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## CHECKLIST OF SELECTED WORLD SPECIES OF DESCRIBED FIRST AND/OR FINAL LARVAL INSTARS (COLEOPTERA: BRUCHIDAE)

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### ABSTRACT

The checklist of selected world species includes only those citations in which the first and/or last larval stages are described with sufficient detail to be useful. References to these stages are included for 122 species representing 29 genera and the 6 bruchid subfamilies.

Because of recent interest by the author and by other currently active larval taxonomists the following checklist has been assembled. The publications cited are only those that included illustrations and/or descriptions with sufficient details so that they would be useful in distinguishing closely related species. In general, the citations are from recognized publications (reports are not included) and are those wherein at least the head capsule and/or associated parts, if not the entire larva, were described. Such a list should serve as an invaluable tool for those working in the area of larval phylogenies (Pfaffenberger 1980, 1981, 1983; Pfaffenberger *et al.* 1984) and will hopefully stimulate similar interests in others. Moreover, adult taxonomists, bruchid ecologists, port identifiers, and even check point personnel may find it of value.

The selected list summary indicates that all 6 subfamilies, 29 genera and 122 species are represented by descriptions of first and/or final instar larvae. Of the 122 species cited, 76 have the first stage described, 93 have the final stage described, and 47 have both stages described (several species have more than one reference given). The first and/or final instars of several species are currently being described by the author and are included in the list summary totals; these are indicated as in preparation (in prep.). Species within a genus and genera within a subfamily are arranged alphabetically.

### PACHYMERINAE

#### *Caryedon*

<i>acaciae</i>	final	Arora 1978
<i>albonotatum</i>	1st & final	Prevett 1971
<i>atrophumerale</i>	1st & final	Prevett 1971
<i>cassiae</i>	1st & final	Prevett 1971
<i>conformis</i>	1st & final	Prevett 1971
<i>fasciatum</i>	1st & final	Prevett 1971
<i>fuliginosum</i>	1st & final	Prevett 1971
<i>fuscus</i>	final	Pfaffenberger (in prep.)
<i>immaculatum</i>	1st & final	Prevett 1971
<i>languidus</i>	final	Arora 1978
<i>lineatonota</i>	final	Arora 1978
<i>longipennis</i>	1st & final	Prevett 1971
<i>lunatum</i>	1st & final	Prevett 1971

<i>montanus</i>	final	Arora 1978
<i>opacus</i>	final	Arora 1978
<i>orineus</i>	final	Arora 1978
<i>pallidus</i>	1st & final	Prevett 1971
<i>prosopididis</i>	final	Arora 1978
<i>serratus</i>	1st & final	Prevett 1967, 1971; Arora 1978
<i>palaestinus</i>	1st	Pfaffenberger 1984
<i>Caryoborus</i>		
<i>serripes</i>	final	Pfaffenberger (in prep.)
<i>Caryobruchus</i>		
<i>buscki</i>	final	Pfaffenberger 1974
<i>gleditsiae</i>	1st	Pfaffenberger & Johnson 1976
<i>veseyi</i>	final	Pfaffenberger (in press, b)
<i>Pachymerus</i>		
<i>cardo</i>	1st & final	Prevett 1968, 1971
sp.	final	Pfaffenberger 1974
<b>AMBLYCERINAE</b>		
<i>Amblycerus</i>		
<i>acapulcensis</i>	1st	Pfaffenberger & Johnson 1976
	final	Pfaffenberger 1979
<i>caryoboriformis</i>	1st & final	Terán & Muruaga de L'Argentier 1979
<i>galapagoensis</i>	1st & final	Pfaffenberger (in prep.)
<i>guazumicola</i>	final	Pfaffenberger (in prep.)
<i>hoffmanseggi</i>	1st & final	Terán & Muruaga de L'Argentier 1981
<i>obscurus</i>	final	Pfaffenberger (in prep.)
<i>robiniae</i>	1st & final	Pfaffenberger 1979
<i>spondiae</i>	final	Pfaffenberger (in prep.)
<i>testaceus</i>	1st & final	Terán 1984
<i>vitis</i>	1st	Pfaffenberger (in prep.)
<i>Spermophagus</i>		
<i>albofasciatus</i>	final	Arora 1978
<i>gossypii</i>	1st & final	Prevett 1971
<i>Zabrotes</i>		
<i>subfasciatus</i>	1st	Pfaffenberger & Johnson 1976
	final	Pfaffenberger (in press, b); Arora 1978
	1st & final	Steffan 1945; Zacher 1930
<b>EUBAPTINAE</b>		
<i>Eubaptus</i>		
<i>rufithorax</i>	1st	Terán 1967
<b>KYTORHININAE</b>		
<i>Kytorhinus</i>		
<i>quadriplagiatus</i>	final	Terán 1967; Pfaffenberger (in prep.)
<b>RHAEBINAE</b>		
<i>Rhaebus</i>		
<i>mannerheimi</i>	final	Kingsolver & Pfaffenberger 1980
<b>BRUCHINAE</b>		
<i>Acanthoscelides</i>		
<i>armitagei</i>	final	Pfaffenberger (in prep.)

<i>aureolus</i>	1st	Pfaffenberger & Johnson 1976
<i>baboquivari</i>	1st	Pfaffenberger & Johnson 1976
<i>chiricahuae</i>	1st	Pfaffenberger & Johnson 1976
<i>collusus</i>	1st	Pfaffenberger & Johnson 1976
<i>comptus</i>	1st & final	Terán & Muruaga de L'Argentier 1981
<i>macrophthalmus</i>	1st	Pfaffenberger & Johnson 1976
<i>mixtus</i>	1st	Pfaffenberger & Johnson 1976
<i>nigronotaticeps</i>	1st & final	Terán & Muruaga de L'Argentier 1980
<i>obrienorum</i>	1st	Pfaffenberger (in prep.)
<i>obtectus</i>	1st	Pfaffenberger 1984; Pfaffenberger & Johnson 1976; Daviault 1928
	final	Pfaffenberger (in press, <i>a,b</i> ); Daviault 1928
<i>prosopoides</i>	1st	Pfaffenberger (in press, <i>b</i> )
<i>pullus</i>	final	Pfaffenberger (in prep.)
<i>Algarobius</i>		Pfaffenberger & Johnson 1976
<i>prosopis</i>	1st	
<i>Bruchidius</i>		
<i>albizziae</i>	final	Arora 1978; Vats 1974 <i>b,c</i>
<i>andrewesi</i>	final	Arora 1978
<i>angustifrons</i>	final	Vats 1974 <i>c</i>
<i>ater</i>	1st & final	Parnell 1964
<i>atrolineatus</i>	1st & final	Prevett 1971
<i>aureus</i>	final	Arora 1978; Vats 1974 <i>c</i>
<i>baudoni</i>	1st & final	Prevett 1971
<i>biguttatus</i>	1st	Luca 1972
<i>cassiae</i>	final	Arora 1978; Vats 1974 <i>c</i>
<i>dimorphous</i>	final	Arora 1978
<i>fasciatus</i>	1st	Steffan 1946
<i>flavovirens</i>	final	Arora 1978
<i>lineolatus</i>	final	Vats 1974 <i>c</i>
<i>maculipygus</i>	final	Arora 1978; Vats 1974 <i>c</i>
<i>mimosae</i>	final	Arora 1978; Vats 1974 <i>b,c</i>
<i>multilineolatus</i>	final	Arora 1978
<i>perparvulus</i>	1st & final	Genduso 1956-57
<i>pygomaculatus</i>	final	Arora 1978
<i>sahlbergi</i>	final	Arora 1978
<i>saundersi</i>	final	Vats 1974 <i>c</i>
<i>schilskyi</i>	final	Arora 1978
<i>schoutedeni</i>	1st & final	Prevett 1971
<i>tephrosiae</i>	final	Arora 1978; Vats 1974 <i>c</i>
<i>urbanus</i>	final	Arora 1978; Vats 1974 <i>c</i>
<i>Bruchus</i>		
<i>brachialis</i>	final	Pfaffenberger 1977, (in press, <i>b</i> )
<i>lensis</i>	1st & final	Luca 1956
<i>pisorum</i>	final	Pfaffenberger 1977, (in press, <i>b</i> ); Arora 1978
<i>rufimanus</i>	1st	Riley 1891
<i>Callosobruchus</i>		Pfaffenberger 1977, (in press, <i>b</i> )
<i>analis</i>	final	
<i>chinensis</i>	final	
<i>maculatus</i>	1st & final	Arora 1978; Vats 1974 <i>a</i>
	final	Pfaffenberger (in press, <i>b</i> ); Arora 1978; Vats 1974 <i>a</i>
<i>quadrimaculatus</i>	final	Pfaffenberger (in prep.)

<i>rhodesianus</i>	1st & final	Prevett 1971
<i>subinnotatus</i>	1st & final	Prevett 1971; Pfaffenberger (in prep.)
<i>Caryedes brasiliensis</i>	1st & final	Pfaffenberger & Janzen 1984
<i>Cercidiestes ulkei</i>	1st	Pfaffenberger (in prep.)
<i>Conicobruchus albopubens</i>	final	Vats 1976; Arora 1978
<i>indicus</i>	final	Vats 1976; Arora 1978
<i>strangulatus</i>	1st & final	Prevett 1971
<i>Gibbobruchus mimus</i>	1st & final	Pfaffenberger (in prep.)
<i>Megacerus baeri</i>	1st & final	Muruaga de L'Argentier & Terán 1980
<i>cubicus</i>	1st	Pfaffenberger 1980
<i>discoidius</i>	1st & final	Pfaffenberger <i>et al.</i> 1984
<i>eulophus</i>	1st & final	Pfaffenberger <i>et al.</i> 1984
<i>insulatus</i>	1st & final	Pfaffenberger <i>et al.</i> 1984
<i>maculiventris</i>	1st & final	Pfaffenberger <i>et al.</i> 1984
<i>Merobruchus bicoloripes</i>	1st & final	Terán & Muruaga de L'Argentier 1981
<i>Mimosestes amicus</i>	1st	Pfaffenberger & Johnson 1976
<i>protractus</i>	1st	Pfaffenberger & Johnson 1976
<i>sallaei</i>	1st	Pfaffenberger & Johnson 1976
<i>Neltumius arizonensis</i>	1st	Pfaffenberger & Johnson 1976
<i>Pseudopachymerina lallemandi</i>	1st	Terán 1962; Luca 1963
<i>Sennius laminifer</i>	1st & final	Terán & Muruaga de L'Argentier 1979
<i>morosus</i>	1st	Pfaffenberger & Johnson 1976
<i>Specularius bridwelli</i>	final	Arora 1978
<i>impressithorax</i>	1st & final	Pfaffenberger (in prep.)
<i>maindroni</i>	final	Arora 1978
<i>Stator bisbimaculatus</i>	1st & final	Terán & Muruaga de L'Argentier 1979
<i>chihuahua</i>	1st	Pfaffenberger 1981
<i>generalis</i>	1st	Pfaffenberger 1981
<i>limbatus</i>	1st	Pfaffenberger & Johnson 1976; Pfaffenberger 1981
<i>pruininus</i>	1st	Pfaffenberger & Johnson 1976; Pfaffenberger 1981
<i>pygidialis</i>	1st	Pfaffenberger & Johnson 1976; Pfaffenberger 1981
<i>sordidus</i>	1st	Pfaffenberger 1981
<i>vachelliae</i>	1st	Pfaffenberger 1981
<i>Sulcobruchus kingsolveri</i>	final	Arora 1978
<i>Tuberculobruchus natalensis</i>	1st & final	Prevett 1971

## LITERATURE CITED

- ARORA, G. L. 1978. Taxonomy of the Bruchidae (Coleoptera) of northwest India Part II. Larvae. Oriental Insects, Supp. 8. 48 pp.
- DAVIAULT, L. 1928. Sur le developpement post-embryonnaire de la bruche du haricot: *Acanthoscelides obtectus* Say. Ann. Entomol. Soc. Fr. 97:105-132.
- GENDUSO, P. 1956-57. Osservazioni sul tonchio del trifoglio (*Bruchidius perparvulus* Boh.). Bull. Entomol. Agr. Inst. and Phytopath. Obser. 2:41-55.
- KINGSOLVER, J. M., AND G. S. PFAFFENBERGER. 1980. Systematic relationship of the genus *Rhaebus* (Coleoptera: Bruchidae). Proc. Entomol. Soc. Wash. 82:293-311.
- LUCA, Y. DE. 1956. Contributions a l'étude morphologique et biologique de *Bruchus lenthis* Frohl. Essais de lutte. Ann. de l'Inst. l'Agr. 10:1-94.
- . 1963. Aspect morphologique de la larve néonate de *Pseudopachymerus lallemandi* Marseul (Coléoptères, Bruchidés). Entomol. Berichten 23:37-40.
- . 1972. Biologie de *Bruchidius biguttatus* Ol. sur ciste (morphologie et ethologie larvaire - cycle). Ann. Soc. Hort. Hist. Nat. Hérault. 112:266-273.
- MURUAGA DE L'ARGENTIER, S., AND A. L. TERÁN. 1980. Observaciones sobre Bruchidae (Coleoptera) del noreste Argentino III. Estudios morfológicos y biológicos de *Megacerus (M.) baeri* Pic y *Acanthoscelides nigronotaticeps* (Pic), Bruchinae. Acta Zoologica Lilloana 36:57-75.
- PARNELL, J. R. 1964. The external morphology of the larvae and notes on the pupae of *Bruchidius ater* (Marsh.) (Col., Bruchidae) and *Apion fuscirostre* F. (Col., Curculionidae). Entomol. Mon. Mag. 100:83-87.
- PFAFFENBERGER, G. S. 1974. Comparative morphology of the final larval instar of *Caryobruchus buscki* and *Pachymerus* sp. (Coleoptera: Bruchidae: Pachymerinae). Ann. Entomol. Soc. Amer. 67:691-694.
- . 1977. Comparative descriptions of the final larval instar of *Bruchus brachialis*, *B. rufimanus*, and *B. pisorum* (Coleoptera: Bruchidae). Coleopts. Bull. 31:133-142.
- . 1979. Comparative description and bionomics of the first and final larval stages of *Amblycerus acapulcensis* Kingsolver and *A. robiniae* (Fabricius) (Coleoptera: Bruchidae). Coleopts. Bull. 33:229-238.
- . 1980. Descriptions, bionomics and phylogenetic discussion of the first instar larva of *Megacerus cubicus* (Motsch.) (Coleoptera: Bruchidae). J. Kan. Entomol. Soc. 53:350-356.
- . 1981. A comparative description and phenetic analysis of the first instar larvae of seven *Stator* species (Coleoptera: Bruchidae). Coleopts. Bull. 35:255-268.
- . 1983. Description and phylogenetic comments of the final instar of *Caryobruchus veseyi* (Horn) (Coleoptera: Bruchidae). Pan-Pac. Entomol. 58:240-244.
- . 1984. Description of first instar larva of *Caryedon palaestinus* Southgate, new status (Coleoptera: Bruchidae). Coleopts. Bull. 38:220-226.
- . Description, differentiation, and functional morphology of the four larval instars of *Acanthoscelides obtectus* (Say) (Coleoptera: Bruchidae). Coleopts. Bull. (in press, a).
- . Family Bruchidae. In: An introduction to immature insects of North America. Kendall/Hunt Pub. (in press, b).
- . AND D. H. JANZEN. 1984. Life history and morphology of first and last larval instars of Costa Rican *Caryedes brasiliensis* Thunberg (Coleoptera: Bruchidae). Coleopts. Bull. 38:267-281.
- . AND C. D. JOHNSON. 1976. Biosystematics of the first stage larvae of some North American Bruchidae (Coleoptera). USDA Tech. Bull. 1525. 75 pp.
- . S. MURUAGA DE L'ARGENTIER, AND A. L. TERÁN. 1984. Morphological descriptions and biological and phylogenetic discussions of the first and final instars of four species of *Megacerus* larvae (Coleoptera: Bruchidae). Coleopts. Bull. 38: 1-26.
- PREVETT, P. F. 1967. The larva of *Caryedon serratus* (Ol.): The groundnut seed beetle (Coleoptera: Bruchidae). J. Stored Prod. Res. 3:117-123.

- \_\_\_\_\_. 1968. The larva of *Pachymerus cardo* (Fahr.), the palm kernel borer (Coleoptera: Bruchidae). *J. Stored Prod. Res.* 4:239-248.
- \_\_\_\_\_. 1971. The larvae of some Nigerian Bruchidae (Coleoptera). *Trans. Roy. Ent. Soc. London* 123:247-312.
- RILEY, C. V. 1891. The pea and bean weevils. *Insect Life* 4:297-302.
- STEFFAN, J. R. 1945. Contribution à l'étude de *Zabrotes subfasciatus* Boheman. *Mem. Mus. Natl. Hist. Nat. Paris (N.S.)* 21:55-84.
- \_\_\_\_\_. 1946. La larve primaire de *Bruchidius fasciatus* Ol. et ses rapports avec quelques larves neonates de bruchides. *Bull. Soc. Entomol. France* 51:12-16.
- TERÁN, A. L. 1962. Observaciones sobre Bruchidae (Coleoptera) del noroeste Argentino. *Acta Zool. Lilloana* 18:211-242.
- \_\_\_\_\_. 1967. Consideraciones sobre *Eubaptus palliatus* Lac., *Bruchus scapularis* Pic y descripción de los estados preimaginales de *Eubaptus rufithorax* (Pic). *Acta Zool. Lilloana* 21:71-89.
- \_\_\_\_\_. 1984. Observaciones sobre Bruchidae (Coleoptera) del noroeste Argentino. VI. Estudios morfológicos y biológicos de *Amblycerus testaceus* (Pic). *Acta Zool. Lilloana* 37:207-217.
- \_\_\_\_\_, Y S. MURUAGA DE L'ARGENTIER. 1979. Observaciones sobre Bruchidae (Coleoptera) del noroeste Argentino II. Estudios morfológicos y biológicos de algunas especies de Amblycerinae y Bruchinae. *Acta Zool. Lilloana* 35:435-474.
- \_\_\_\_\_, Y \_\_\_\_\_. 1981. Observaciones sobre Bruchidae (Coleoptera) del noroeste Argentino. IV. Estudios morfológicos y biológicos de *Amblycerus hoffmanseggi* (Gyll.). *Acanthoscelides comptus* Kingsolver y *Merobruchus bicoloripes* (Pic). *Acta Zool. Lilloana* 36:61-84.
- VATS, L. K. 1974a. Distinctive characters of the larvae of three species of *Callosobruchus* Pic (Bruchidae: Coleoptera), together with a key for their identification. *Indian J. Entomol.* 36:17-22.
- \_\_\_\_\_. 1974b. Distinctive characters of the larvae of two species of *Bruchidius* Schilsky (Bruchidae: Coleoptera). *Indian J. Entomol.* 36:113-117.
- \_\_\_\_\_. 1974c. On the larvae of *Bruchidius* Schilsky (Bruchidae: Coleoptera). *J. Bombay Nat. Hist. Soc.* 74:299-305.
- \_\_\_\_\_. 1976. On the larvae of *Conicobruchus* Decelle (Bruchidae: Coleoptera). *Res. Bull. Sci. Panjab Univ.* 27:111-113.
- ZACHER, F. 1930. Untersuchungen zur Morphologie und Biologie der Samenkäfer (Bruchidae-Lariidae). *Arb. Biol. Abt. (Anst. Reichsanst).* 18:233-384.

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### LITERATURE NOTICES

- LeSage, L. 1984. Egg, larva, and pupa of *Lexiphanes saponatus* (Coleoptera: Chrysomelidae: Cryptocephalinae). *Can. Ent.* 116:537-548.
- Campbell, J. M. 1984. A revision of the North American Omaliinae (Coleoptera: Staphylinidae). The genera *Arpedium* Erichson and *Eucnecosum* Reitter. *Can. Ent.* 116:487-527.
- Mikšić, R. 1983. Beschreibungen neuer und Bemerkungen über bekannte Cetoniinae aus dem tropischen Asien (Coleoptera, Scarabaeidae). *Entomofauna* 4:381-400.
- Frieser, R. 1983. Ein weiterer Beitrag zur Kenntnis der tropischen Anthribiden (Coleoptera: Anthribidae). *Mitt. Münch. Ent. Ges.* 73:45-59.
- Geisthardt, M. 1983. Beitrag zur Revision der Gattung *Lampyris* Müller, 1764. I. Zur Kenntnis einiger nordafrikanischer und mediterraner Arten (Coleoptera, Lampyridae). *Mitt. Münch. Ent. Ges.* 73:23-44.