

A revision of the genus *Anisostena* Weise
(Coleoptera: Chrysomelidae, Hispinae).
Part I. Introduction and the subgenera *Neostena* and *Apostena*

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Abstract

A key to the subgenera of *Anisostena* Weise is presented. *Apostena* new subgenus is erected for *angustata* Pic and *missionensis* Monrós & Viana; *bondari* Maulik and *breveapicalis* Pic are transferred from *Anisostena* s. str. to *Anisostena* (*Neostena*). Keys to the species of the subgenera *Neostena* and *Apostena* are presented.

Key words: *Anisostena*, *Neostena*, *Apostena*.

Introduction

The genus *Anisostena* was erected by Weise (1910) for species assigned to the genus *Charistena* Baly having 11-segmented antennae. The type species is *A. elegantula* (Baly) designated by Monrós & Viana (1947). Weise (1910) transferred *bellula* Baly, *elegantula* Baly, *pilatei* Baly, and *trilineata* Baly from *Charistena*, *cyanoptera* Suffrian from *Chalepus*, and described *promta* from Brazil. Weise (1911a) transferred *ariadne* Newman, *bergi* Duvivier, *bicolor* Smith, *championi* Baly, *funesta* Baly, *nigrita* Olivier, *nunenmacheri* Weise, *perspicua* Horn, and *suturalis* Weise from *Charistena*. Van Dyke (1925) described *californica* from California. Pic (1928) described *bicoloriceps* from Argentina. Maulik (1929) described *fasciata* from Brazil. Pic (1932) described *diversecostata* from Costa Rica. Uhmman (1932) placed *fasciata* as a subspecies of *promta*. Pic (1934) described *angustata* and *breveapicalis* from Brazil and *testacea* from Argentina. Schaeffer (1933) described *arizonica* from Arizona, *kansana* from Kansas, and *texana* from Texas. Maulik (1937) transferred *bondari* Maulik from *Chalepus*. Uhmman (1938a) synonymized *diversecostata* with *pilatei* and Uhmman (1938b) described *daguerrei* from Argentina. White (1939) described *mitchelli* from California. Monrós & Viana (1947) transferred *bergi* to *Charistena*, described *missionensis* from Argentina, and erected the subgenus *Neostena* for *bicoloriceps*. Uhmman (1964a) de-

scribed *scapularis* from Peru. Staines (1987) transferred *gracilis* Horn from *Sumitrosis* Butte. Staines (1990) transferred *testacea* to *Sumitrosis*. Staines (1991) transferred *championi* to *Sumitrosis*.

Anisostena belongs in the tribe Chalepini based on the 11-segmented antennae, with the last five segments thickened but similar to the preceding, elytral punctures in double rows separated by a costate interval, and the elytral punctures strongly impressed. The tribe Chalepini contains 25 genera (Seeno & Wilcox, 1982). *Anisostena* can be distinguished by the following combination of characters: antennae 11-segmented, the last 5 segments thickened; elytra with 8 puncture rows; elytral intervals 2, 4, and 6 costate; elytra not expanded apically; prosternum not projecting forward, not concealing mouth; mesotibiae clearly curved.

There has been no comprehensive study of *Anisostena*. Several regional works have had keys to the local species (Crotch, 1873; Horn, 1883; Monrós & Viana, 1947; Hatch, 1971; Balsbaugh & Hays, 1972). Characters used in distinguishing species include mesofemur serrate or not, degree of serration on mesofemur, length of third antennal segment, body coloration, shape of pronotum, and pronotal punctuation. All of these characters were examined plus the male genitalia. All, except the male genitalia, were found useful in distinguishing species.

Anisostena is a New World genus. Species are known from southern Canada to northern Argentina. *Anisostena* s. str. is found from Canada to Peru. Species in the subgenera *Neostena* and *Apostena* are known from Argentina, Brazil, and Paraguay.

Measurements were taken with an ocular micrometer. Pronotal length and width were taken along the midlines. Elytral width was measured at the humeri. Elytral length was measured from the base to apex. Total length was measured from the base of the frontal sulcus to the apex of the elytra.

Types were examined for all species except *A. bicoloriceps* Pic. In recording the label data from type specimens, a slash (/) divides data on different labels.

Anisostena Weise

Anisostena Weise 1910:120, 1911a:21, 1911b:32; Leng & Mutchler 1914:457; Leng 1920:303; Blatchley 1924:43; Hatch & Beller 1932:140; Brimley 1938:230; Uhmman 1947:126; Monrós & Viana 1947:200; Balsbaugh & Hays 1972:182; Seeno & Wilcox 1982:160; Ford & Cavey 1985:49; Jolivet 1989:304.

Anisostena Chapuis. Hatch 1971:234.

Description: Body elongate, subcylindrical, parallel-sided. Head: small; front not prominent; vertex sulcate or micropunctate. Pronotum: not margined; transverse; convex. Elytra: parallel-sided, not widened apically; apices evenly rounded; 8 puncture rows; intervals 2, 4, and 6 costate. Venter: prosternum not prolonged, not concealing part of mouth. Legs: mesotibiae clearly curved.

Key to the subgenera of *Anisostena*

1. Costate elytral intervals 2 and 6 unite on apical fifth *Anisostena* s. str.
Costate elytral intervals 2 and 6 do not unite on apical fifth 2
2. Last five antennal segments wider than preceding *Apostena* n. subg.
Last five antennal segments not wider than preceding *Neostena* Monrós & Viana

Anisostena (*Neostena*) Monrós & Viana

Neostena Monrós & Viana 1947:201; Uhmman 1957:76, 1964b:414; Seeno & Wilcox 1982:160.

Type species: *Anisostena* (*Neostena*) *bicoloriceps* Pic, type by monotypy.

Description: Head: cylindrical; median sulcus present; last five antennal segments not wider than preceding. Pronotum: basal margin bisinuate. Scutellum: rounded at apex. Elytra: costate elytral intervals 2, 4, and 6 do not unite near apex.

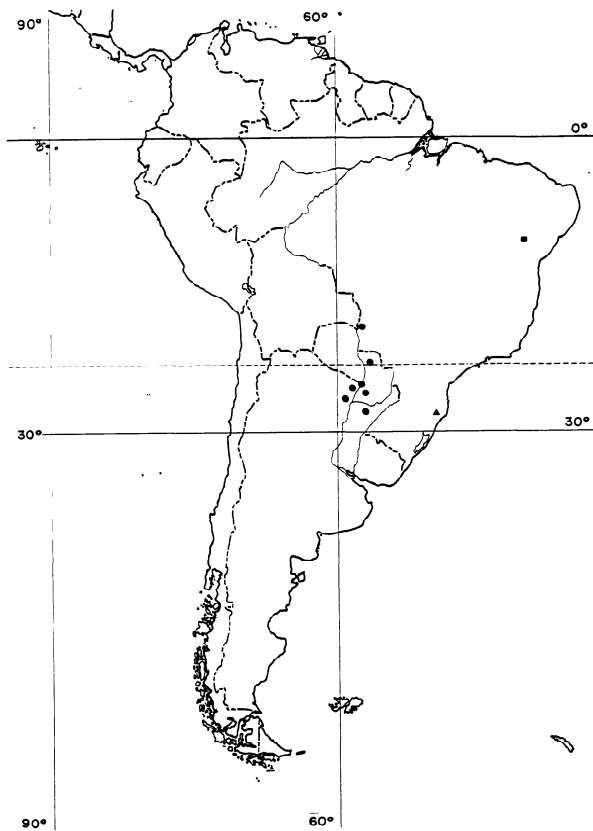
Key to the species of *Anisostena* (*Neostena*)

1. Elytra vittate; clypeus bidentate .. *bicoloriceps* Pic
Elytra maculate; clypeal margin evenly arcuate . 2
2. Elytra with apical macula extending to lateral margins; basal macula elongate, extends down suture; lateral macula begins at base, expands to 4th puncture row near middle; pronotum with median vitta; antennal segment 3 longer than 2; elytra with puncture rows 5-6 confused at base *bondari* (Maulik)
Elytra with apical macula extending to 5th puncture row; basal macula orbicular; only margins darkened laterally; pronotum trivittate; antennal segment 2 longer than 3; elytra with puncture rows 5-6 in regular rows *breveapicalis* Pic

Anisostena (*Neostena*) *bicoloriceps* Pic Map 1

Anisostena bicoloriceps Pic 1928:51 (Type not seen, deposited in Museo Argentino de Ciencias Naturales, Buenos Aires). Bruch 1928:203; Spaeth 1937:144; Uhmman 1938b:366; Blackwelder 1946:724; Monrós & Viana 1947:204; Papp 1953:58; Uhmman 1957:76, 1964b:414.

Description: Body color yellowish-brown to dark brown. Head: dark metallic green with reddish tones, almost cylindrical; vertex micropunctate; median sulcus present; each antenna with a keel at base, keel yellowish-brown; clypeus yellow, bidentate; eyes not prominent. Antennae dull black; segment I subglobose, somewhat compressed laterally, longer than II; II short, subcylindrical; III conical, barely longer than II; IV-V conical, shorter than II; VI shorter than V; VII conical, larger and wider than VI; VIII-X cylindrical, wider than long, shorter than VII; XI longer than X, acute. Pronotum: transverse; laterally subparallel, weakly curved; strongly convex; basal margin bisinuate; margined laterally; covered with large, sparse punctures; surface between punctures alutaceous; disc with brown longitudinal vitta; length 0.6-0.8 mm. (avg. 0.7; n=16); width 0.9-1.0 mm. (avg. 0.97). Scutellum: dark brown; rounded at apex; small.



Map 1. Distribution of *Anisostena* (*Neostena*) species: *A. bicoloriceps*, circles; *A. bondari*, squares; *A. breveapicalis*, triangles.

Elytra: yellowish-brown with brown sutural vitta from base to apex, extends to 2nd interspace; subparallel; lateral margins deeply sinuate, serrate; apices conjointly rounded, dentate; 8 regular puncture rows; intervals 2, 4, and 6 costate, none unite; surface between punctures alutaceous; length 3.0-3.8 mm. (avg. 3.5); width 1.1-1.4 mm. (avg. 1.3). Venter: brownish, darker laterally; alutaceous. Legs: femur brownish, punctate, darker apically; tibia punctate, darker basally and apically, rest brownish; tarsi black. Total length: 4.3-4.8 mm. (avg. 4.5).

Larval host plant: unknown.

Distribution: Argentina, Brazil, and Paraguay.

Specimens examined: ARGENTINA: Chaco, Dep. Resistencia, X-XII-1935, X-XII-1936, 22-XII-1937 (USNM). Corrientes- X-1947 (USNM). Formosa- Gran Guaraia, X-1950, XII-1950 (USNM). BRAZIL: Corumba, III, IV (ICCM).

PARAGUAY: Central- Asunción, 15-I-1983 (EGRC). Paraguari- Ybycui (25 km SE) in Ybycui National Park, 12-24-IV-1980 (USNM). San Pedro- Cororo-Rio Ypane, 1-4-XII-1983 (CDFA); 2 km SW Villa Hayes, 30-I-1983 (EGRC). Total: 76.

Anisostena (*Neostena*) *bondari* (Maulik)

Map 1

Chalepus bondari Maulik 1929:92. Holotype: Type (white disk with red border)/ Brazil, Bahia, 1928, Dr. G. Bondar, 1182/Pres. by Imp. Bur. Ent. Brit. Mus. 1929-178 (reversed)/*Chalepus bondari* M., S. Maulik det. 1928 Type (BMNH). Blackwelder 1946:726.

Anisostena bondari (Maulik). Maulik 1937:135; Papp 1953:58; Lima 1955:209; Uhmman 1957:74, 1964b:414.

Description: Body oblong, somewhat narrowed in front; color- head, antennae, scutellum, pronotal vitta, and elytral markings black; the rest of the body yellow. Head: cylindrical; vertex alutaceous; interocular space depressed, median sulcus present; sulcus on inner margin of each eye; row of punctures on outer margin of each eye; clypeus oblong, covered with whitish setae. Antennae thick; antennal segment I subglobose, slightly angularly produced; II transverse; III cylindrical, longer than II; IV-VI transverse, decreasing in length, IV shorter than III and equal to V; VI-XI thicker; VII-X equal in length; XI slightly longer and bluntly pointed; I-VI punctate; all segments covered with bristly setae. Pronotum: orange-yellow with black central longitudinal vitta; black vitta on each lateral margin; narrowed anteriorly and posteriorly; sides rounded and very finely margined; prebasal impression present; convex; covered with large deep punctures; basal margin bisinuate; small projecting tooth in apical angles; short median sulcus present in median vitta; length 1.0 mm. (n=1); width 1.5 mm. Scutellum: black; oblong; apex rounded; alutaceous. Elytra: wider at base than pronotum; suture raised, but not strongly; punctures subquadrate; scutellar row of 3 punctures; lateral margins serrate; apical margins dentate; yellow at base with black macula at scutellum; black vitta at base on lateral margins, expands apically to beyond middle where it reaches the 4th puncture row, truncate at this point to lateral margin; apical fourth entirely dark; puncture rows 5-6 confused at base, in regular rows after humeri; intervals 2, 4, and 6 costate, costae do not unite; interval 4 straight; interval 6 curves toward suture on apical 1/5; all costae continue to within 2 punctures of apices; interval 2

curves toward suture after humerus; intervals 5 and 7 costate at humerus (best seen in lateral view); base of elytra depressed between suture and humerus; length 5.5 mm.; width 2.0 mm. Legs: femur yellow at base, black at apex; tibia black with fringe of golden setae at apex; tarsi black, segments 2 and 3 bilobed, with setose pad beneath. Venter: pro-, meso-, and metasterna yellow in middle, black laterally; abdominal sternite 1 yellow basally, then black; other sternites black except laterally. Total length: 7.0 mm.

Larval host plant: *Panicum latifolium* H. B. & K. and *Olyra* sp. (Poaceae) (Maulik, 1937).

Distribution: Brazil.

Specimens examined: BRAZIL: Bahia, 1928 (BMNH). Total: 1.

Anisostena (Neostena) breveapicalis Pic Map 1

Anisostena breveapicalis Pic 1934:4. Holotype: Hansa Bresil/ *Anisostena* n. (?) *championi* Baly/Type (yellow label)/ Type (red label)/ Museum Paris Coll. M. Pic (blue label)/ *breveapicalis* n. sp. (MNHN). Blackwelder 1946:724; Papp 1953:58; Uhmman 1957:74; Descarpentries & Villiers 1959:145; Uhmman 1964b:414.

Description: Head: black; median sulcus deep; short sulcus present on inner margin of each eye; vertex of head alutaceous, sides of head smooth; clypeus punctate. Antennal segments punctured; segment I globular, large; II-VI cylindrical, decreasing in length; II longest; VII-X transverse, with setae; XI acutely pointed. Pronotum: orange with central black diamond-shaped vitta from base to the diameter of one puncture of the anterior margin; black vitta on lateral sides, includes first punctures on lateral margins; covered with large, coarse punctures separated by less than the diameter of a puncture; anterior margin prolonged into a tooth at union of lateral margin; basal impression present, central; length 0.9 mm. (n=1); width 1.15 mm. Scutellum: black; alutaceous; transverse. Elytra: yellowish-orange with triangular black macula at base, extending to near middle, at base includes scutellar row and first puncture row, narrows to only the suture; black macula on apical third, at apex extends to 5th puncture row; 8 regular puncture rows; scutellar row of 3 punctures; intervals 2, 4, and 6 costate, all uniformly raised; interval 2 on left

elytron curved outward at apex, all others straight; lateral margins serrate; apical margin dentate; suture carinate; length 4.24 mm.; width 1.73 mm. Legs: black, except yellow markings on base of femora; alutaceous with scattered punctures. Venter: black. Total length: 5.2 mm.

Larval host plant: unknown.

Distribution: Brazil.

Specimens examined: BRAZIL: Hansa (MNHN). Total: 1.

Anisostena (Apostena) new subgenus

Type species: *A. angustata* Pic, here designated.

Description: Head: median sulcus present; last five antennal segments wider than preceding. Pronotum: basal impression present; tooth produced at union of apical and lateral margins. Elytra: costate elytral intervals 2, 4, and 6 do not unite near apex.

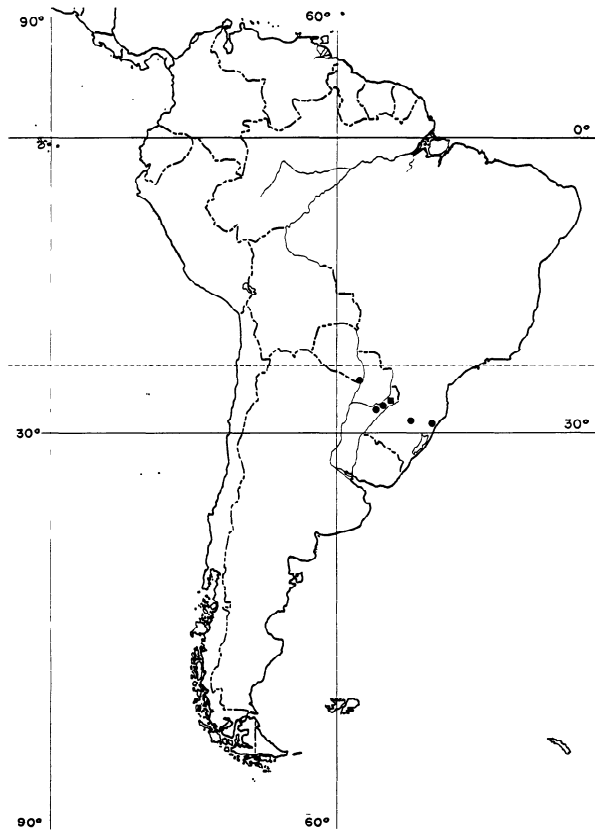
Etymology: Apo (latin)- to bind or join plus stena (root of genus). This name was selected because the morphology of the species of *Apostena* forms a bridge between the conditions in *Neostena* and *Anisostena* str. Without these species *Neostena* would have been elevated to full generic status.

Key to the species of *Anisostena (Apostena)*

1. Body color yellowish; pronotum unicolorous; elytra with black sutural vitta; costate elytral interval 2 carinate for entire length; clypeus bidentate; elytra with puncture rows 1-2 confused at base *angustata* Pic
Body color bluish; pronotum bicolorous; elytra with orangish maculae at humeri; costate elytral interval 2 not carinate; clypeal margin evenly arcuate; elytra with puncture rows 1-2 in regular rows ..
..... *missionensis* Monrós & Viana

Anisostena (Apostena) angustata Pic Map 2

Anisostena angustata Pic 1934:3. Holotype: Hansa, S. Catharina- Brésil, Coll. J. Clermont/ Type (yellow label)/ Type (red label)/ Museum Paris Coll. M. Pic (blue label)/ *Anisostena angustata* n. sp. (MNHN). Blackwelder 1946:724; Papp 1953:57; Uhmman 1957:73; Buck 1958:147; Uhmman 1964a:20; Descarpentries & Villiers 1959:145.



Map 2. Distribution of *Anisostena (Apostena)* species: *A. angustata*, circles; *A. missionensis*, squares.

Description: Head: black, shining; median sulcus deep; sulcus on inner margin of each eye; row of punctures on outer margin of each eye; punctures on each side of sulcus; yellow between antennae; clypeus yellow, bidentate; side of head smooth; vertex micropunctate. Antennal segment I subglobular; II-IV cylindrical, II thicker than III, III longest; V-X transverse, VII-X wider than preceding, with setae; XI hirsute, acutely pointed; I-VI punctate. Pronotum: yellow with black central vitta from base to past middle; lateral margins with central black macula; covered with sparse, coarse punctures; basal impression present; lateral margins prolonged into a tooth at union with apical margin; apical margin slightly darkened; widest at middle; longitudinal carina in middle; surface between punctures alutaceous; length 0.7-0.9 mm. (avg. 0.9; n=9); width 0.8-1.0 mm. (avg. 0.9). Scutellum: black; quadrate; alutaceous. Elytra: yellow; 8 puncture rows, puncture rows 1 and 2 confused at base, rest of puncture rows in discrete

rows; scutellar row of 2 or 3 punctures, may be asymmetrical on each elytron; intervals 2, 4, and 6 costate, no costae unite; interval 2 wider than others, all more pronounced on apical third; lateral and apical margins sparsely dentate; area from suture to puncture rows 1 and 2 darker than rest of elytra; length 3.1-3.6 mm. (avg. 3.3); width 1.1-1.4 mm. (avg. 1.26). Legs: yellow except tarsi and apex of tibiae which are black; femur punctate, mesofemur not serrate on inner margin. Venter: mesosternum black in middle, yellow at sides; rest black, except sides of last two abdominal segments which are yellow. Total length: 3.8-4.7 mm. (avg. 4.2).

Larval host plant: unknown.

Distribution: Argentina and Brazil.

Specimens examined: ARGENTINA: Misiones-Javier, P. Londera, Niana, X-1947 (USNM). Catamarca-Dep. Concep., Sta. Maria, X-1947 (USNM). BRAZIL: Hansa, S. Catharina (MNHN); Nova Teutonia, 7-X-1936 (USNM), XI-1976, XII-1976, I-1977 (EGRC), 14-IX-1939, 18-X-1944, IV-1957, 4-XI-1958, 26-XII-1959, 14-XII-1960, XI-1962, 24-X-1961, 7-III-1963, 7-X-1964, 25-XI-1964, X-1967, IX-1967, X-1968, I-1969, XI-1969, II-1970, XI-1970, I-1974 (BPPM). PARAGUAY: Lambary, XI-1924 (USNM); V. Monte Verde, 3-XII-1961 (USNM). Total: 53.

Anisostena (Apostena) missionensis
Monrós & Viana
Map 2

Anisostena missionensis Monrós & Viana 1947:203. Syntype: Misiones-Argentina, Dep. Concep.- Sta. Maria, M. J. Viana/Cotipos (white label with red border)/F. Monros Collection 1959/ *Anisostena (Anisostena) missionensis* M & V, F. Monrós det 1945 (pink label) [2 specimens on one pin]. Papp 1953:59; Uhmman 1957:74.

Description: Body color metallic blue-black with orangish-red markings on pronotum and elytra. Head: blue-black; eyes lighter, not prominent; median sulcus faint; vertex alutaceous; projection below base of antennae; clypeal margin evenly arcuate. Antennal segments I-II subglobular, punctate; III-V cylindrical, III longest; VI-VII transverse, punctate; VIII-XI widened, transverse, XI pointed at apex, hirsute. Pronotum: highly arched; prebasal impression present; blue-black with reddish-orange block M, M may not meet in middle; scattered large punctures over entire surface; most punctures in basal impression; basal

margin bisinuate; anterior margin prolonged in small tooth at union with lateral margin. Scutellum: blue-black; orbicular; alutaceous; length 1.0 mm (n=2); width 1.0. Elytra: blue-black except orange-red macula beginning at base on puncture row 4, extending to lateral margin, narrows apically until only puncture rows 5-7 are colored, ends at mid-point of elytra; scutellar row of 2 punctures; intervals 2, 4, and 6 costate, no costae unite; lateral margins smooth; apical margins dentate; apices cojointly rounded; length 3.5-3.7 mm (avg. 3.6); width 1.3-1.4. Legs: blue-black; tibiae with tuft of setae at apex; claws yellow. Venter: blue-black; middle of abdominal segment 1 reddish. Total length 4.3-4.6 mm (avg. 4.45).

Larval host plant: Poaceae (Monrós & Viana, 1947).

Distribution: Argentina.

Specimens examined: ARGENTINA: Misiones-Dep. Concep., Sta. Maria (USNM), XI-1943 (USNM). Total: 3.

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