

**NEOTROPICAL *EUAESTHETUS* GRAVENHORST (COLEOPTERA:
STAPHYLINIDAE) (82th CONTRIBUTION TO THE KNOWLEDGE OF
EUAESTHETINAE)**

Volker Puthz

c/o Limnologische Fluss-Station, MPI-Limnologie, Damenweg 1, D-36110 Schlitz, Germany

ABSTRACT

New records of Neotropical *Euaesthetus* Grav. are given, a key and descriptions of 3 new species from Mexico are presented: *Euaesthetus colimamontis* sp. nov., *Eu. mexicanus* sp. nov., and *Eu. thayerinae* sp. nov.

The staphylinid genus *Euaesthetus* Gravenhorst, 1806, is mainly distributed in the Northern hemisphere (Fig. 1). Most of its 41 described species occur in North America, few in the Northern Oriental region (Thailand, Vietnam), some others extend the generic area southward down to Panama (Bernhaer, 1929; Puthz, 1994). Three wingless species, all living in high mountains, have been described from Mexico. Based on new material this paper presents our up-to-date knowledge of the Neotropical *Euaesthetus* including new records, descriptions of 3 new species from Mexico, and a key to 13 known species.

Abbreviations: dE = distance between eyes; HT = Holotypus; lEl = greatest length of elytra; lP = length of pronotum; lS = length of suture; PT = Paratypus; wEl = greatest width of elytra; wH = width of head; wP = width of pronotum. Measurements of body parts are given as proportional measurements (1 unit = 0.0085 mm).

Acronyms of museums and private collections:

CZUG Centro de Estudios en Zoología, Universidad de Guadalajara, Zapopan
FMNH Field Museum of Natural History, Chicago
IRScnB Institut Royal des Sciences Naturelles de Belgique, Brussels
cP coll. Puthz

***Euaesthetus mexicanus* sp. nov.**

Figs. 3, 17

This new species belongs to the group of *Eu. americanus* Erichson.

DESCRIPTION. Fully winged, dark brown, shining, head and pronotum moderately finely and densely punctate, interstices shiny, elytra strongly iridescent, very finely and sparsely punctate, punctation becoming indistinct or obsolete posteriorly, abdomen very finely and densely microsculptured, dull. Pubescence moderately short and dense, recumbent. Antennae light brown, maxillary palpi with 2 basal segments yellowish, 3rd segment infusate. Legs brownish.

Length: 1.4-1.7 mm (fore parts: 0.8-0.9 mm).

Proportional measurements of the HT: wH: 41; dE: 30; wP: 44; lP: 35; wEl: 56; lEl: 45; lS:

31.

Male. Unknown.

Female. Sternite 8 (Fig. 3) with a broad and shallow emargination apically. Spermatheca (Fig. 17) with the stronger sclerotized distal tube fully as long as half length of valvifer.

Head with large, moderately strongly faceted eyes, frons moderately finely and densely

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punctate, punctures smaller than basal cross section of 5th antennal segment, medial punctation slightly less dense than lateral punctation, interstices distinctly smaller than half diameter of punctures except on actual middle. Antennae with a 2-segmented club, segment 10 distinctly broader than long. Pronotum strongly convex, moderately constricted posteriorly with one small foveola and two sharp longitudinal furrows posterolaterally, furrows extending toward middle of pronotum; punctation fine and dense, slightly finer and less dense than on frons, interstices often larger than half diameter of punctures. Elytra subtrapezoidal, shoulders distinctly prominent, without denticle; punctation very fine and shallow anterolaterally, becoming obsolete on rest of surface, which is strongly iridescent.

TYPE MATERIAL. Holotype (♀): MEXICO: Veracruz: 1.7 mi N Teocelo, 3700 feet, leaf litter, flood debris, 22.-24.VII.1973, A. Newton: in FMNH.

DISCUSSION. *Euaesthetus mexicanus* sp. nov. resembles *Eu. cubanus* Puthz but can be distinguished by the much finer and sparser punctation of the pronotum and by the distinct posterolateral furrows there.

Euaesthetus cf. americanus Erichson

Figs. 4, 18

Euaesthetus americanus Erichson, 1840: 747; Puthz, 1998: 242 f. fig.

NEW RECORDS. MEXICO: 1 ♀: "Mexique, tabacs", coll. Fauvel (IRScnB); PANAMA: 1 ♀: Bocas del Toro, 81°50'E, 8°34'N, 25 km NNE San Felix, 1500 m, FM(HD) # 80-20, Berlese floor litter & root mat. Quebrada Alicia cloud forest, 11.VI.1980, J. Wagner (FMNH).

DISCUSSION. Both records need verification by the respective males, since great variability in punctation and female sexual characters of doubtful significance make the identification of this species very difficult. *Eu. americanus* is widely distributed in North America, many records are known to me, e.g., from Texas.

Euaesthetus pugetensis Hatch

Figs. 5, 9

Euaesthetus pugetensis Hatch, 1957: 241; Puthz, 1998: 227 fig.

NEW RECORDS. CUBA: 1 ♂ 1 ♀: Prov. Habana: Caimito, 25.IV.1931, A. Bierig (FMNH); 1 ♂: Caimito del Guayabal, 13.III.1933, A. Bierig (FMNH); 1 ♂: Rio Almendares, 20.III.1938, A. Bierig (cP); 1 ♀: Aspiro, 2.VI.1935, A. Bierig (FMNH); 1 ♀: Punta Brava, 24.I.1937, A. Bierig (FMNH).

DISCUSSION. This species has been described from British Columbia and Washington but has a much wider distribution; records are known to me from Ontario, Quebec, Nova Scotia, Michigan, Illinois, Indiana, Massachusetts, New York, New Jersey and Florida. It is distinguished from *Eu. americanus* by the much deeper anteriomedian emargination of the dorsal piece of the median lobe (Fig. 5, see also Puthz, 1998: 227, Figs. 6, 7).

Euaesthetus thayerinae sp. nov.

Figs. 7, 8, 10, 14

This new species belongs to the group of *Eu. laeviusculus* Mannerheim and is the sister species of *Eu. newtoni* Puthz.

DESCRIPTION. Apterous, light reddish brown, moderately shining, punctation of the fore parts moderately coarse and dense, abdomen dust like, extremely finely sculptured, dull; pubescence short, recumbent. Antennae and maxillary palpi yellowish, legs yellowish brown.

Length: 1.4-1.7 mm (fore parts: 0.8 mm).

Proportional measurement of the HT and one PT (in brackets): wH: 40.5 (42); dE: 12 (11); wP: 43 (45); IP: 35.5 (38); wEl: 48 (50); lEl: 29 (30); IS: 16 (18).

Male. Sternite 8 (Fig. 10). Aedeagus (Fig. 14).

Female. Sternite 8 (Fig. 7) obtusely pointed apically. Spermatheca (Fig. 8) with stronger sclerotized distal tube less than half as long as the valvifer.

Head with strongly faceted eyes, frons moderately coarsely, very densely punctate, punctures slightly smaller than basal cross section of 5th antennal segment, interstices distinctly smaller than half diameter of punctures, larger on actual middle. Antennae short, club 2-segmented, 10th segment distinctly broader than long. Pronotum strongly constricted behind, with short indistinct carinae posterolaterally and two sharp posterolateral furrows extending fully beyond the middle; some small indistinctly separated foveolae near posterior margin; punctation as on head, very dense throughout, interstices smooth. Elytra strongly trapezoidal, shoulders oblique with a short carina ending in a minute denticle; punctation about as coarse as on pronotum, but shallower and less dense, interstices often larger than half diameter of punctures.

TYPE MATERIAL. Holotype (σ) and 2 ♀ -paratypes: MEXICO: Colima: Mpio. Minatitlán: El Terrero vicinity, 2130 m, 19°26.44'N, 103°57.41'W, montane mesophilous forest with *Quercus*, *Cupressus*, FMHD # 99-377, berlese leaf litter & log litter, 10.IX.1999, A. Newton & M. Thayer 1028. HT and 1 PT in FMNH, 1 PT in cP.

DISCUSSION. *Euaesthetus thayerinae* sp. nov. - which I warmly dedicate to Dr. Margaret K. Thayer, who collected the new species - is distinguished from *Eu. newtoni* by the sparser elytral punctation, the longer median lobe and the longer distal tube of the spermatheca (compare Fig. 16).

Euaesthetus colimamontis sp. nov.

Figs. 6, 11, 13, 15

This new species resembles closely *Eu. newtoni* Puthz but is more closely related to *S. similis* Casey.

DESCRIPTION. Apterous, light reddish brown, moderately shining, punctation of the fore parts coarse and very dense, abdomen very finely and densely punctate-microsculptured, dull; pubescence moderately short, recumbent. Antennae light brown to yellowish, maxillary palpi yellow, legs yellowish brown.

Length: 1.5-1.8 mm (fore parts: 0.8-0.9 mm).

Proportional measurements of the HT and of 2 ♀ -PTT (in brackets): wH: 42 (41.5; 41.5); dE: 11 (12; 11); wP: 45 (44; 45); IP: 38 (37; 38); wEl: 53 (51; 52); lEl: 35 (32; 33); IS: 22 (22; 21).

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Male. Sternite 8 (Fig. 11). Aedeagus (Fig. 13). median lobe triangularly narrowed, parameres bifid with 4 strong and long setae.

Female. Sternite 8 (Fig. 6) obtusely pointed apically. Spermatheca (Fig. 15) with stronger sclerotized distal tube about ¼ as long as valvifer.

TYPE MATERIAL. Holotype (♂) and 2 ♂♂, 16 ♀♀-paratypes: MEXICO: Jalisco: Mpio. San Gabriel: Nevado de Colima, N slope, near Las Viboras microwave station, 2900 m, 19°37.26'N, 103°36.88'W, grassland (large tussocks), FMHD # 99-369, berlese, litter including tussock bases, 8.IX.1999, A. Newton & M. Thayer 1023. HT and PTT in FMNH, PTT also in CZUG and cP.

DISCUSSION. *Euaesthetus colimamontis* sp. nov. is distinguished from *Eu. newtoni* by the slightly longer elytra, from *Eu. thayerinae* by the much coarser and denser punctation of the elytra, from both by the sexual characters.

Key to the Neotropical species of *Euaesthetus* Gravenhorst

- 1(16) Fully winged or short-winged species, elytra longer than pronotum
2(3) Elytra distinctly punctate throughout, punctures about the same as on pronotum, interstices not iridescent. Male: Aedeagus (Puthz, 1998: Fig. 34) with the median lobe broadly rounded. 1.1-1.3 mm, Cuba *juanaensis* Puthz
3 (2) Elytra impunctate, indistinctly punctate or with variegate punctation, interstices mostly iridescent
4(5) Smaller species, elytra impunctate. Punctation of pronotum dense but not crowded, shiny interstices distinct. Male: Aedeagus (Puthz, 1998: Fig. 2 a), median lobe broadly obtusely-angled anteriorly. Female: posterior margin of sternite 8 shallowly double-sinuuous. 1.0-1.2 mm, Cuba
..... *cubanus* Puthz
5(4) Larger species, exceeding 1.2 mm
6(7) Light reddish-brown, elytra very finely and densely, shallowly punctate, slightly iridescent. Male: Aedeagus (Puthz, 1998: Fig. 8) with dorsal piece of median lobe convex anteriorly, ventral piece narrowly lanceolate. Female: sternite 8 with a deep apical emargination (Puthz, 1998: Fig. 9). 1.4-1.6 mm, Costa Rica *bierigi* Puthz
7(6) Darker species: dark reddish-brown to dark brown
8(9) Pronotum with two sharp furrows posterolaterally. Punctation of iridescent elytra fine anteriorly, becoming almost extinct posteriorly. Male: unknown. Female: Sternite 8 (Fig. 3), spermatheca (Fig. 17). 1.4-1.7 mm, Mexico: Veracruz *mexicanus* sp. nov.
9(8) Pronotum without posterolateral furrows. 4 variable species
10(15) Elytra iridescent
11(14) Male: Apical notch of sternite 8 deeper, occupying about posterior half (e. g. Fig. 9). Apex of median lobe narrow, lanceolate, pointed. Female: Sternite 8 (fig. 3, 4), emarginate apically.
12(13) Male: Dorsal piece of median lobe shallowly emarginate (Puthz, 1998: Fig. 6). Female: Spermatheca as in Fig. 18. 1.5-1.9 mm, North America, Mexico (?), Panama (?) *americanus* Erichson
North America, Mexico (?), Panama (?)
13(12) Male: Aedeagus (Fig. 5), dorsal piece of median lobe deeply emarginate. Female: Spermatheca about as in Fig. 18. 1.5-1.9 mm, North America, Cuba *pugetensis* Hatch
14(11) Male: Apical notch of sternite 8 shallower, in about posterior fifth. Apex of median lobe broad, rounded (Puthz, 1998: Fig. 27). Female: Posterior margin of sternite 8 double-sinuuous, spermatheca as in Fig 16 (Puthz 1998) 1.2-1.5 mm, Cuba *chantali* Puthz
15(10) Elytra not iridescent. Male: unknown. Female: Sternite 8 very shallowly emarginate posteriorly.

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- Spermatheca as in Fig. 10 (Puthz 1998). 1.5-1.8 mm, Cuba *columbus* Puthz
- 16(1) Apterous species, elytra shorter than pronotum
- 17(18) Elytral sculpture granulose. Male: Sternite 8 with a narrow apical notch occupying about posterior third. Aedeagus (Fig. 12). Female: unknown. 1.5-1.8 mm, Mexico: Distrito Federal..... *dampfi* Bernhauer
- 18 (17) Elytra punctate. 4 very similar species, which should be distinguished by examining the sexual characters
- 19(20) Pronotum narrower (width: length < 1.1), elytra shorter (elytral length: pronotal length < 0.75). Male: unknown. Female: Sternite 8 about as in Fig. 7, spermatheca (Puthz, 1998: Fig. 22) with stronger sclerotized distal portion having 1/3 the length of valvifer. 1.5-1.9 mm, Mexico: Guerrero *andersoni* Puthz
- 20(19) Pronotum narrower (width: length > 1.1), elytra shorter (elytral length: pronotal length > 0.78)
- 21(22) Elytral punctation dense but not crowded, interstices distinct. Male: Sternite 8 as in Fig. 10, aedeagus as in Fig. 14. Female: Sternite 8 as in Fig. 7, spermatheca as in Fig. 8. 1.4-1.7 mm, Mexico: Colima *thayerinae* sp. nov.
- 22(21) Elytral punctation denser, crowded, interstices slightly distinct
- 23(24) Posterolateral longitudinal furrows of pronotum slightly longer, distinctly extending into anterior half. Elytra shorter (elytral length: pronotal length < 0.81). Male: Aedeagus (Puthz, 1998: Fig. 16), very similar to Fig. 14, but the median lobe shorter. Female: Sternite 8 as in Fig. 7, spermatheca as in Fig. 16. Smaller species. 1.3-1.6 mm, Mexico: Jalisco. (New record: 1 ♂, 1 ♀: Jalisco: E slope Nevado de Colima, 6800 feet, berlese litter pine-oak forest, 22.IX.1973. A. Newton: FMNH) *newtoni* Puthz
- 24(23) Posterolateral longitudinal furrows of pronotum slightly shorter, extending toward anterior middle. Elytra slightly longer (elytral length: pronotal length > 0.83). Male: Sternite 8 as in Fig. 11, aedeagus as in Fig. 13. Female: Sternite 8 as in Fig. 6, spermatheca as in Fig. 15. Larger species. 1.5-1.8 mm, México: Jalisco *colimamontis* sp. n.

ACKNOWLEDGEMENTS

I thank Dr. A. F. Newton (FMNH) for sending the material and José Luis Navarrete-Heredia, Universidad de Guadalajara, for various help concerning this manuscript.

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Recibido: 23 de abril del 2001

Aceptado: 11 de junio del 2001

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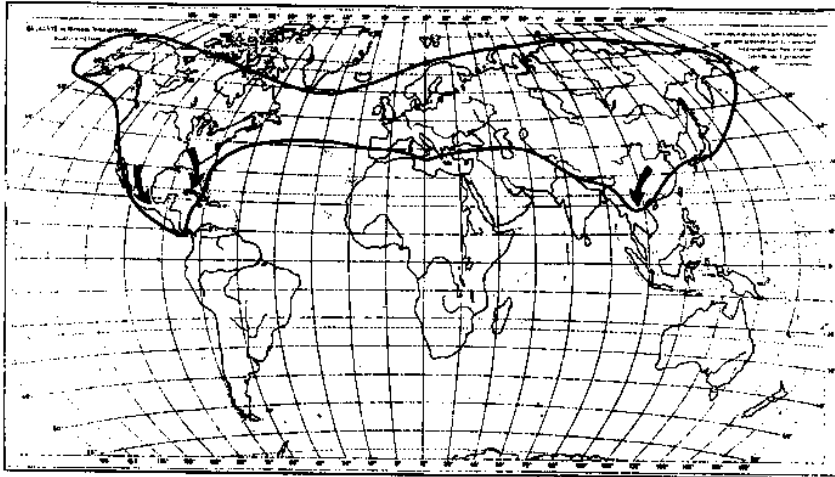
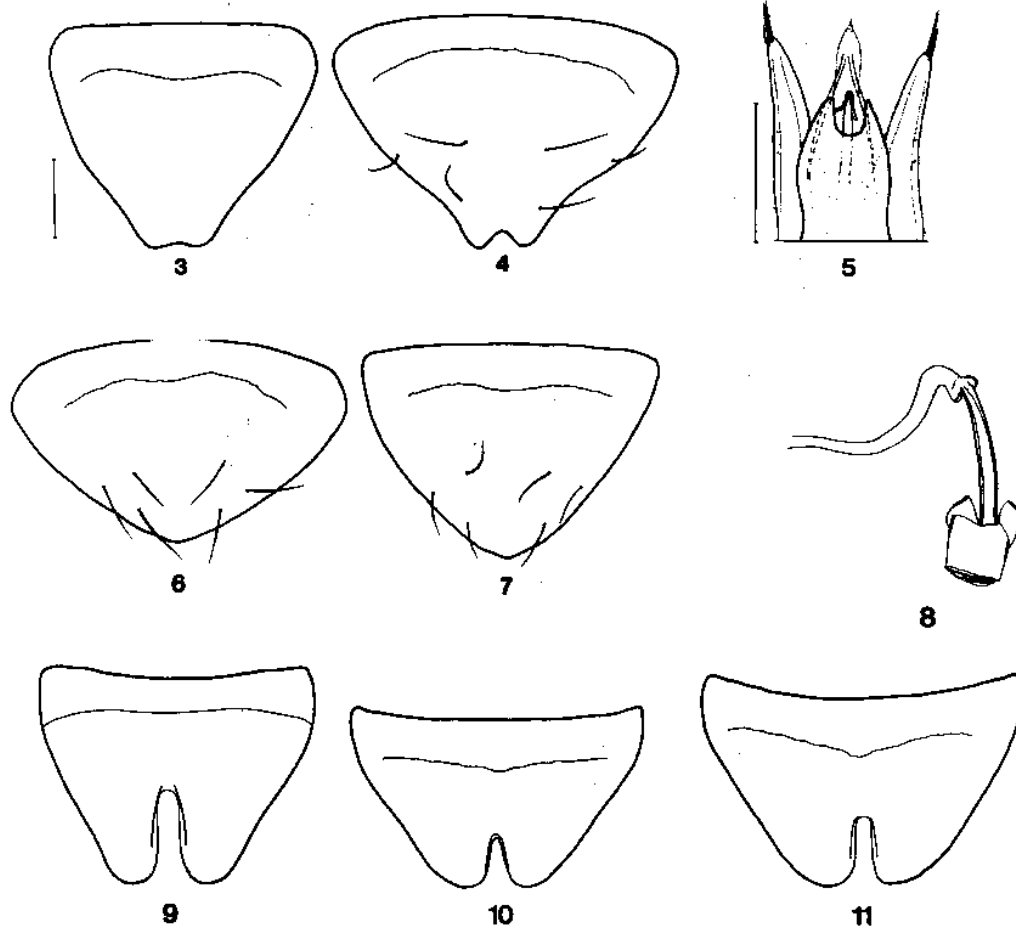


Figure 1. Distribution of the northern hemispheric genus *Euaesthetus*, arrows indicate immigration southward.



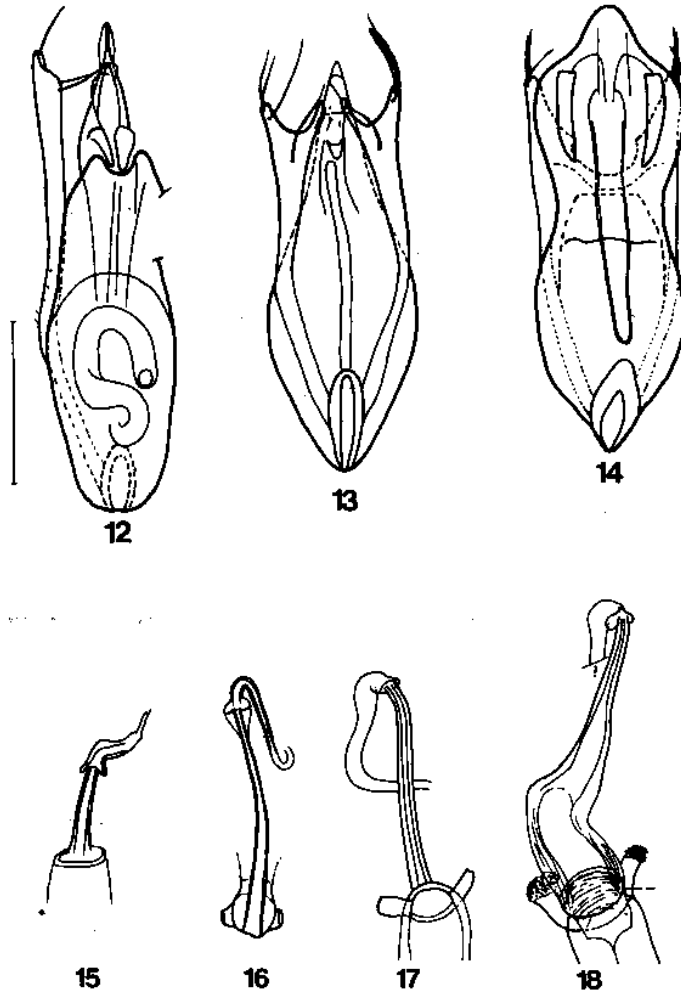
Figure 2: Distribution of *Euaesthetus*- species in Central America and Mexico.

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Figures 3-11. 3, 4, 6, 7. Sternite 8 of female, and 9-11 of male. 5. Apical portion of aedeagus. 8. spermatheca of (3) *Euaesthetus mexicanus* sp. nov. (HT). 4. *Eu.* cf. *americanus* Er. (Panama). 5, 9. *Eu. pugetensis* Hatch (Caimito). 6, 11. *Eu. colimamontis* sp. nov. (PT, HT). 7, 8, 10. *Eu. thayerinae* sp. nov. (PTT). Scale= 0.1 mm (5 = 8).

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Figures 12-18. 12-14. Dorsal aspect of aedeagus and 15-18. Spermatheca of (12) *Euaesthetus dampfi* Bernh. (HT; somewhat damaged). 13, 15. *Eu. colimamontis* sp. nov. (PTT). 14. *Eu. thayerinae* sp. nov. (HT). 16. *Eu. newtoni* Puthz (Nevado de Colima). 17. *Eu. mexicanus* sp. nov. (HT). 18. *Eu. cf. americanus* Er. (Panama). Scale = 0.1 mm.