4. The concave portion of the posterior margin of the carapace is relatively narrower in *L. richmondi* than in *L. benedicti* and so is the rectangular median emargination of the second abdominal somite.

5. The telson of *L. benedicti* is distinctly wider than that of *L. richmondi*.

GORDON (1938) figured the eyes of both *L. richmondi* (as fig. 2*d*) and *L. benedicti* (as fig. 2*e*). She also provided figures of the dactyli of the second to fourth pereopods of *L. benedicti* (as fig. 2*i*). I could not find any significant differences in the shape of the dactyli of the two species.

Dr. ERASMO GARCIA MENDES (1945) described a new species of *Lepidopa*, *L. fernandesi*, which he considered to be closely related to *Lepidopa richmondi*. A comparison of the excellent original description and figures of *L. fernandesi* Mendes with our material of *L. richmondi*, and in particular with the type specimen of that species, showed that the two

species cannot be considered specifically distinct and must be synonymized. In all important points such as the shape of the eyes, that of the anterior margin of the carapace, the arrangement of the grooves on the carapace, the shape of the legs and of the telson, the type of *L. richmondi* is so close to *L. fernandesi* that it is impossible to find any reliable character for distinguishing the two forms. The differentiating characters enumerated by MENDES on p. 124 of his paper are mainly based on features shown in BENEDICT'S (1903) original figure of the type specimen of *L. richmondi*, which, as shown by the figure reproduced here, is not entirely accurate in several points. The type locality of *L. fernandesi* is Caiobá, Paraná State, Brazil; MENDES also reported the species from Matinhos and Guaratuba in the same state.

Judging by the examined material, *Lepidopa richmondi* has a more southern range than *L. benedicti*. Our material of the former species, as shown here, originates from the West Indies and from the Atlantic coast of Central and South America. *Lepidopa benedicti* is represented in the collection of the U.S. National Museum by specimens from the following

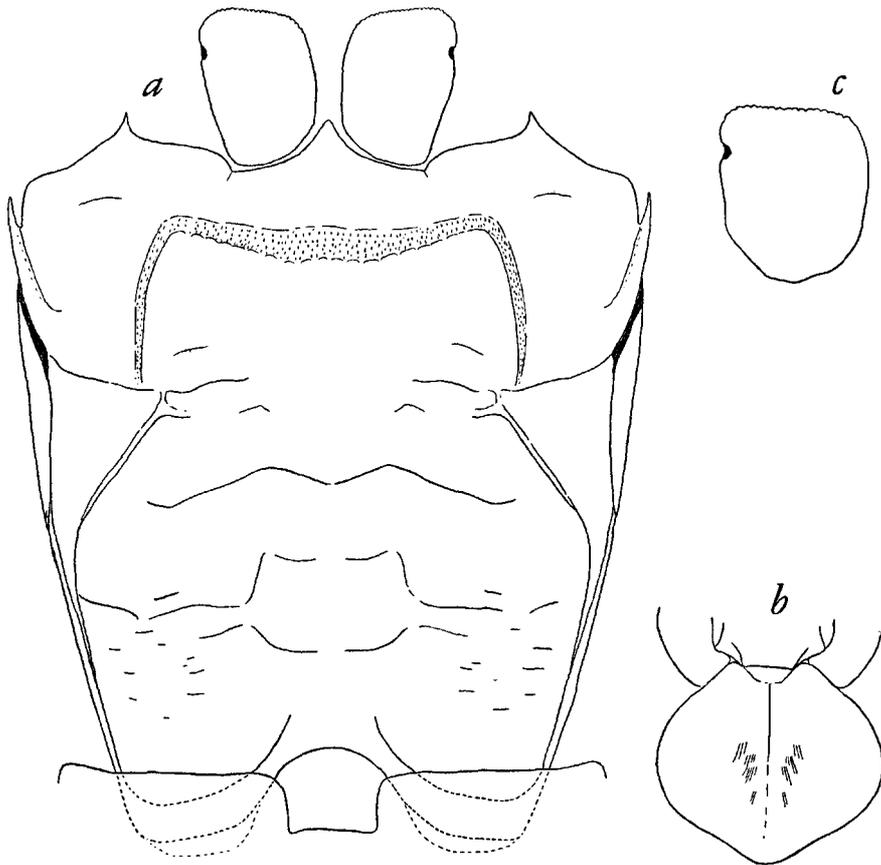


Fig. 5. *Lepidopa benedicti* Schmitt, lectotype. a, carapace and eyes; b, telso; c, eye. a-c,  $\times 5$ .

localities, all of which lie in the United States, ranging from the east coast of Florida to the south-west coast of Texas: East coast of Florida (Atlantic Ocean beach north of Lake Worth Inlet, 7 December 1908, J. A. PINE. - 1 ♀; Morris Cut near Miami, J. E. BENEDICT. - 1 ♀), N.W. Florida (Outer beach of Alligator Point, Franklin Co., 26 August 1952, M. WASS. - 1 ♀; Pensacola, S. STEARNS. - 1 ♀; Pensacola, S. KNEELAND. - 1 ♀; outer beach of Santa Rosa Island, Pensacola, 1893, J. E. BENEDICT. - 1 ♂, 2 ♀♀), Alabama (Gulf State Park, 22 June 1938, R. O. CHRISTENSON. - 1 ♀; Petit Bois Island, south beach, burrowing in sand at water's edge, 4 August 1953, S. L. WALLACE. - 1 ♀), Mississippi (Ship Island, 27 July 1949, R. L. CAYLOR. - 1 ♀; Ship Island, south side, burrowing in sand at tide line, 15 August 1950, W. H. ROSE. - 1 ♂, 1 ♀), Louisiana (Grand Isle, sandy beach, 5-17 July 1928, E. H. BEHRE. - 5 ♀♀), Texas (Galveston, July 1938, C. A. MOHRLE. - 1 ♀; Mustang Island, in sand, July 1936, H. B. PARKS. - 2 ♀♀; Padre Island, R. D. CAMP. - 1 ♀).

The name *Lepidopa benedicti* was proposed by SCHMITT (1935: 210) for the specimens which BENEDICT (1903: 894) identified as *Lepidopa scutellata*. SCHMITT introduced this new name conditionally in case BENEDICT's specimens should prove to be different from "*L. scutellata* (Desmarest)". The only material which BENEDICT (1903) mentioned is "a female from Pensacola, Florida" and "a specimen taken near Morris Cut". The specimen from Morris Cut is still preserved in the collection of the U.S. National Museum and is mentioned above. Of the three lots from Pensacola present in the Museum (see above list), that from Santa Rosa Island is the only one identified by BENEDICT as *L. scutellata*, so that the female mentioned by him must be one of this lot. The two other lots from Pensacola were identified as *L. richmondi* and *L. benedicti* by R. RATHBUN and W. L. SCHMITT respectively. The only certain type specimens of *L. benedicti* thus are those specimens contained in the lots from Morris Cut and Santa Rosa Island. The best preserved of these four type specimens, viz., the male from Santa Rosa Island, is now selected to be the lectotype of *Lepidopa benedicti* Schmitt, 1935.

As far as the identity of "*Lepidopa scutellata* (Desmarest)" is concerned, it has been shown in the above discussion of the nomenclatural status of the name *Lepidopa* that DESMAREST never proposed a new name *scutellata* for any species of *Lepidopa* and that he intended to deal only with *Hippa scutellata* Fabricius, which actually is a crab belonging to the genus *Thia*. DESMAREST (1825: 173) gave merely an abbreviated translation of FABRICIUS's (1793) original latin diagnosis of *Hippa scutellata*. H. MILNE EDWARDS (1837, 2: 204, pl. 21 figs. 9-13), who was the first to link the name *scutellata* to a species of *Lepidopa*, gave a reference to DESMAREST but not to FABRICIUS; this probably explains why DESMAREST became generally accepted as the author of the species. The identity of H. MILNE EDWARDS's specimen cannot be made out with certainty from his description and figures, and as its locality is not known, it is bound to

remain a species dubia. The chances that H. MILNE EDWARDS's material did originate from the French West Indies are greater than that it came from the southern U.S.A., so that the probability is that his specimen belongs to *L. richmondi* rather than to *L. benedicti*, if it at all belongs to either of these species.

### Résumé

*Zygopa michaelis* nouveau genre nouvelle espèce de la famille des Albuneidae est surtout caractérisée par la forme des yeux, du carapace, des antennes et des maxillipèdes externes. L'espèce est trouvée dans la mer à la côte sud de l'île de Curaçao, Antilles néerlandaises, dans un fond sableux à une profondeur de 4 mètres environ.

*Hippa scutellata* Fabricius, 1793, l'espèce type du genre *Lepidopa* Stimpson, 1858, n'appartient pas aux Anomoures comme STIMPSON le pensait, mais est un Brachyoure appartenant à l'espèce *Thia residua* (Herbst, 1799) (= *Thia polita* Leach, 1815). Une proposition pour sauver le nom générique de *Lepidopa* pour les Anomoures sera soumis à la Commission Internationale pour la Nomenclature Zoologique.

L'identité de *Lepidopa chilensis* Lenz est discutée et une *Lepidopa* est décrite qui semble appartenir à l'espèce de LENZ.

Les différences entre *Lepidopa richmondi* Benedict et *L. benedicti* Schmitt sont énumérées et l'identité de *L. fernandesi* Mendes, 1945, avec *L. richmondi* est démontrée.

Rijksmuseum van  
Natuurlijke Historie, Leiden

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