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Status of the Name *Sicyonia* H. M. E.,  
with a Note on *S. typica* (Boeck) and  
Descriptions of two new Species

BY

MARTIN D. BURKENROAD

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WITH 8 FIGURES IN THE TEXT

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COMMUNICATED SEPTEMBER 1945 BY  
O. LUNDBLAD AND SIXTEN BOCK

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**Status of the Name *Sicyonia* H. M. E., with  
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With 8 Figures in the text.

Communicated September 1945 by O. LUNDBLAD and SIXTEN BOCK.

The name *Eusicyonia* was proposed by STEBBING (1914, p. 25) for *Sicyonia* H. Milne Edwards (1830, p. 339), thought to be preoccupied by *Sicyonia* Hübner (1816, p. 13) [Lepidoptera]. However, an examination of the type of *Synhimantites typicus* Boeck (1864, p. 189) reveals this to be indistinguishable from *Sicyonia edwardsi* Miers. Consequently if *Sicyonia* H. M. E. were indeed preoccupied, it should be replaced by *Synhimantites* which has priority over *Eusicyonia*.

The supposed preoccupation of *Sicyonia* (Hübner, *l. c.*) seems on careful consideration to be the result of an error. The genus in question is introduced as »Sycionien, Sycioniae»; then on the line below is coupled with a specific name as »*Sicyonia Sara*». In two subsequent papers [1818, p. 25; 1821, p. 6 (*teste* Hemming, 1937)] HÜBNER employs the spelling *Sicyonia*: but the probability indicated above that this inversion originated as a mistake seems sufficient to suggest that, finding the intended *Sycionia* to have been printed *Sicyonia*, he afterward retained the latter spelling. Finally, in the Anzeiger to the 1816 paper, published in 1826 (*vide* Hemming), HÜBNER corrects the name to *Sycionia*, which seems to confirm that the inversion was an error. Since *Sicyonia* is not at present in actual use in the Lepidoptera [as I am informed by Dr. W. H. T. TAMS, to whom I am also deeply indebted for comment on HÜBNER's use of the name], it does not appear that

any confusion will be caused by invocation of Article 19 of the International Rules in favor of the spelling *Sycionia* for the Lepidopteran genus. Therefore it appears that *Sicyonia* H. M. E. is in fact not preoccupied.

The name *Eusicyonia* Stebbing, which lapses into the synonymy of *Sicyonia*, has been most extensively employed by myself; and I am also responsible for the subfamily name *Eusicyoninae* Burkenroad (1934a, p. 116), which falls into the synonymy of *Sicyoninae* Ortman. The other synonym of *Sicyonia*, *Synhimantites*, has had the following history: The unique specimen, reported to have been taken in Molde Fjord on the west coast of Norway, was given a brief preliminary description by BOECK (1864, p. 189) as en ny Slaegt og Underfamilie blandt Crangoniderne. DANIELSSEN and BOECK (1873, pp. 190-196) recognized the animal to be a peneid; but their description and figures distinguished it from *Sicyonia* in numerous particulars (especially as regards the branchiae of somite IX; and the absence of mandibular incisor). SÆRS (1883, p. 49) suggested that *Synhimantites* may not be separable from *Sicyonia*. MILNE EDWARDS and BOEVIER (1909, p. 244) considered that it is »sûrement une *Sicyonia*, même elle ne diffère de la *S. edwardsi* que par sa dent rostrale inférieure». DE MAN (1911, p. 11), however, listed *Synhimantites* as a distinct genus of *Sicyoninae*, and this presumably influenced STEBBING'S action in proposing a new name for *Sicyonia*. In response to an enquiry, Dr. NILS KNABEN of Bergens Museum, to whom I am deeply indebted for this service, supplied detailed information of the type of *Synhimantites* which revealed the description of DANIELSSEN and BOECK to be erroneous in all those features in which it is inapplicable to *Sicyonia edwardsi*. Finally, during a visit to Bergen in 1938, I have made a direct comparison of the former with a specimen of the latter from the Cayman Sea, without finding any differences; and consequently it appears that not only is *Synhimantites* a synonym of *Sicyonia*, but *Sicyonia edwardsi* Miers (1881, p. 367) must be placed in the synonymy of *Sicyonia typica* (Boeck). It seems possible that the Norwegian provenance of the type of *S. typica* may be the result of an exchange of labels or similar accident, and that the specimen was actually derived from tropical Atlantic America to which this species is otherwise limited.

Of the two new species of *Sicyonia* described below, the one from the West Indies and Bermuda requires no introductory comment. The form from Lower California is however noteworthy, in that while its cephalothorax accords entirely with the definition of »Division II» of the genus (BURKENROAD,

1934 b, pp. 71—73), its pleon has most of the characters of »Division I». A study of the Indo-Pacific species of the genus indicates that a number of these (in part as yet unnamed) also combine in various ways the characters respectively ascribed to the two subdivisions. It therefore appears that the attempt at a simple binary subdivision of the genus will have to be abandoned, although the characters employed in the attempt remain of value in the definition of several super-specific groups.

### *Sicyonia mixta*, sp. n.<sup>1</sup>

Figures.

#### Material:

1 ♂. **Holotype.** *Naturhistoriska Riksmuseet (Stockholm)* #2527. »St. Joseph [probably San José, Lower California]. Swedish Eugenie Expedition # 818.

1 ♂. *Naturhistorisches Museum (Wien)*. »La Paz [probably Lower California]. February 5, 1880.»

1 ♂. *Zoologisches Museum der Universität (Berlin)* # 6097. »California. FORRER.»

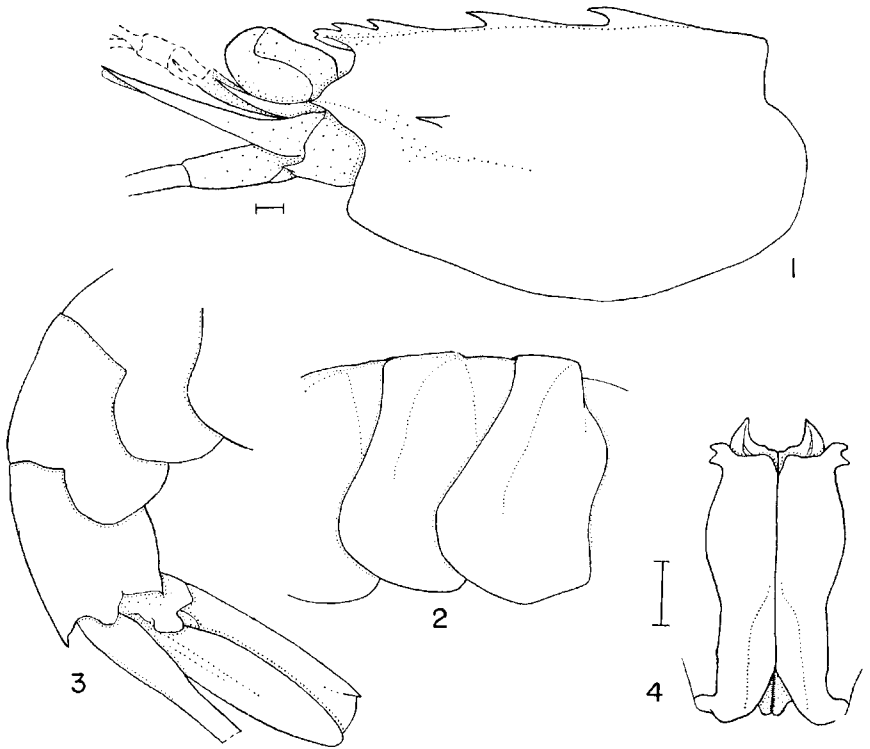
**Dimensions:** Holotype, carapace length 7.3 mm, total length ca. 24 mm. Specimen in the Berlin Museum, carapace length 12.3 mm. All of the specimens are adult.

**Description:** The carapace bears three post-orbital dorsal teeth of which two are post-hepatic. The post-hepatic teeth are subequal and moderate in size; they are placed at approximately one-third the carapace length behind the orbit and one-third anterior to the hinder margin, respectively. The carina from which the teeth arise is relatively very low. The anterior carapacic tooth is smaller than the post-hepatic ones, and very slightly larger than the rostral tooth which it closely follows. The rostrum is very short, about one-eighth as long as the carapace; it bears one tooth above and has a bifurcate tip. The antennal spine is followed by a distinct buttress.

The carapace is setose, the pleon punctate, but both are unwrinkled and untuberculate.

The pleonic middorsal carina is very weak on the first segment and does not rise into a tooth anteriorly. It is also rather weak on the second segment and is here interrupted by a depression which although broadly open is posteriorly sharply defined. On the fifth segment the carina terminates posteriorly

<sup>1</sup> I wish to express my deep obligation to Dr. SIXTEN BOCK, Dr. O. PESTA, and Dr. A. SCHELLENBERG for access to the material of this species listed below.



Figures 1—4. *Sicyonia mixta*, n. sp.

1. Carapace and cephalic appendages [Left side. Holotype. Scale of 1 mm shown. Distal part of left antennule (broken line) restored from that of right side].
2. Anterior part of pleon [Right side. Scale and specimen as in 1].
3. Posterior part of pleon [as in 2].
4. Petasma [Ventral view. Specimen as in 1. Scale of 1 mm shown].

without a trace of tooth or angle, the only place at which the pleonic dorsum is dentate being at the end of the sixth segment. The ventral margins of the pleonic pleura lack tooth or sharp angle except at the posterior end of the sixth; there is no more than a very rounded angle posteroventrally on the fifth pleura or anteriorly on the first. The anteroventral margin of the first pleura is concave. The pleonic sulci are very shallow, absent ventrally. The first segment bears a very short anteriomedian pleural and a posterior tergal [a groove which I have previously regarded (cf. BURKENROAD, 1934 b, p. 77) as the dorsal part of the posteromedian pleural, but which I now think a tergal sulcus which is in most species continuous

with a pleural]. The second segment bears anterior and posterior tergal sulci only.

The tip of the telson is broken in the holotype.

The first and second chelipeds are proximally unarmed.

The distolateral lobes of the petasma are bifurcated.

**Remarks:** *Sicyonia mixta* is unique in lacking a tooth at the anterior end of the middorsal carina of the first pleonic segment. It is also very readily recognized by its combination of a cephalothorax somewhat like that of *S. typica* (Boeck) with a notched second pleonic tergite suggestive of that of *S. laevigata* Stimpson and with a petasma somewhat like that of *S. dorsalis* Kingsley. It may be noted that although the carina of the second pleonic tergite of *S. typica* and certain other American species may be slightly emarginate in lateral view, this concavity is very shallow and ill-defined, and by no means interrupts the carina. In combining pleonic characters of »Division I» with cephalothoracic characters of »Division II», *S. mixta* seems most nearly to resemble an Indo-Pacific species, to be named in a forthcoming paper, which has been confused by DEMAN (1911, p. 121) with *S. ocellata* Stimpson. Petasma of this Indo-Pacific species is unknown. It is interesting to observe that the *S. dorsalis* type of petasma found in *S. mixta* also occurs in the Indo-Pacific *S. trispinosa* DeMan which combines characters of »Division I» and »Division II». In *S. trispinosa*, however, the manner of combination is the reverse of that in *S. mixta*, the cephalothorax having the characters of the *S. laevigata* group of species while the pleon, by its unnotched second tergite, approaches that of »Division II».

### *Sicyonia wheeleri*, sp. n.<sup>1</sup>

Figures.

#### Material:

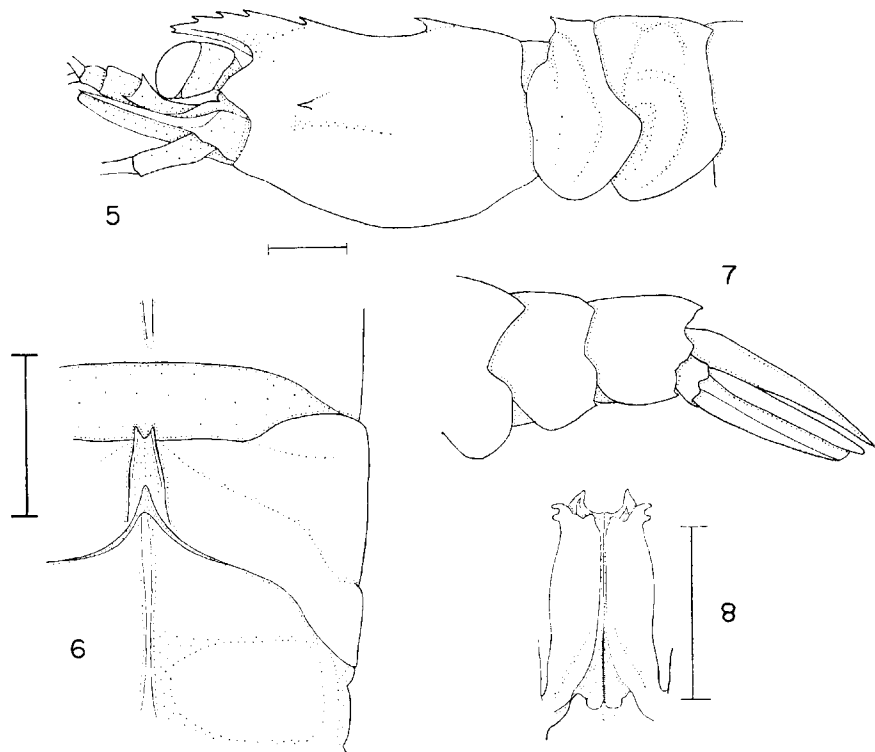
3 ♀. *Naturhistoriska Riksmuseet (Stockholm)* # 2411. St. Thomas, W. I.; 10—12 fm. 1852. VERNGREN.

1 ♂. *N. R. (Stockholm)* # 2384. Anguilla, W. I. 10—30 fm.

1 ♂, 2 ♀. *N. R. (Stockholm)* # 2389 and 2392. St. Martin, W. I.; 1869. 20 fm. A. GOËS.

1 ♂, 1 ♀. *N. R. (Stockholm)* # 2376 and 2388. St. Barthélemy, W. I. 10—16 fm. A. GOËS.

<sup>1</sup> Named for Dr. J. F. G. WHEELER, Director of the Bermuda Biological Station. I have also to thank Dr. S. BOCK, Dr. F. A. CHACE Jr., Dr. R. GURNEY, Dr. T. VAN BENTHEM JUTTING, and Dr. L. H. KLEINHOLZ for access to many of the specimens listed below.



Figures 5—8. *Sicyonia wheeleri*, n. sp.

5. Carapace with cephalic appendages, and anterior part of pleon [Left side. Male cotype. Scale of 1 mm shown.
6. Region of first pleonic segment [Dorsal view. Specimen as in 5. Scale of 1 mm shown.
7. Posterior part of pleon [Left side. Male cotype of larger size than in 5. Scale as in 5.
8. Petasma [Ventral view. Specimen as in 5. Scale of 1 mm shown].

1 ♂. *Zoologisches Museum (Amsterdam)*. Jenkins Bay, St. Eustatius, W. I. 6 fm, stony bottom. BOEKKE.

1 ♂. *British Museum (Natural History)*. Bermuda; 1938. GURNEY.

1 ♀. *B. M. (N. H.)*. Castle Harbor, Bermuda; Feb. 24, 1935. Dredge, 2 fm. GURNEY.

55 ♂, 80 ♀. *Museum of Comparative Zoology (Harvard)*. Off northwest coast of Bermuda; Aug. 14, 1903. Dredge, 8 fm. Bermuda Biological Station # 377.

2 ♂, 6 ♀. *Bingham Oceanographic Collection (Yale)* # 355. Bermuda; 1936. KLEINHOLZ.

1 ♂. *B. O. C.* #352. Ferry Reach, Bermuda; June 2, 1936; 9:00 P. M. Surface (in 2 or 3 fm.) WHEELER.

1 ♀. *B. O. C.* #353. Ferry Reach, Bermuda; May 29, 1936; 9:00 P. M. Surface (in 2 or 3 fm.) WHEELER.

1 ♂. *B. O. C.* #354. Ferry Reach, Bermuda; June 8, 1936. Dredge, 1 fm., on weedy flat.

9 ♂, 9 ♀. *B. O. C.* #351. Off northwest coast of Bermuda; June 22, 1936. Dredge, 10 fm.

35 ♂, 22 ♀. Holotype ♂, *B. O. C.* #349. Cotypes, *B. O. C.* #350. Murrays Anchorage, off northwest coast of Bermuda; June 17, 1936. Dredge, 4—7 fm., on white coral sand.

**Dimensions:** The largest female has a carapace length of 6 mm, a total length of 20 mm; the smallest available has a carapace of 2.5 mm. The largest male has a carapace length of 5.2 mm, the smallest of 2.8 mm. The petasma is uncoupled only in the smallest available male.

**Description:** The dorsum of the carapace regularly bears only two post-orbital teeth, of which one is post-hepatic. The post-hepatic tooth is placed at slightly more than one-third the length of the carapace anterior to the hinder margin; it is of moderate size with a slender, procurved tip. The anterior tooth is hardly larger than those of the rostrum, and is placed a little more or less than one-fifth the length of the carapace behind the orbital margin. The carina upon which the teeth are set is low, especially between the anterior and posterior teeth. The dorsum of the carapace is depressed in the middle, appearing sway-backed. The rostrum is somewhat less than one-third as long as the carapace, usually decurved although occasionally straight, and bears three (occasionally two or four dorsal teeth) behind a bifurcated tip. The third tooth is usually placed about as far from the tip as from the succeeding tooth. The posteriormost rostral tooth varies in position from slightly before to slightly behind the orbit. The lateral ridge of the rostrum runs parallel to the inferior margin. The antennal spine is fairly well-developed but is followed by only the faintest trace of a buttress.

The carapace is setose, the pleon punctate and with some faint traces of wrinkles and tubercles.

The middorsal carina of the first pleonic segment terminates anteriorly in a bifurcated tooth. The carina of the second segment is not incised. There is only a faint trace of an angle at the posterior end of the carina of the fifth segment. The pleonic pleura are rounded ventrally except for a posterior tooth on the fifth and sixth segments; the antero-ventral margin of the first pleonic pleura is slightly convex. The first pleonic



segment bears a continuous posterior tergal and posteromedian pleural sulcus; the anteromedian pleural is very faintly continued ventrally. The second pleonic segment bears anterior and posterior tergal sulci and anteromedian and posteromedian pleural sulci, the latter of which turns forward without joining the posterior tergal and is margined above by a low but distinct longitudinal carina.

The fixed lateral teeth of the telson are very weak or entirely absent; there is a pair of very minute mobile lateral teeth. The telson reaches beyond the endopods of the uropods, which reach beyond the exopods; the externodistal tooth of the exopods is small and is placed very near to the tip.

The first and second chelipeds are proximally unarmed.

The distolateral lobes of the petasma are bifurcated.

**Coloration and Habits:** A specimen of *S. wheeleri* taken swimming at the surface by night had a pinkish-gray tinge, which later changed to the pale sandy gray usual in specimens dredged from sandy bottom. A darker colored specimen dredged on grassy bottom bore an anterior transverse bluish band across the rostrum, eyestalks, basal joint of antennule, and base of antennal scale; the ground color was elsewhere grayish green. The mottling of white pigment responsible for the grayish tone of the whole was particularly dense in transverse bands on the legs, on the pleura of the first and fifth pleonic segments, on the dorsum of the third segment, and in two broad stripes on the carapace.

In an aquarium *S. wheeleri* burrows into the sand but not very deeply, the eyes often remaining exposed. When disturbed the animal may swim up from the bottom, and it may spend some time on the surface of the sand, especially by night. Although *S. wheeleri* has been taken swimming at the surface, the infrequency of such captures suggests that the individuals concerned may have been caught up by tidal currents, rather than that they were engaged in a regular activity.

**Remarks:** *Sicyonia wheeleri* bears most resemblance in carapace and pleon to *S. stimpsoni* (A. M. Edwards MS) Bouvier and is like it distinguished from *S. dorsalis* Kingsley by the placement of the post-hepatic tooth well behind the middle of the carapace, the discontinuity of the posterior tergal and posteromedian pleural sulci of the second pleonic segment, and the rounded and anteriorly convex ventral margin of the anterior pleonic pleura. *S. wheeleri* is however easily distinguished from *S. stimpsoni* by the lack of a tooth at the posterior end of the middorsal carina of the fifth segment and especially by the bifurcation of the distoventral lobe of the petasma, in

which features it approaches *S. dorsalis*. The bifurcation of the tooth at the anterodorsal end of the first pleonic segment in *S. wheeleri* is, so far as I am aware, unique.

*Sicyonia wheeleri* appears to be one of the smallest species of the genus.

Records of »*S. dorsalis*» from Bermuda (vide VERRILL 1922, p. 49) evidently refer to *S. wheeleri*. The morphology and physiology of the eye of the species has been discussed by KLEINHOLZ (1937, p. 179).<sup>1</sup>

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<sup>1</sup> Notes upon the development of *S. wheeleri* by GURNEY (1942, Larvae of Decapod Crustacea, Ray Soc. No. 129, London, pp. 42, 70, 180, 182), employing this name for the species, have appeared since the foregoing was written. Since this prior publication of the name, which is based upon my identification of the specimens, is not accompanied by a diagnosis or an indication that the species is new, it may be regarded as having no taxonomic significance.

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Bingham Oceanographic Laboratory, Yale University.



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