

Valid Names Results

Saccharicoccus sacchari (Cockerell, 1895) (*Pseudococcidae*: *Saccharicoccus*)

Nomenclatural History

- ***Dactylopius sacchari*** Cockerell 1895n: 195. Type data: TRINIDAD: St Ann's, on sugar-cane. Syntypes, female, Type depository: Washington: United States National Entomological Collection, U.S. National Museum of Natural History, District of Columbia, USA . accepted valid name
- ***Pseudococcus sacchari*** (Cockerell, 1895); Cockerell 1902p: 252. change of combination
- ***Dactylopius sacchari brasiliensis*** van Gorkum 1913: 29. Type data: BRAZIL: Sergipe, on *Saccharum spontaneum* and *S. sacchari*. Syntypes, female, junior synonym (discovered by WilliaGr1992, 584). Notes: Type material probably lost (Williams & Granara de Willink, 1992).
- ***Trionymus sacchari*** (Cockerell, 1895); Fullaway 1923: 308. change of combination
- ***Trionymus calceolariae***; Fullaway 1923: 308. misidentification
- ***Erium sacchari*** (Cockerell, 1895); Lindinger 1935a: 122. change of combination
- ***Trionymus praegrans*** James 1936: 200. Type data: UGANDA: Kampala, on grass. Lectotype, female, by subsequent designation (Willia1985,357). Type depository: London: The Natural History Museum, England, UK . junior synonym (discovered by DeLott1957b, 223).
- ***Trionymus sacchari*** (Cockerell, 1895); Zimmerman 1948: 266. revived combination (previously published)
- ***Saccharicoccus sacchari*** (Cockerell, 1895); Ferris 1950: 217. change of combination
- ***Soccharicoccus sacchari***; Tang 2001: 3. misspelling of genus name

Common Names

- pink sugar-cane mealybug [Bartle1978e](#)
- pink sugarcane mealybug [Beards1962](#)

Ecological Associates

Hosts:

Families: 2 | Genera: 10

- Areaceae
 - *Cocos nucifera* | [Malump2014a](#)
- Poaceae
 - *Cortaderia* | [BenDov1994](#) [Willia1985](#)
 - *Cymbopogon caesius* | [Willia2004a](#)
 - *Holcus* | [BenDov1994](#) [KawaiMaUm1971](#)
 - *Imperata cylindrica* | [ZhangWuWu2018](#)
 - *Miscanthus floridulus* | [BenDov1994](#) [WilliaWa1988a](#)
 - *Miscanthus sinensis* | [ZhangWuWu2018](#)
 - *Oryza sativa* | [Willia2004a](#)
 - *Phragmites* | [BenDov1994](#) [DeLott1968a](#)
 - *Saccharum* | [BenDov1994](#) [WilliaWa1988a](#)
 - *Saccharum officinarum* | [Beards1966](#) [BenDov1994](#) [KondoRaVe2008](#) [Moghad2013a](#) [Willia2004a](#) [WilliaGr1992](#) [WilliaWa1988a](#)



- *Saccharum sinense* | ZhangWuWu2018
- *Saccharum spontaneum* | BenDov1994 Hall1923
- *Saccharum spontaneum* | BenDov1994 WilliaWa1988a
- *Sorghum bicolor* | Beards1966 BenDov1994
- *Sorghum bicolor* | Willia2004a
- *Sorghum halepense* | Beards1966 BenDov1994 WilliaWa1988a Zimmer1948

Foes:

Families: 7 | Genera: 13

- Anthocoridae
 - *Scoloposcelis* | Diakon1941
- Cecidomyiidae
 - *Dicrodiplosis* | ReddyAz2000
- Coccinellidae
 - *Harmonia axyridis* | BorgesSoBe2019
 - *Hyperaspis* | PruettCo1984
 - *Hyperaspis limbalis* | Moore1988
 - *Hyperaspis trilineata* | AbdRab2008a Box1950 Moore1988 PruettCo1984
- Drosophilidae
 - *Cacoxenus paolii* | TsacasCh1999
 - *Cacoxenus perspicax* | TsacasCh1999
 - *Cacoxenus polyodous* | TsacasCh1999
- Encyrtidae
 - *Anagyrus greeni* | AbdRab2001d
 - *Anagyrus pseudococci* | NarayaSuKa1957
 - *Anagyrus saccharicola* | AbdRab2008a Alam1972 Moore1988 NarayaSuKa1957 PruettCo1984
 - *Astymachus* | NarayaSuKa1957
 - *Leptomastidea abnormis* | AbdRab2001d
 - *Mayencyrtus* | NarayaSuKa1957
 - *Neastymachus delhiensis* | NarayaSuKa1957
 - *Rhopus nigroclavatus* | AbdRab2001d
- Eulophidae
 - *Parachrysocharis javensis* | NarayaSuKa1957
- Signiphoridae
 - *Chartocerus* | AbdRab2001d
 - *Chartocerus ranae* | NarayaSuKa1957

Associates:

Families: 1 | Genera: 1

- Caulimoviridae
 - *BSV* | PalmaJBIGu2019 WatsonKu2005

Geographic Distribution

Countries: 79



- Angola | [Almeid1973b](#) [BenDov1994](#)
- Antigua and Barbuda
 - Antigua | [BenDov1994](#) [WilliaGr1992](#)
 - Barbuda | [BenDov1994](#) [WilliaGr1992](#)
- Argentina
 - Entre Rios | [BenDov1994](#) [Granar1991](#)
 - Tucuman | [BenDov1994](#) [CABI1959a](#) [Granar1991](#) [WilliaGr1992](#)
- Australia
 - Queensland | [BenDov1994](#) [Willia1985](#)
- Bahamas | [BenDov1994](#) [WilliaGr1992](#)
- Bangladesh | [BenDov1994](#) [Varshn1992](#) [Willia2004a](#)
- Barbados | [BenDov1994](#) [WilliaGr1992](#)
- Bolivia | [BenDov1994](#) [CABI1959a](#) [PruettCo1984](#) [WilliaGr1992](#)
- Bonin Islands (=Ogasawara-Gunto) | [BenDov1994](#) [Kawai1987](#) [KawaiMaUm1971](#)
- Brazil
 - Amazonas | [FoldiKo2006](#)
 - Paraiba | [BenDov1994](#) [CABI1959a](#)
 - Santa Catarina | [BenDov1994](#) [CABI1959a](#)
 - Sao Paulo | [BenDov1994](#) [CABI1959a](#)
- China
 - Fujian (=Fukien) | [ZhangWuWu2018](#)
 - Guangdong (=Kwangtung) | [ZhangWuWu2018](#)
 - Guangxi (=Kwangsi) | [ZhangWuWu2018](#)
 - Hainan | [ZhangWuWu2018](#)
 - Hubei (=Hupei) | [ZhangWuWu2018](#)
 - Hunan | [BenDov1994](#) [HuHeWa1992](#)
 - Jiangxi (=Kiangsi) | [ZhangWuWu2018](#)
 - Sichuan (=Szechwan) | [ZhangWuWu2018](#)
 - Xizang (=Tibet) | [BenDov1994](#) [Wang1980](#)
 - Xizang (=Tibet) | [ZhangWuWu2018](#)
 - Yunnan | [ZhangWuWu2018](#)
 - Zhejiang (=Chekiang) | [ZhangWuWu2018](#)
- Cocos (=Keeling) Islands | [Willia2004a](#)
- Colombia | [BenDov1994](#) [Figuer1952](#) [Kondo2001](#) [KondoRaVe2008](#) [WilliaGr1992](#)
- Costa Rica | [BenDov1994](#) [CABI1959a](#) [WilliaGr1992](#)
- Cuba | [BenDov1994](#) [WilliaGr1992](#) [WilliaMaSu2001](#)
- Dominican Republic | [BenDov1994](#) [WilliaGr1992](#)
- Ecuador | [BenDov1994](#) [CABI1959a](#) [WilliaGr1992](#)
- Egypt | [BenDov1994](#) [Hall1922](#) [Willia1970DJ](#)
- El Salvador | [BenDov1994](#) [WilliaGr1992](#)
- Federated States of Micronesia
 - Caroline Islands | [Beards1966](#) [BenDov1994](#)
 - Ponape Island | [Beards1966](#) [BenDov1994](#)
 - Truk Islands | [Beards1966](#) [BenDov1994](#)
 - Yap | [Beards1966](#) [BenDov1994](#)
- Fiji | [BenDov1994](#) [WilliaWa1988a](#)
- French Guiana | [Remill1988](#)
- French Polynesia
 - Tahiti | [BenDov1994](#) [CABI1959a](#) [WilliaWa1988a](#)
- Grenada | [BenDov1994](#) [WilliaGr1992](#)
- Guadeloupe | [Balach1957c](#) [BenDov1994](#) [MatileEt2006](#)
- Guatemala | [BenDov1994](#) [CABI1959a](#) [WilliaGr1992](#)
- Guyana | [BenDov1994](#) [CABI1959a](#) [WilliaGr1992](#)
- Haiti | [PerezG2008](#)
- Hawaiian Islands
 - Hawaii | [Beards1960](#) [BenDov1994](#)
- Honduras | [BenDov1994](#) [CABI1959a](#) [WilliaGr1992](#)
- India
 - Andhra Pradesh | [BenDov1994](#) [Varshn1992](#) [Willia1970DJ](#) [Willia2004a](#)
 - Arunchal Pradesh | [Willia2004a](#)
 - Bihar | [Willia2004a](#)
 - Gujarat | [Willia2004a](#)
 - Karnataka | [Willia2004a](#)
 - Madhya Pradesh | [Willia2004a](#)
 - Maharashtra | [Willia2004a](#)
 - Odisha | [Willia2004a](#)
 - Punjab | [Willia2004a](#)
 - Tamil Nadu | [Willia2004a](#)
 - Uttar Pradesh | [Willia2004a](#)
 - West Bengal | [Willia2004a](#)
- Indonesia
 - Java | [BenDov1994](#) [CABI1959a](#) [Willia2004a](#)



- Iran | [Moghad2013a](#)
- Israel | [BenDov1994 Bodenh1924](#)
- Jamaica | [BenDov1994 WilliaGr1992](#)
- Kenya | [BenDov1994 DeLott1964](#)
- Madagascar | [BenDov1994 Mamet1952](#)
- Madeira Islands | [BenDov1994 CABI1959a FrancoRuMa2011](#)
- Malawi | [BenDov1994 DeLott1968a](#)
- Malaysia
 - Malaya | [BenDov1994 Takaha1951a](#)
 - Malaya | [BenDov1994 Takaha1951a Willia2004a](#)
 - Sabah | [Willia2004a](#)
 - Sarawak | [Willia2004a](#)
- Martinique | [Balach1957c BenDov1994 MatileEt2006](#)
- Mexico | [BenDov1994 CABI1959a WilliaGr1992](#)
- Montserrat | [BenDov1994 WilliaGr1992](#)
- Morocco | [Panis1975](#)
- New Caledonia | [BenDov1994 CABI1959a](#)
- Nicaragua | [BenDov1994 CABI1959a WilliaGr1992](#)
- Northern Mariana Islands | [Beards1966 BenDov1994](#)
- Pakistan | [BenDov1994 Varshn1992 Willia2004a](#)
- Palau | [Beards1966 BenDov1994](#)
- Panama | [BenDov1994 CABI1959a WilliaGr1992](#)
- Papua New Guinea | [BenDov1994 WilliaWa1988a](#)
- Peru | [BenDov1994 Salaza1972 WilliaGr1992](#)
- Philippines | [BenDov1994 Morris1920](#)
 - Luzon | [LitCa1994a Willia2004a](#)
- Puerto Rico & Vieques Island
 - Puerto Rico | [BenDov1994 Martor1976 WilliaGr1992](#)
- Reunion | [GermaiMiPa2014 Mamet1952](#)
- Rodrigues Island | [BenDov1994 Mamet1949 Mamet1956b](#)
- Saint Croix | [Beatty1944](#)
- Saint Kitts and Nevis Islands
 - Nevis | [BenDov1994 WilliaGr1992](#)
 - Saint Kitts | [BenDov1994 WilliaGr1992](#)
- Saint Lucia | [Malump2012b](#)
- Saint Vincent and the Grenadines | [BenDov1994 WilliaGr1992](#)
- San Marino | [BenDov1994 WilliaGr1992](#)
- Seychelles | [GermaiAtBa2008](#)
- Solomon Islands | [BenDov1994 WilliaWa1988a](#)
- Somalia | [BenDov1994 CABI1959a Schmut1964](#)
- South Africa | [BenDov1994 DeLott1964](#)
- Sri Lanka | [BenDov1994 Varshn1992 Willia2004a](#)
- Suriname | [BenDov1994 CABI1959a WilliaGr1992](#)
- Swaziland | [AssefaMa2018](#)
- Taiwan | [BenDov1994 Takaha1928](#)
- Tonga | [BenDov1994 WilliaWa1988a](#)
- Trinidad and Tobago
 - Trinidad | [BenDov1994 Cocker1895n WilliaGr1992](#)
- U.S. Virgin Islands | [BenDov1994 WilliaGr1992](#)
- Uganda | [BenDov1994 James1936](#)
- United States
 - Florida | [DownieGu2004 Stocks2012](#)
- Uruguay | [BenDov1994 GranarScTe1997 WilliaGr1992](#)
- Vanuatu (=New Hebrides) | [BenDov1994 WilliaBu1987 WilliaWa1988a](#)
- Venezuela | [BenDov1994 Box1950 CABI1959a FoldiKo2006 WilliaGr1992](#)
- Vietnam | [BenDov1994 DanzigKo1990](#)
- Zimbabwe | [BenDov1994 CABI1959a Hall1937](#)

Keys

- [Hodgso2020](#): pp.32-34 (Adult (M)) [higher groups of Pseudococcidae]
- [ZhangWuWu2018](#): pp.133 (Adult (F)) [*Saccharicoccus* species]
- [CaballRaKo2017](#): pp.498 (Adult (F)) [Coccomorpha of sugarcane from Colombia]
- [DanzigGa2015](#): pp.91-92 (Adult (F)) [*Saccharicoccus* species]
- [WilliaMa2009a](#): pp.97-101 (Adult (F)) [Pseudococcidae species from Mauritius]
- [Beards1960](#): pp.213 (Adult (M)) [Hawaii]



- [Zimmer1948](#): pp.257 (Adult (F)) [Hawaii]

Remarks

- **General Remarks:** Description and illustration of adult female by Morrison (1920), Ferris in Zimmerman (1948), Ferris (1950b), Avasthi & Shafee (1987), Williams (1970DJ, 1985), Williams & Watson (1988a), Williams & Granara de Willink (1992), Tang (1992) and by Williams (2004a). Good description and illustration of the adult male given by Beardsley (1960) (apterous form), Yadava (1966, 1968) and by Afifi (1968) (macropterous and apterous forms).
- **Economic Importance:** A common pest of sugarcane in Hawaii. Beardsley (1960a) studied in Hawaii its dispersal, infestation sites, natural enemies, and the effect of ants and other factors on its populations. Uichanco & Villanueva (1932) indicated that it has been considered as a possible vector of rice diseases in Cuba and India. This is one of the most important pests of sugarcane in the sugarcane-growing regions in Guangxi (Zhou et al. 1999; Qin et al. 2013).
- **Biology:** Living on stems and under leaf sheaths. Beardsley (1962a) found that it is a facultative biparental species in Hawaii. In the Philippines, Uichanco & Villanueva (1932) concluded that it may reproduce either bisexually or parthenogenetically. Life history in Egypt (Hafez & Salama, 1969) and in Australia (Rae & De'ath, 1991). Allsopp (1991) evaluated methods for sampling populations of the pest in Queensland, Australia. Rae & De'ath (1991) studied the influence of constant temperature on development, survival and fecundity in the Philippines. Cooper & Qing (1992) described virus-like particles which were found in field-collected and glasshouse-reared individuals in Australia, however no information is given on the pathogenicity of these particles. Rae & Jones (1992) studied the influence of host nitrogen on development, survival, size and population dynamics.
- **Structure:** Colour photograph given by Schmutterer (1990). Alimentary canal, salivary glands and Malpighian tubules described and illustrated by Yavada & Chandel (1968). Circulus large, commonly described either as "hour-glass" shaped or "dumb-bell" shaped; with long setae on each margin of the fifth and posterior abdominal segments; minute flat or duct-like pores present on integument surrounding each hind coxa. (Williams & Granara de Willink 1992)

Illustrations

Citations

- [AbdRab2000](#): biological control, distribution, economic importance, host, 72-75
- [AbdRab2001d](#): biological control, distribution, 1369
- [AbdRab2002](#): biological control, 24-26
- [AbdRab2008a](#): biological control, distribution, economic importance, host, 277-284
- [AbdullBiSi2006](#): distribution, host, 23-28
- [Afifi1968](#): description, distribution, host, illustration, taxonomy, 143-151
- [AgarwaSi1964](#): distribution, economic importance, host, 149
- [AhmedMi2018a](#): distribution, host,
- [Alam1972](#): biological control, distribution, host, 357-363
- [Ali1958](#): description, distribution, host, taxonomy, 181
- [Ali1962](#): description, distribution, host, 72
- [Ali1967](#): description, distribution, host, taxonomy, 215-217
- [Allsop1991a](#): distribution, ecology, host, life history, 213-218
- [AllsopSuHa1993](#): ecology, life history, 1278-1284
- [AllsopSuHa1993](#): distribution, ecology, host, life history, 1278-1284
- [Almeid1973b](#): distribution, host, 19
- [AnwarJaKh1992](#): chemical control, 431-437
- [AssefaMa2018](#): DNA sequencing, distribution, host,
- [AvasthSh1987](#): description, distribution, host, illustration, taxonomy, 44-46
- [BabuRa1999](#): biological control, chemical control, 137-138
- [Balach1957c](#): distribution, host, 207
- [BallalSuPr2006](#): biological control, 1-4?
- [Bartle1978e](#): biological control, distribution, economic importance, host, 168, 169

- [Beards1960](#): description, distribution, host, illustration, taxonomy, 236-239
- [Beards1960a](#): biological control, ecology, economic importance, life history, 954-961
- [Beards1962a](#): life history, 55-59
- [Beards1966](#): distribution, host, taxonomy, 472-473
- [Beatty1944](#): distribution, host, 114-172
- [BeltraGaSo2013](#): 1492
- [BenDov1994](#): 478-479
- [BenDov2012](#): catalog, distribution, host, 38, 44
- [Bodenh1924](#): distribution, economic importance, host, 83-84
- [Bodenh1937](#): distribution, host, 219
- [BonnetHe2005](#): distribution, ecology, host, life history, 304-309
- [BorgesSoBe2019](#): economic importance, life history, natural enemies,
- [Box1950](#): biological control, distribution, host, 47
- [CABI1959a](#): distribution,
- [CaballRaKo2017](#): diagnosis, distribution, economic importance, host, key, 497
- [ChassaTs2003](#): biological control, 271-286
- [Chiaro1933](#): distribution, host, 220-222
- [Cocker1895n](#): description, distribution, host, taxonomy, 195
- [Cocker1902p](#): taxonomy, 252
- [Cocker1937](#): economic importance, taxonomy, 124
- [DanzigGa2015](#): distribution, host, taxonomy, 94-95
- [DanzigKo1990](#): distribution, host, 41
- [DeBarr1991](#): ecology, life history, 19-20
- [DeLott1957b](#): distribution, host, taxonomy, 223-224
- [DeLott1964](#): distribution, host, taxonomy, 383
- [DeLott1968a](#): distribution, host, 86
- [DekaGuSi1999](#): chemical control, 357-361
- [Diakon1941](#): biological control, distribution, host, 205-213
- [Dick1942](#): control, distribution, ecology, host, life history, 55-56
- [Dick1951](#): distribution, economic importance, host, 377-394
- [DownieGu2004](#): distribution, host, molecular data, phylogeny, 258-259
- [EbiedaBaAl1998](#): chemical control, 1889-1901
- [Esaki1940a](#): distribution, host, 274-280
- [EzzatNa1987](#): distribution, 89
- [Ferris1950b](#): description, distribution, host, illustration, taxonomy, 217-218
- [Figuer1952](#): distribution, host, 206
- [FlukerHuBe1968](#): biological control, distribution, host, 474-477
- [FoldiKo2006](#): distribution, host, 309
- [FoldiKo2006](#): distribution, host, 312
- [FrancoRuMa2011](#): distribution, 21,25
- [FrankeFeHa1999](#): chemistry, life history, physiology, 1681-1693
- [FrankeOSLe2004](#): molecular data, symbionts, 455-470
- [FrisonDiNo1999](#): economic importance, 1-4
- [Fullaw1923](#): taxonomy, 308
- [Fullaw1946](#): distribution, host, taxonomy, 158
- [GarridOrLo2004](#): biological control, chemistry, disease transmission, 38-42
- [GermaiAtBa2008](#): distribution, host, 129-135
- [GermaiDeLa2016](#): host, list of species, 4
- [GermaiMiPa2014](#): distribution, 25
- [Gorkum1913](#): description, distribution, host, taxonomy, 29
- [GranarScTe1997](#): distribution, host, 99
- [Greath1971](#): biological control, distribution, host,
- [HafezSa1967](#): taxonomy, 25-29
- [HafezSa1969](#): structure, 499-516
- [HakkonPi1984](#): biological control, 1109-1121
- [Hall1922](#): biological control, chemical control, distribution, host, 13-14
- [Hall1922a](#): biological control, chemical control, distribution, economic importance, host, 1-16
- [HallKoHo2005](#): distribution, host, 143-156
- [HardyGuHo2008](#): molecular data, phylogeny, taxonomy, 51-71
- [HodgesHo2004](#): distribution, host, 396-397
- [Hodgso2012](#): taxonomy, 64
- [Hodgso2020](#): key, male, morphology, 18, 32, 33
- [HodgsoLa2011](#): distribution, host, 29
- [HuHeWa1992](#): description, distribution, host, illustration, taxonomy, 179-180
- [InkermAsCa1986](#): distribution, economic importance, host, 612-619



- [IsaacMi1933](#): distribution, host, 315-324
- [James1936](#): description, distribution, host, illustration, taxonomy, 200-201
- [Jayant1986](#): biological control, distribution, economic importance, host, life history, 259-275
- [JayantDaGo1996](#): ecology, host, life history, 7-9
- [JayantGo2002](#): chemistry, host, 198-201
- [KalraDa1966](#): distribution, economic importance, host, 770
- [Kawai1987](#): distribution, host, 77
- [KawaiMaUm1971](#): distribution, host, 16
- [Kondo2001](#): distribution, host, taxonomy, 39
- [KondoRaVe2008](#): distribution, host, 44-46
- [Lindin1935a](#): taxonomy, 122
- [LitCa1994a](#): distribution, host, 395, 396
- [Malump2012b](#): distribution, taxonomy, 211
- [Malump2014a](#): distribution, host, 82
- [Mamet1949](#): catalog, distribution, host, taxonomy, 17
- [Mamet1952](#): distribution, host, 170
- [Mamet1956b](#): distribution, host, 303-306
- [Martin1988](#): taxonomy, 128-131
- [MartinLa2011](#): catalog, distribution, host, 49
- [Martor1976](#): distribution, host, 230,246
- [MatileEt2006](#): distribution, host, 184
- [Meurge2011](#): distribution, 82
- [Millar2002](#): illustration, 217
- [MirabaGaCa2018](#): distribution, host, 194
- [Moghad2013a](#): distribution, host, 73
- [MohammGh2008](#): distribution, 156
- [MoharuBa2015](#): distribution, host, 102-103
- [MondalGh2000](#): description, illustration, taxonomy, 113-130
- [MonteiWoPe2019](#): distribution, host, 392
- [MonteiWoPe2019](#): distribution, host, 393
- [Moore1988](#): biological control, 212, 216
- [Morris1920](#): description, distribution, host, illustration, taxonomy, 173
- [NarayaSuKa1957](#): biological control, distribution, host, 145
- [Nattra1932](#): biological control, distribution, host, 1-9
- [PalmaJBIGu2019](#): distribution, host,
- [Panis1975](#): diagnosis, distribution, 147-148
- [Pember1964](#): distribution, host, 689
- [PerezG2008](#): distribution, 217
- [PruettCo1984](#): biological control, distribution, economic importance, host, 11-13
- [QinWeSo2017](#): biological control, 599-603
- [Rae1993](#): taxonomy, 249-252
- [Ramakr1919](#): distribution, host, 626
- [Ramakr1919e](#): distribution, host, 97
- [Ramakr1921a](#): catalog, distribution, host, 343
- [Ramakr1941](#): distribution, host, 107-113
- [Rao1943](#): illustration, taxonomy, 208
- [Rao1957](#): biological control, 376-390
- [Reboul1976](#): control, distribution, economic importance, host,
- [ReddyAz2000](#): biological control, 104
- [Remill1988](#): distribution, host, 72-73
- [RenAsHu2017](#): DNA, 5, 6
- [RossHaOk2012](#): phylogeny, taxonomy, 199
- [SagarrViSt2001a](#): biological control, 112-116
- [SahuJoGa2019](#): host, 95
- [SahuJoGa2019](#): biological control, distribution, natural enemies,
- [Sakimu1935a](#): biological control, 76-82
- [Salama1977](#): biological control, distribution, economic importance, host, life history, 346-370
- [SalamaRi1979](#): chemistry, 1873-1875
- [Salaza1972](#): description, distribution, host, illustration, taxonomy, 285-287
- [Sankar1980](#): biological control, distribution, host, 1-12
- [Saraiv1939](#): distribution, host, 103
- [SartiaWaRo2016](#): catalog, distribution, host, 159, 160
- [Schmut1964](#): distribution, host, 105
- [Schmut1990](#): distribution, host,
- [ShrivaSrSo2003](#): biological control, 105-120
- [SrikanEaKu2001](#): biological control, distribution, host, 51-52
- [Stocks2012](#): description, distribution, host, 1
- [SuchitGhMo2000](#): description, illustration, taxonomy, 113-130
- [Sweetm1958](#): biological control, economic importance, 449-458
- [Takaha1928](#): distribution, host, 333
- [Takaha1940a](#): distribution, host, 331
- [Takaha1951a](#): distribution, host, 15



- [TalebRa2004](#): distribution, ecology, host, life history, 89-94
- [Tang1992](#): description, distribution, host, illustration, taxonomy, 217, 756
- [Tang2001](#): distribution, taxonomy, 3
- [Tao1999](#): distribution, host, taxonomy, 27
- [TsacasCh1999](#): biological control, 109, 112, 114
- [UsmanPu1955](#): distribution, host, 48
- [VanDin1913](#): distribution, host, 251-257
- [VanDin1926](#): distribution, host, 1-16
- [Vander1937](#): distribution, economic importance, host, 1-8
- [VarmaTi1994](#): control, distribution, economic importance, host, 238-264
- [Varshn1992](#): distribution, host, 61
- [WalkerWaEv1974](#): distribution, host, 25
- [WangZhTi2018](#): distribution, host, 2
- [Wheele2013](#): host, 223
- [Willia1970DJ](#): description, distribution, host, illustration, taxonomy, 171-175
- [Willia1985](#): description, distribution, host, illustration, taxonomy, 357-359
- [Willia2004a](#): description, distribution, host, illustration, taxonomy, 799-902
- [Willia2005](#): distribution, host, 168
- [Willia2017a](#): catalog, list of species, 249
- [WilliaBe2015](#): taxonomy, 163, 166
- [WilliaBu1987](#): distribution, host, 92
- [WilliaGr1992](#): description, distribution, host, illustration, taxonomy, 584-586
- [WilliaMa2009a](#): taxonomy, 97-101
- [WilliaMaSu2001](#): biological control, 73-76
- [WilliaWa1988a](#): description, distribution, host, illustration, taxonomy, 219-221
- [Wolcot1955](#): distribution, host, 1-5
- [Woolwi1998](#): distribution, economic importance, host, 1-231
- [Yadava1966a](#): taxonomy, 112-129
- [Yadava1968a](#): taxonomy, 165-172
- [YadavaCh1968](#): structure, 597-608
- [ZhangWuWu2018](#): biology, distribution, host, key, 133
- [Zimmer1948](#): description, distribution, host, illustration, taxonomy, 257, 266-269

[ABOUT](#) | [KEYS](#) | [KEY ASPIDIOTINI](#) | [CONTACT](#) | [LOGIN](#) | [FLAT CAT](#) | [CLASSIFICATION](#)

