Valid name

Andranthobius sp.

Synonymy/catalog
Andranthobius sp. Carlow, 1997: 77
Andranthobius sp. TAC 1: Bender et al., 2005:774

The genus *Andranthobius* Kuschel does not occur in the United States as far as can be determined. The report by Carlow (1997 unpublished thesis) of "*Andranthobius* sp." from southern Texas is based on an incorrectly identified specimen of *Notolomus* sp. 1. *Notolomus* is a closely related genus of small weevils and is very similar in general appearance to *Notolomus*. The specimen mentioned by Carlow is in the Texas A&M University Insect Collection and carries her determination label "*Andranthobius* sp. Det. T. Carlow 1991." Examination of that specimen and *Notolomus* material from the Lower Rio Grande Valley confirms that her *Andranthobius* sp. and her *Notolomus* sp. 1 are the same unidentified species of *Notolomus*. Franz (2006) provides the morphological characters for distinguishing these two genera.

Bender et al. (2005) list "*Andranthobius* sp. TAC 1" as a priority conservation species for Texas, an entry apparently based on Carlow's (1997) unpublished thesis as evidenced by the citation of her initials "TAC" in the morphospecies name.

Classification
Family: Curculionidae
Subfamily: Curculioninae
Tribe: Derelomini
Subtribe: Derelomina

Literature Cited
Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

Franz, N. M. 2006. Towards a phylogenetic system of derelomine flower weevils (Coleoptera: Curculionidae). Systematic Entomology 31: 220-287.

Valid name

Apteromechus texanus Fall

Synonymy/catalog
Cryptorhynchus ferratus: Champion, 1902-1906 (1906):620 [misidentification, in part]
Apteromechus texanus Fall, 1925:88
Apteromechus texanus: Whitehead, 1979:232
Apteromechus texanus: O'Brien & Wibmer, 1982:148
Apteromechus texanus: Carlow, 1997:131
Apteromechus texanus: Bender et al., 2005:774

Classification
Family: Curculionidae
Subfamily: Cryptorhynchinae
Tribe: Cryptorhynchini
The classification of the genus *Apteromechus* as a member of the Cryptorhynchinae and Cryptorhynchini is not controversial, as this and most of the included genera fall within the long-held definitions of these groups (Kissinger 1964, Alonso-Zarazaga and Lyal 1999, Anderson 2002).

Diagnostic remarks
This is a small, compact cryptorhynchine weevil that could easily be confused with other species. The body is oblong-elongate, with the elytral nearly parallel-sided and the dorsum convex, deeply and closely punctate, and with a vestiture of brownish scales that conceal more than half of the integument which is nearly black in color and shining. The body length is 2.9 to 3.4 mm in length, and 1.3 to 1.6 mm in maximum width at mid-length of the elytra. As a member of the Cryptorhynchinae, the rostrum of this species is deflexed down and backward and fits into a deep prosternal channel in repose. The prosternal channel extends between the anterior coxae and terminates on the mesosternum which is deeply impressed between the mesocoxae. The extreme posterior border of the mesosternum is sharply raised. The middle coxae are separated by a space as wide as the tip of the rostrum. The anterolateral border of the prothorax is weakly arcuate behind the eye and conceals the posterior margin of the eye with the head in repose. The scutellum is greatly reduced and essentially absent. Each elytron has the alternate intervals raised and carinate and they appear patterned due to the alternating shades of scale color and density. The anterior femur has a glabrous ventral sulcus for the reception of the retracted tibia and tarsus. Abdominal ventrites 3 and 4 have two well-aligned transverse rows of punctures.

This species will likely be confused with similar-sized cryptorhynchine weevils found in the Lower Rio Grande Valley, most notable is an undetermined *Apteromechus* species only recently detected in the United States. This unidentified species of *Apteromechus* can be easily separated from *A. texanus* by the dense pale-colored scales on the posterior third of the elytra and in having ventrites 3 and 4 with only a single transverse row of punctures. The longer metasternum will separate any apterous litter-inhabiting cryptorhynchine genera for which various species are likely present in Lower

Rio Grande Valley. The members of the genera *Cophes*, *Gerstaeckeria*, *Hohomus*, *Episcirrus*, *Eubulus* and *Phrydenus* recorded from the Lower Rio Grande Valley by Carlow (1997) are all fairly large and distinctive, thus unlikely to be confused with *Apteromechus* species. *Sudus floridanus* Kissinger occurs in the Lower Rio Grande Valley and is similar in size and shape but is separated from *Apteromechus* by the relatively large and obvious scutellum.

Apteromechus is keyed in the standard works on North American weevil genera (Kissinger 1964, Anderson 2002) where in each key the genus traces to two separate locations dependent on distance between the mesocoxae (*Apteromechus texanus* will key to couples 33 and 26, respectively). Whitehead (1979) provided a modern synopsis of the species found in America north of Mexico and commented on generic characters used to define the genus.

Images of this species are not presently available, however, in general habitus, *A. texanus* is very similar to *A. ferratus* (Say) widespread in the eastern United States for which numerous images are available on the web [http://bugguide.net/node/view/284334] (last visited 8/31/2009).

Historic Occurrence Records

1) From literature: See "literature records" on attached Excel spreadsheet.

2) From specimens examined: See "specimen records" on attached Excel spreadsheet.

3) From communicated records: See "communicated records" on attached Excel spreadsheet.

Known Range

Brownsville area of Texas (Cameron County). Whitehead suggests that the material cited as "*A. ferratus* (Say)" by Champion (1906) from Tampico, Mexico (Veracruz) is probably conspecific with *A. texanus*. O'Brien and Wibmer (1982) list the range of this species as Arkansas and Texas. The Arkansas record seems unlikely, and the source for this record is not given.

Biology, Host, Substrate, Habitat Data

1) From literature: None.

2) From specimens: One specimen from Brownsville is labeled "palm grove."

3) From communicated records: On one occasion several specimens were taken at the Palm Grove by beating a small number of thick woody vines that had recently be cut and were still suspended from their entanglement in upper tree branches. This location was in the narrow strip of *Celtis* forest that once lined the Rio Grande to the east of the Sabal Palm Grove headquarters (E. G. Riley, pers. obser.).

Biology, Host, Substrate, Habitat Data by Inference (based on knowledge of related species)

The larvae of most cryptorhynchine weevils bore inside dead plant materials and a few are associated with living plants (Anderson 2002). Adults can be taken by beating various dead plant materials that are standing or "hung up" in dense forest habitats. Several genera are apterous (lack metathoracic wings) and inhabit leaf litter and forest floor

debris where they can be taken by sifting/berlese. Those genera that are winged are often taken at lights (E. G. Riley, pers. obser.).

Adult Phenology in Texas

1) Number of compiled Texas collecting events by month: April (1), May (8), June (3), July (1), August (1), October (1).

2) Year of most recent known collection in the Lower Rio Grande Valley: 2002.

Literature Cited

Alonso-Zarazaga, M. A. and C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera). Entomopraxis, Barcelona. 315 pp.

Anderson, R. S. 1992. Curculionoidea of southern Florida: an annotated checklist (Coleoptera: Curculionoidea [excluding Curculionidae: Scolytinae, Platypodinae]). Insecta Mundi 6(3-4): 193-248.

Anderson, R. S. 2002. Curculionidae Latreille, 1802, pp. 722-815, *in* Arnett, R. H., M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea. Volume 2. CRC Press. xiv + 1-861 pp.

Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

Champion, G. C. 1902-1906 (1906). Biologia Centrali-Americana. Insecta. Coleoptera. Rhynchophora. Curculionidae. Curculioninae (part). vol. IV, part 4. London. pp. 601-729.

Fall, H. C. 1925. New species of *Apion* and *Apteromechus*. Bulletin of the Brooklyn Entomological Society 20(2): 85-88.

Kissinger, D. G. 1964. Curculionidae of America north of Mexico: a key to the genera. South Lancaster, MA. Taxonomic Publications. v + 1-143 pp.

O'Brien, C. W. and G. J. Wibmer. 1982. Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America, and the West Indies (Coleoptera: Curculionoidea). Memoirs of the American Entomological Institute (34): i-ix + 382 pp.

Whitehead, D. R. 1979. Notes on *Apteromechus* Faust of America north of Mexico (Coleoptera: Curculionidae: Cryptorhynchinae). Proceedings of the Biological Society of Washington 81(2): 230-233.

Valid name

Haplostethops sp.

Synonymy/catalog
Haplostethops sp. Carlow, 1997:154
Haplostethops sp. TAC 1: Bender et al., 2005:774

Carlow (1997 unpublished thesis) based her Lower Rio Grande Valley record of "*Haplostethops* sp." on material from the Canadian Museum of Nature [CMNC]. Robert Anderson, a weevil systematist and curator of Coleoptera at CMNC, tracked the source of Carlow's record to a single specimen. This specimen was forwarded to Jens Prena, a specialist on the systematics of baridine weevils with the USDA Systematic Entomology Laboratory, Washington, DC, who identified it as *Apinocis blanditus* (Casey) (pers. comm. to E. G. Riley, 2008).

Apinocis blanditus (Casey) is a common and widespread species in Texas. Based on material in Texas A&M University Insect Collection identified by Jens Prena in early 2008, it occurs over much of the eastern third of Texas (Bastrop, Brazos, Burleson, Cameron, DeWitt, Fort Bend, Goliad, Hidalgo, Jim Wells, Kleberg, Live Oak, Nacogdoches, Nueces, Polk, Refugio, San Jacinto, San Patricio, Tyler, Walker, Washington, and Willacy counties). O'Brien and Wibmer (1982) give its distribution as Louisiana, Mississippi and Texas.

Bender et al. (2005) list "*Haplostethops* sp. TAC 1" as a priority conservation species for Texas, an entry apparently based on Carlow's (1997) unpublished thesis as evidenced by the citation of her initials "TAC" in the morphospecies name. There is no evidence that any member of the genus *Haplostethops* Casey occurs in the Lower Rio Grande Valley of Texas.

Classification
Family: Curculionidae
Subfamily: Baridinae
Tribe: Madopterini

Literature Cited
Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

O'Brien, C. W. and G. J. Wibmer. 1982. Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America, and the West Indies (Coleoptera: Curculionoidea). Memoirs of the American Entomological Institute (34): i-ix + 382 pp.

Valid name

Notolomus sp. 1

Synonymy/catalog
Notolomus sp. 1 Carlow, 1997:76
Andranthobius sp. Carlow, 1997:77, fig. 23
Notolomus sp. TAC 1: Bender et al., 2005:774
Andranthobius sp. TAC 1: Bender et al., 2005:774

Other than Carlow (1997 unpublished thesis) and the subsequent list in Bender et al. (2005), the occurrence of the genus *Notolomus* in Texas is not reported in the literature. This *Notolomus* species is not one of the three named species presently recorded from the southeastern United States, including *N. variegatus* (Suffrian), a West Indian species only recently recorded from Florida, and *N. basalis* LeConte, a species that is very similar in general appearance to *N.* sp. 1 of this report. The application if "*Notolomus* sp. 1" of Carlow (1997) is clear from the few descriptive notes included in her thesis. Her record of *Andranthobius* sp. from southern Texas is based on an incorrectly identified specimen in the TAMU Insect Collection of *N.* sp. 1 that carries her determination "*Andranthobius* sp. Det. T. Carlow 1991." Examination of that specimen and other material from the Lower Rio Grande Valley for the preparation of this report, confirms that her *Notolomus* sp. 1 and *Andranthobius* sp. are the same unidentified species of *Notolomus*. There are several other named and un-named species of *Notolomus* known to weevil workers (Franz 2006) and it is possible that *N.* sp. 1 from the Brownsville area is one of these. A taxonomic revision of the genus is needed.

Classification
Family: Curculionidae
Subfamily: Curculioninae
Tribe: Derelomini
Subtribe: Notolomina
The subfamily and tribal placement of this genus has been somewhat variable in different weevil classifications: Erirhininae: Derelomini (Kissinger 1964), Petalochilinae (O'Brien and Wibmer 1982), and Curculioninae: Derelomini (Alonso-Zarazaga and Lyal 1999, Anderson 2002). This report follows the last cited classification. Classification within the Derelomini was addressed in the phylogenetic study of the tribe by Franz (2006) who established a subtribe classification system placing *Notolomus*, *Andranthobius* Kuschel, and two other genera in the subtribe Notolomina.

Diagnostic remarks
This is a small, yellowish-brown, immaculate, non-squamose weevil. The body is oblong and bluntly rounded anteriorly and posteriorly, with a length of 2.2-2.4 mm and the greatest width across the elytral mid-length at 1.0-1.2 mm. The rostrum is as long as the prothorax and weakly curved in lateral view. The antennal scape is long, as long as the remainder of the antenna, and when at rest just reaches the lower margin of the eye. The eyes are protuberant and a little symmetrical in that they bulge more strongly on their

dorsal margins. The disc of the pronotum is uniformly and moderately punctate. The prothorax is sexually dimorphic, the male having a weakly developed angle before the anterolateral corner. The degree to which this angle is developed is variable but some angle is always present in males. The pronotal margin of the female is tapered smoothly to the anterolateral corner. The elytra are covered with very short and sparse appressed hairs and the surface is dull due to fine microsculpture. The disc of each elytron has fine punctures aligned in nine unimpressed rows. The prosternal process is simple and depressed behind the procoxae. The procoxae are nearly contiguous. Each tarsal claw has a weak prebasal angle or tooth.

The genus *Notolomus* is keyed in the standard keys to North American weevil genera (Kissinger 1964, Anderson 2002). The genus needs taxonomic revision and includes a number of undescribed species found in the West Indies (Franz 2009).
A color image of a live specimen of *Notolomus* sp. 1 is available on the web [http://bugguide.net/node/view/289705] (last accessed 8/31/2009).

Historic Occurrence Records

1) From literature: See "specimen records" on attached Excel spreadsheet.

2) From specimens examined: See "specimen records" on attached Excel spreadsheet.

3) From communicated records: None.

Known Range

Brownsville area of Texas (Cameron County). A taxonomic revision of the species of *Notolomus* is needed before the full range of this species can be determined.

Biology, Host, Substrate, Habitat Data

1) From literature: Carlow (1997) stated that this species has been collected on *Sabal mexicana* Mart.

2) From specimens: Data from specimens examined for this report are … "at MV and blacklight," and "at UV lights."

3) From communicated records: This species was collected in the Sabal Palm Grove by beating *Bumelia* that was in bloom (E. G. Riley, pers. obser.).

Biology, Host, Substrate, Habitat Data by Inference (based on knowledge of related species)

Notolomus species are known to be associated with the blooms of various genera of palms (Anderson 1992) where they are apparently involved with pollination (Brown 1976, Franz 2006). In Florida, adults of *N. basalis* LeConte were reared from larvae collected from flower buds of saw palmetto, *Serenoa repens* (Bartr.) Small (Anderson 1992).

Adult Phenology in Texas

1) Number of compiled Texas collecting events by month: April (3), July (2), October (2).

2) Year of most recent known collection in the Lower Rio Grande Valley: 1994.

Literature Cited

Alonso-Zarazaga, M. A. and C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera). Entomopraxis, Barcelona. 315 pp.

Anderson, R. S. 1992. Curculionoidea of southern Florida: an annotated checklist (Coleoptera: Curculionoidea [excluding Curculionidae: Scolytinae, Platypodinae]). Insecta Mundi 6(3-4): 193-248.

Anderson, R. S. 2002. Curculionidae Latreille, 1802, pp. 722-815, *in* Arnett, R. H., M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea. Volume 2. CRC Press. xiv + 1-861 pp.

Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Brown, K. E. 1976. Ecological studies on the cabbage palm, *Sabal palmetto*. Principes 20: 3-10.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

Franz, N. M. 2006. Towards a phylogenetic system of derelomine flower weevils (Coleoptera: Curculionidae). Systematic Entomology 31: 220-287.

Kissinger, D. G. 1964. Curculionidae of America north of Mexico: a key to the genera. South Lancaster, MA. Taxonomic Publications. v + 1-143 pp.

O'Brien, C. W. and G. J. Wibmer. 1982. Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America, and the West Indies (Coleoptera: Curculionoidea). Memoirs of the American Entomological Institute (34): i-ix + 382 pp.

Valid name

Notolomus sp. 2

Synonymy/catalog
Notolomus sp. 2 Carlow, 1997:77
Notolomus sp. TAC 2: Bender et al., 2005:774

Classification
Family: Curculionidae
Subfamily: Curculioninae
Tribe: Derelomini
Subtribe: Notolomina
The subfamily and tribal placement of this genus has been somewhat variable in different weevil classifications: Erirhininae: Derelomini (Kissinger 1964), Petalochilinae (O'Brien and Wibmer 1982), and Curculioninae: Derelomini (Alonso-Zarazaga and Lyal 1999, Anderson 2002). This report follows the last cited classification. Classification within the Derelomini was addressed in the phylogenetic study of the tribe by Franz (2006) who established a subtribe classification system placing *Notolomus*, *Andranthobius* Kuschel, and two other genera in the subtribe Notolomina.

Diagnostic remarks
This is a relatively large species of *Notolomus* with the body length 3.6-3.7 mm and the greatest width 1.6-1.7 mm across the elytra at mid-length. The body is oblong and bluntly rounded anteriorly and posteriorly, non-squamose, and the ground color is light brownish with a transverse series of small, irregular dark maculae forming a post-median band on the elytra. In the few specimens seen, the dark elytral pattern is variably expressed. An irregular dark macula occupies most of the pronotal disc and embraces the posterior pronotal margin. The rostrum is as long as the prothorax and weakly curved in lateral view. The antennal scape is almost as long as the remainder of the antenna and when at rest just reaches the lower margin of the eye. The eyes are not protuberant. The disc of the pronotum is uniformly and moderately punctate. The male has a rather strongly developed angle before the anterolateral corner of the prothorax. The elytra are covered with very short, sparse, appressed hairs and the surface is dull due to fine microsculpture. The disc of each elytron has punctures aligned in nine weakly impressed striae. The intervals between striae are irregularly punctate with punctures almost as large as those aligned in the striae. The prosternal process is simple and depressed behind the procoxae. Procoxae are contiguous. Each tarsal claw has a small triangular prebasal tooth.

The genus *Notolomus* is keyed in the standard keys to North American weevil genera (Kissinger 1964, Anderson 2002). The genus needs taxonomic revision and includes a number of undescribed species found in the West Indies (Franz 2009).

Historic Occurrence Records

1) From literature: See "literature records" on attached Excel spreadsheet.

2) From specimens examined: See "specimen records" on attached Excel spreadsheet.

3) From communicated records: None.

Known Range

Brownsville area of Texas (Cameron County). A taxonomic revision of the species of *Notolomus* is needed before the full range of this species can be determined.

Biology, Host, Substrate, Habitat Data

1) From literature: None.

2) From specimens: A specimen intercepted at Brownsville from Mexico is labeled "*Nicotiana tabacum* (leaf)" and a specimen collected by H. S. Barber in 1904 is labeled "in bracts of live palm."

3) From communicated records: None.

Biology, Host, Substrate, Habitat Data by Inference (based on knowledge of related species)

Notolomus species are known to be associated with the blooms of various genera of palms (Anderson 1992) where they are apparently involved with pollination (Brown 1976, Franz 2006). In Florida, adults of *N. basalis* LeConte were reared from larvae collected from flower buds of saw palmetto, *Serenoa repens* (Bartr.) Small (Anderson 1992).

Adult Phenology in Texas

1) Number of compiled Texas collecting events by month: June (3), July (1), October (1).

2) Year of most recent known collection in the Lower Rio Grande Valley: 1993.

Literature Cited

Alonso-Zarazaga, M. A. & C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera). Entomopraxis, Barcelona. 315 pp.

Anderson, R. S. 1992. Curculionoidea of southern Florida: an annotated checklist (Coleoptera: Curculionoidea [excluding Curculionidae: Scolytinae, Platypodinae]). Insecta Mundi 6(3-4): 193-248.

Anderson, R. S. 2002. Curculionidae Latreille, 1802, pp. 722-815, *in* Arnett, R. H., M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea. Volume 2. CRC Press. xiv + 1-861 pp.

Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Brown, K. E. 1976. Ecological studies on the cabbage palm, *Sabal palmetto*. Principes 20: 3-10.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

Franz, N. M. 2006. Towards a phylogenetic system of derelomine flower weevils (Coleoptera: Curculionidae). Systematic Entomology 31: 220-287.

Kissinger, D. G. 1964. Curculionidae of America north of Mexico: a key to the genera. South Lancaster, MA. Taxonomic Publications. v + 1-143 pp.

O'Brien, C. W. and G. J. Wibmer. 1982. Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America, and the West Indies (Coleoptera: Curculionoidea). Memoirs of the American Entomological Institute (34): i-ix + 382 pp.

Valid name

Platyomus flexicaulis (Schaeffer)

Synonymy/catalog
Pseudocyphus flexicaulis Schaeffer, 1905:179
Pseudocyphus flexicaulis: Lona, 1938:530
Pseudocyphus flexicaulis: Kissinger, 1964:21
Pseudocyphus flexicaulis: O'Brien & Wibmer, 1982:54
Platyomus flexicaulis: Carlow, 1997:41
Platyomus flexicaulis: Anderson, 2002:778
Platyomus flexicaulis: Bender et al., 2005:774

Classification
Family: Curculionidae
Subfamily: Entiminae
Tribe: Naupactini
Platyomus Sahlberg belongs to the diverse group known as the "broad-nosed" weevils that are now classified in a single subfamily, the Entiminae (Alonso-Zarazaga and Lyal 1999, Anderson 2002). In literature before Kuschel (1995), the group was commonly treated by different authors as a variable number of separate subfamilies (4 subfamilies in Wibmer and O'Brien 1986, 6 in O'Brien and Wibmer 1982, 6 in Kissinger 1964). In these more fragmented interpretations of broad-nosed weevil classification the genus *Platyomus* (and/or its junior synonym *Pseudocyphus* Schaeffer) has been placed in the tribe Phyllobiini. In the modern single-subfamily system, it is removed from the Phyllobiini, a tribe that is still maintained as valid, and placed in the Naupactini (Alonso-Zarazaga and Lyal 1999, Anderson 2002).

Diagnostic remarks
This is one of the broad-nosed weevils (subfamily Entiminae) and has the short stout rostrum typical of this large diverse group. It is oblong-elongate with prominent elytral humeri and a subcylindrical prothorax that is markedly narrower that the elytral base. Body length is 6.7-7.9 mm and greatest width is across the elytral humeri at 2.8-3.6 mm. The body, including appendages, is densely covered with appressed gray-colored scales of differing shades that produce an irregular "patchy" pattern on the dorsum. Important characters for separating this species from other genera of broad-nosed weevils found in the LRGV include the free rostrum, not recessed in prosternal cavity; mandibles short and stout each bearing a "scar" from the loss of the deciduous cusp from the other margin; side margin of prothorax straight, not arcuate to form a postocular lobe; lateral margin of prothorax without postocular vibrisse (i. e., without long, specialized setae that project forward toward eye); scrobe is more-or-less lateral, not entirely dorsal; the antennal scape is long and strongly clavate, longer than the width of rostrum; and the dorsum of rostrum has a large pit, the bottom of which is flat and glabrous (shining black, without scales). The rostral pit is a striking character and will distinguish this species from all other broad-nosed weevils thus far known from the Lower Rio Grande Valley. Among broad-nosed weevils of that region, this species is most similar in general appearance to

Brachystylus microphthalmus Champion but can be distinguished by the rostral pit, different elytral pattern of gray-colored scales, and by the larger eyes.

The genus is keyed in the standard works on North American weevil genera (Kissinger 1964, Anderson 2002) but is it difficult to key successfully in both of these keys due to fine distinctions in the later couplets that require authoritatively determined comparative material of related genera to interpret correctly. Color images of this species are available on the web [http://www.texasento.net/Platyomus.htm] (last accessed 8/31/2009).

Historic Occurrence Records

1) From literature: See "literature records" on attached Excel spreadsheet.

2) From specimens examined: See "specimen records" on attached Excel spreadsheet.

3) From communicated records: None.

Known Range

Brownsville area of Texas (Cameron County) and Mexico (Tamaulipas).

Biology, Host, Substrate, Habitat Data

1) From literature: Schaeffer's original material was taken ... "from branches of *Acacia flexicaulis*" [=*Ebenopsis ebano* (Berl.) Barneby & Grimes (Fabaceae)].

2) From specimens: Specimens examined were labeled, … "taken on *Mimosa monancistra*", "possibly on mesquite", and some that were collected by George Vogt are labeled "on *Pithecolobium flexicaulis* Benth Coulter, on coppice." *Pithecellobium flexicaule* is yet another out-dated name for *Ebenopsis ebano*, Texas ebony.

3) From communicated records: None.

Biology, Host, Substrate, Habitat Data by Inference (based on knowledge of related species)

Most species of adult entimine weevils are leaf feeders and their larvae are also ectophytic on plants, most probably feeding on the subterranean portions of their food plants, although this aspect of there life history is largely presumptive. Adult entimine weevils are known to feed on a great number of different, often un-related, plant species, and often a single beetle species may feed on a diverse array of unrelated plant species. The entimine weevil *Artipus floridanus* Horn of southern Florida is an extreme example, known to feed on over 150 plant species in many plant families (Woodruff 1982). Some genera of the Naupactini are known to contain species that are parthenogenetic and some species have become established in various areas outside their native ranges. Anderson (2002) notes that a few of the North American genera of Naupactini show a preference for feeding on plants of the family Fabaceae.

Adult Phenology in Texas

1) Number of compiled Texas collecting events by month: June (3), July (4), September (1).

2) Year of most recent known collection in the Lower Rio Grande Valley: 1995.

Literature Cited

Alonso-Zarazaga, M. A. & C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera). Entomopraxis, Barcelona. 315 pp.

Anderson, R. S. 2002. Curculionidae Latreille, 1802, pp. 722-815, *in* Arnett, R. H., M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea. Volume 2. CRC Press. xiv + 1-861 pp.

Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

Kissinger, D. G. 1964. Curculionidae of America north of Mexico: a key to the genera. South Lancaster, MA. Taxonomic Publications. v + 1-143 pp.

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Woodruff, R. E. 1982. *Artipus floridanus* Horn, another weevil pest of citrus. Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Entomology Circular no. 237: 1-2.

Valid name

Pseudopentarthrum sp. 1

Synonymy/catalog
Allopentarthrum sp. 1 Carlow, 1997:159
Allopentarthrum sp. TAC 1: Bender et al., 2005:774

The genus *Allopentarthrum* Kuschel in Wibmer and O'Brien contains but a single Neotropical species (Wibmer and O'Brien 1986). The reason Carlow (1997) used this name for the two undetermined cossonine weevils she listed from the Lower Rio Grande Valley is unknown. Both undetermined weevil species treated by Carlow under this name belong to *Pseudopentarthrum* Wollaston (Anderson, pers. comm. 2008), and they will key to this genus in Kissinger (1964) and Anderson et al. (2002).

Carlow's concept for morphospecies "*Allopentarthrum* sp. 1" as separable from her "*Allopentarthrum* sp. 2" is untraceable. Her work is an annotated faunal list and not a taxonomic monograph. She did give some supposed coloration differences but this distinction does not hold true in the material studied for the preparation of this report. She apparently left no determination labels affixed to specimens for either morphospecies. Both "*Allopentarthrum*" species were listed by Carlow from the same Lower Rio Grande Valley localities.

Classification
Family: Curculionidae
Subfamily: Cossoninae
Tribe: Onycholipini
The classification of the genus *Pseudopentarthrum* as a member of the Cossoninae is not controversial, as this and most of the included genera fall within the long-held definition of this subfamily. Placement in the tribe Onycholipini follows Alonso-Zarazaga and Lyal (1999) and Anderson (2002).

Diagnostic remarks
This species is 2.2-2.4 mm in length and 0.8-1.0 mm wide, with the greatest width across the apical third of the elytra. Body shape is elongate, subparallel sided, and subcylindrical. The dorsum lacks vestiture and is deeply punctate with the punctures of the elytra in single rows, one row on each elytral interval. The color is shining black with the legs, especially the tarsi, and the antennae tinged with reddish. The rostrum is free, not received into a channel or groove on the prosternum, its margins are subparallel and not obviously tapering in anterior view. The distal portion of the rostrum in anterior view is weakly dilated along the posterior margin. The antennal funicle is composed of five segments, including the enlarged second antennal segment which is as wide as the antennal club. Each tibia is armed with a large curved spine arising from the outer-apical margin. This species is likely to be confused with two other *Pseudopentarthrum* species and one superficially similar cossonine genus that occur in the Lower Rio Grande Valley of Texas.

Pseudopentarthrum robustum (Casey) was reported from the Lower Rio Grande Valley by Carlow (1997). This species is notably larger (length 2.6-3.6 mm) than *P*. sp. 1 and has a slightly stouter body form (length 2.35-2.6 times maximum width vs. 2.73-2.84 times maximum width for *P*. sp. 1). Males can be further distinguished by the rear margin of the buccal cavity that bears a stout median projection that is accentuated by a deep emargination on each side. These modifications are lacking in females of *P. robustum* and both males and females of *P*. sp. 1.

A second unidentified species of *Pseudopentarthrum* exists in the Lower Rio Grande Valley and is distinguish from both *P. robustum* and *P*. sp. 1 by the general shape of its body. It is a slender species with a narrower elytral base and the sides of the elytral weakly arcuate. The sides of the elytra of the other two species are very nearly parallel. Furthermore, *P*. sp. 2 is distinguished from *P. robustum* and *P*. sp. 1 by having a longer rostrum which is more strongly curved in profile.

The three species of *Pseudopentarthrum* known from the Lower Rio Grande Valley could be confused with the superficially similar *Tomolips quercicola* (Boheman), another black, subcylindrical cossonine weevil occurring the in the region. They differ from *Tomolips quercicola* in having a subparallel-sided rostrum when viewed anteriorly, not broad at base and tapering towards the apex, and by their complete lack of small denticles on the elytral intervals, that on *T. quercicola* are distinct and strongly developed on the posteriorly declivity.

The genus is keyed in the standard works on North American weevil genera (Kissinger 1964, Anderson 2002). A thorough taxonomic revision of the species of this genus is need, as there is no comprehensive key to the species. Images are not available for *Pseudopentarthrum* sp. 1.

Historic Occurrence Records

1) From literature: See "literature records" on attached Excel spreadsheet.

2) From specimens examined: See "specimen records" on attached Excel spreadsheet.

3) From communicated records: None.

Known Range

Southern Texas (Cameron, Colorado, Duval, Hidalgo, Nueces, and Victoria counties). A taxonomic revision of the species of *Pseudopentarthrum* is needed before the full range of this species can be determined.

Biology, Host, Substrate, Habitat Data

1) From literature: none.

2) From specimens: Specimens collected by George Vogt are labeled, … "in rotten fungus filled log, *Leucaenia pulverulenta* Schl. Benth," "cut from rotten leaf stem, *Sabal texana* Beae.," "under bark *Celtis laevigata* Wild." and "on *Celtis laevigata* Wild., cut from dead snag." A single specimen from Brownsville is labeled "pecan."

3) From communicated records: The various specimens collected by me in the Sabal Palm Grove were taken by random beating (E. G. Riley, pers. obser.)

Biology, Host, Substrate, Habitat Data by Inference (based on knowledge of related species)

Little is known of the biology of *Pseudopentarthrum* species other than various substrates from which adults beetles were collected. From these records, it is evident that these beetles are associated with dead plant tissues. Kissinger (1964) reported that "adults were found on hickory log and in dead wood of scar on hackberry." Anderson (1992) recorded a diverse array of substrate records for the four *Pseudopentarthrum* species recorded from southern Florida: "dead limbs of *Annona glabra* L.; dead moon-vine, *Ipomoea tuba* (Schlect.) G Don.; in dune crest hardwood litter berlese samples; beating *Tournefortia gnaphalodes* (L.) R. Brown (Boraginaceae); beating dead limbs of *Annona glabra* L.; beating dead *Suriana maritima* L. (Surianaceae); on dead leaves of cabbage palmetto; on dead limbs of buttonwood, *Conocrapus erecta* L. (Combretaceae); on Spanish moss; on dead vines in dense hammocks; under debris on beach; and beating miscellaneous dead vegetation in hardwood hammock."

One species is known to develop in two unrelated plants. Adults of *P. atrolucens* (Casey) were reared from *Rhiziphora mangle* L. (Rhizophoraceae) and collected from inside the dead stems of palmetto fronds (Anderson 1992). Blatchley (1925) suspected that *Ipomoea tuba* was the larval host of *P. anonus* (Blatchley).

Adult Phenology in Texas

1) Number of compiled Texas collecting events by month: February (2), March (6), April (3), May (6), June (5), August (1), September (3), October (2).

2) Year of most recent known collection in the Lower Rio Grande Valley: 2002.

Literature Cited

Alonso-Zarazaga, M. A. and C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera). Entomopraxis, Barcelona. 315 pp.

Anderson, R. S. 1992. Curculionoidea of southern Florida: an annotated checklist (Coleoptera: Curculionoidea [excluding Curculionidae: Scolytinae, Platypodinae]). Insecta Mundi 6(3-4): 193-248.

Anderson, R. S. 2002. Curculionidae Latreille, 1802, pp. 722-815, *in* Arnett, R. H., M. C. Thomas, P. E. Skelley, and J. H. Frank (eds.). American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea. Volume 2. CRC Press. xiv + 1-861 pp.

Bender, S., S. Shelton, K. C. Bender, and A. Kalmbach (eds.). 2005. Texas Comprehensive Wildlife Strategy, 2005-2010. Texas Parks and Wildlife, Austin. xv + 1131 pp.

Blatchley, W. S. 1925. Notes on the Rhynchophora of eastern North America with descriptions of new species, III. Journal of the New York Entomological Society 33: 87-113.

Carlow, T. A. 1997. A faunal survey and zoogeographic analysis of the Curculionoidea (Coleoptera) (excluding Anthribidae, Platypodinae, and Scolytinae) of the Lower Rio Grande Valley of Texas. unpublished thesis, Texas A&M University. xi + 1-274 pp.

Kissinger, D. G. 1964. Curculionidae of America north of Mexico: a key to the genera. South Lancaster, MA. Taxonomic Publications. v + 1-143 pp.

Wibmer, G. J. and C. W. O'Brien. 1986. Annotated checklist of the weevils (Curculionidae *sensu lato*) of South America (Coleoptera: Curculionoidea). Memoirs of the American Entomological Institute 39: xvi + 1-563.

Valid name

Pseudopentarthrum sp. 2

Synonymy/catalog
Allopentarthrum sp. 2 Carlow, 1997:159
Allopentarthrum sp. TAC 2: Bender et al., 2005:774

The genus *Allopentarthrum* Kuschel in Wibmer and O'Brien contains but a single Neotropical species (Wibmer and O'Brien 1986). The reason Carlow (1997) used this name for the two undetermined cossonine weevils she listed from the Lower Rio Grande Valley is unknown. Both undetermined weevil species treated by Carlow under this name belong to *Pseudopentarthrum* Wollaston (Anderson, pers. comm. 2008), and they will key to this genus in Kissinger (1964) and Anderson et al. (2002).

Carlow's concept for morphospecies "*Allopentarthrum* sp. 2" as separable from her "*Allopentarthrum* sp. 1" is untraceable. Her work is an annotated faunal list and not a taxonomic monograph. She did give some supposed coloration differences but this distinction does not hold true in the material studied for the preparation of this report. She apparently left no determination labels affixed to specimens for either morphospecies. Both "*Allopentarthrum*" species were listed by Carlow from the same Lower Rio Grande Valley localities.

Classification
Family: Curculionidae
Subfamily: Cossoninae
Tribe: Onycholipini
The classification of the genus *Pseudopentarthrum* as a member of the Cossoninae is not controversial, as this and most of the included genera fall within the long-held definition of this subfamily. Placement in the tribe Onycholipini follows Alonso-Zarazaga and Lyal (1999) and Anderson (2002).

Diagnostic remarks
This species is 1.9-2.5 mm in length and 0.8-1.0 mm wide, with the greatest width across the apical third of the elytra. Body shape is elongate, subparallel sided, and subcylindrical. The dorsum lacks vestiture and is deeply punctate with the punctures of the elytra in single rows, one row on each elytral interval. The color is shining black with the legs, especially the tarsi, and the antennae tinged with reddish. The rostrum is free, not received into a channel or groove on the prosternum, its margins are subparallel and not obviously tapering in anterior view. The distal portion of the rostrum in anterior view is weakly dilated along the posterior margin. The antennal funicle is composed of five segments, including the enlarged second antennal segment which is as wide as the antennal club. Each tibia is armed with a large curved spine arising from the outer-apical margin. This species is likely to be confused with two other *Pseudopentarthrum* species and one superficially similar cossonine genus that occur in the Lower Rio Grande Valley of Texas.

Pseudopentarthrum robustum (Casey) was reported from the Lower Rio Grande Valley by Carlow (1997). This species is notably larger (length 2.6-3.6 mm) than *P*. sp. 2 and has a slightly stouter body form (length 2.35-2.6 times maximum width vs**.** 2.6-2.95 times maximum width for *P*. sp. 2). Males can be further distinguished by the rear margin of the buccal cavity that bears a stout median projection that is accentuated by a deep emargination on each side. These modifications are lacking in females of *P. robustum* and both males and females of *P*. sp. 2.

A second unidentified species of *Pseudopentarthrum* exists in the Lower Rio Grande Valley and is distinguish from *P*. sp. 2 by the general shape of its body. Unlike P. sp. 2 that has weakly arcuate elytral margins that gradually narrow anteriorly, the elytral margins of *P*. sp. 1 are parallel and equally broad at the base. Furthermore, *P*. sp. 2 is distinguished from both *P. robustum* and *P*. sp. 1 by having a longer rostrum which is more strongly curved in profile.

The three species of *Pseudopentarthrum* known from the Lower Rio Grande Valley could be confused with the superficially similar *Tomolips quercicola* (Boheman), another black, subcylindrical cossonine weevil occurring the in the region. They differ from *Tomolips quercicola* in having a subparallel-sided rostrum when viewed anteriorly, not broad at base and tapering towards the apex, and by their complete lack of small denticles on the elytral intervals, that are distinct and strongly developed on the posteriorly declivity on *T. quercicola*.

The genus is keyed in the standard works on North American weevil genera (Kissinger 1964, Anderson 2002). A thorough taxonomic revision of the species of this genus is needed, as there is no comprehensive key to the species. Most other United States species are recorded from subtropical Florida (Anderson 1992). Images of *Pseudopentarthrum* sp. 2 are available on the web [http://bugguide.net/index.php?q=search&keys=pseudopentarthrum] (last accessed 8/31/2009).

Historic Occurrence Records

1) From literature: See “literature records” on attached Excel spreadsheet.

2) From specimens examined: See “specimen records” on attached Excel spreadsheet.

3) From communicated records: None.

Known Range

Brownsville area of Texas (Cameron County). A taxonomic revision of the species of *Pseudopentarthrum* is needed before the full range of this species can be determined.

Biology, Host, Substrate, Habitat Data

1) From literature: None.

2) From specimens: A specimen collected by H. S. Barber is labeled “vines,” and another “at lights.”

3) From communicated records: The various specimens collected by me in the Sabal Palm Grove were taken by random beating (E. G. Riley, pers. obser.)

Biology, Host, Substrate, Habitat Data by Inference (based on knowledge of related species)

Little is known of the biology of *Pseudopentarthrum* species other than various substrates from which adults beetles were collected. From these records, it is evident that these beetles are associated with dead plant tissues. Kissinger (1964) reported that "adults were found on hickory log and in dead wood of scar on hackberry." Anderson (1992) recorded a diverse array of substrate records for the four *Pseudopentarthrum* species recorded from southern Florida: "dead limbs of *Annona glabra* L.; dead moon-vine, *Ipomoea tuba* (Schlect.) G Don.; in dune crest hardwood litter berlese samples; beating *Tournefortia gnaphalodes* (L.) R. Brown (Boraginaceae); beating dead limbs of *Annona glabra* L.; beating dead *Suriana maritima* L. (Surianaceae); on dead leaves of cabbage palmetto; on dead limbs of buttonwood, *Conocrapus erecta* L. (Combretaceae); on Spanish moss; on dead vines in dense hammocks; under debris on beach; and beating miscellaneous dead vegetation in hardwood hammock."

One species is known to develop in two unrelated plants. Adults of *P. atrolucens* (Casey) were reared from *Rhiziphora mangle* L. (Rhizophoraceae) and collected from inside the dead stems of palmetto fronds (Anderson 1992). Blatchley (1925) suspected that *Ipomoea tuba* was the larval host of *P. anonus* (Blatchley).

Adult Phenology in Texas

1) Number of compiled Texas collecting events by month: April (3), May (5), June (7), July (4), September (4), October (3).

2) Year of most recent known collection in the Lower Rio Grande Valley: 1995.

Literature Cited

Alonso-Zarazaga, M. A. and C. H. C. Lyal. 1999. A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera). Entomopraxis, Barcelona. 315 pp.

Anderson, R. S. 1992. Curculionoidea of southern Florida: an annotated checklist (Coleoptera: Curculionoidea [excluding Curculionidae: Scolytinae, Platypodinae]). Insecta Mundi 6(3-4): 193-248.

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Blatchley, W. S. 1925. Notes on the Rhynchophora of eastern North America with descriptions of new species, III. Journal of the New York Entomological Society 33: 87-113.

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Kissinger, D. G. 1964. Curculionidae of America north of Mexico: a key to the genera. South Lancaster, MA. Taxonomic Publications. v + 1-143 pp.

Wibmer, G. J. and C. W. O'Brien. 1986. Annotated checklist of the weevils (Curculionidae *sensu lato*) of South America (Coleoptera: Curculionoidea). Memoirs of the American Entomological Institute 39: xvi + 1-563.