

The species of *Lecanodiaspis* Targioni Tozzetti, 1869, in the Mediterranean region (Hemiptera, Coccoidea, Lecanodiaspididae)

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Summary. – New data are given on the distribution and host plants of *Lecanodiaspis africana* Newstead and *L. sardoa* Targioni Tozzetti, in countries of the Mediterranean Region. *L. africana* is newly recorded from Israel.

Résumé. – Les espèces du genre *Lecanodiaspis* Targioni Tozzetti, 1869, dans la région méditerranéenne (Hemiptera, Coccoidea, Lecanodiaspididae). De nouvelles données sont apportées concernant la répartition et les plantes hôtes de *Lecanodiaspis africana* Newstead et *L. sardoa* Targioni Tozzetti, dans les pays de la région méditerranéenne. *L. africana* est signalé pour la première fois d'Israël.

Keywords. – Hemiptera, scale insects, *Lecanodiaspis*, Mediterranean Region, host plant, new record, Israel.

The family Lecanodiaspididae (Hemiptera, Coccoidea), comprising 82 species which are placed among 12 genera, is one of the 21 extant families of scale insects (HOWELL & KOSZTARAB, 1972; BEN-DOV, 2006, 2009). The genus *Lecanodiaspis* was established by TARGIONI TOZZETTI (1869: 261). SIGNORET (1870a: 272) first published the misspelled name *Lecanodiaspis*, whereas on page 285 he used the correct spelling *Lecanodiaspis*. Most subsequent authors (see BEN-DOV, 2006, 2009), used until the late 1960's the misspelled name *Lecanodiaspis*. MORRISON & MORRISON (1966: 24, 105) discussed the erroneous usage of the misspelled generic name, and re-introduced the name *Lecanodiaspis*. Since the description of *Lecanodiaspis sardoa* Targioni Tozzetti, 1869, the type species and type genus of the family, taxa currently included in Lecanodiaspididae were regarded as members of the pit scales family, Asterolecaniidae (e.g. FERNALD, 1903, GREEN, 1937, BALACHOWSKY, 1948), until BORCHSENIUS (1959) erected the family Lecanodiaspididae. The family is commonly named false pit scales, indicating its affinity to the Asterolecaniidae. At present, species of this family have been recorded from the Afrotropical, Australasian, Oriental, Nearctic and Neotropical zoogeographical regions (BEN-DOV, 2006, 2009).

This note presents new data on the distribution and host plants of the two species of *Lecanodiaspis*, namely *L. africana* Newstead and *L. sardoa* Targioni Tozzetti, which occur in countries of the Mediterranean Region. These species may be separated from each other by using the following key.

KEY TO ADULT FEMALES OF *LECANODIASPIS* SPECIES OF THE MEDITERRANEAN REGION

- Legs reduced to irregular stumps; quinquelocular pore bands of posterior spiracular furrow divided into two *Lecanodiaspis sardoa* Targioni Tozzetti
- Legs, although small, well-developed, with 5 discernible segments; quinquelocular pore bands of posterior spiracular furrow single *L. africana* Newstead

The material recorded here for the species discussed in this note is deposited in the following collections: **BMNH**, Department of Entomology, The Natural History Museum, London, United Kingdom; **ICVI**, Coccoidea Collection, Department of Entomology, Agricultural Research Organization, Bet Dagan, Israel; **MNHN**, Muséum national d'Histoire naturelle, Paris, France.

Lecanodiaspis africana Newstead, 1911

Lecanodiaspis africana Newstead, 1911: 100.

This species was originally described from Egypt (NEWSTEAD, 1911) and later records by HODGSON (1973: 416) showed that it occurs also in Algeria, Libya, Mali, Mauritania, Nigeria and Sudan in the Afrotropical region. Here it is recorded for the first time from Israel in the Southern Arava Valley, a territory that belongs to the Afrotropical zoogeographical region. As shown in the list of records of this scale insect (see material examined) it develops



Fig. 1. – *Lecanodiaspis africana* Newstead, adult females and male scale coverings, on *Acacia tortilis*, Israel, En Yahav, February 2009.

mainly on host plants that belong to species of *Acacia*. However, it has been also recorded from other trees such as *Ficus carica* (Moraceae), *Ziziphus sp.* (Rhamnaceae) and *Lawsonia alba* (Lythraceae).

The populations of this species in Israel are biparental, developing one annual generation. Females (fig. 1-2) are settled on twigs of the host plant, and breed from February to April.

Material examined. – **Egypt.** Lectotype and paralectotypes, “Sunt” [= *Acacia arabica*], Nov. 1909 (BMNH); Cairo, *A. arabica*, 1924 (W. J. Hall) (BMNH); Sinai Peninsula, Wadi Isle, *A. tortilis*, 1927 (F. S. Bodenheimer) (BMNH); Sinai Peninsula, Nahel, *A. tortilis*, xii.1967 (D. Rosen) (ICVI); Sinai Peninsula, Dahab, *Ziziphus spina-christi*, 21.xi.1968 (Y. Ben-Dov) (ICVI); Sinai Peninsula, Sharem-el-Sheikh, *A. raddiana*, 17.xi.1978 (Y. Ben-Dov) (ICVI); Cairo, *Ficus carica*, 28.i.1922 (W. J. Hall) (BMNH); guava [= *Psidium guajava*], 21.ii.1924 (W. J. Hall) (BMNH); Matarish, *Ficus*, 1909 (Willcocks) (BMNH); *Lawsonia alba*, 2.ii.1927 (W. J. Hall) (BMNH); Red Sea Mountains, near Jabel al Sheikh, *A. tortilis*, 11.iii.1981 (Jon Martin) (BMNH). **Israel.** (All slides deposited in ICVI): Arava, 20.iv.1946, *Acacia tortilis* (F. S. Bodenheimer); Jarandal, 21.vi.1950, *A. tortilis* (S. Neumark); Yotvata, 1.xii.1955, *A. tortilis* (S. Neumark); Yotvata, 1.xii.1956, *F. carica* (I. Harpaz); Yotvata, 18.iv.1958, *A. tortilis* (H. Bytinski-Salz); Hazeva, 16.vii.1997, *Ficus rubiginosa* (Orna Uko); Elat, 5.vii.1998, *A. tortilis* (Y. Ben-Dov); En Hazeva, 28.vi.2001, *Acacia* (*Nitza Sapir*); En Yahav, 3.xi.2001, *Acacia* (*M. Weiss*); Nahal Karkoshet, 16.ii.2009, *A. tortilis* (*Rivka Ofenbach*). **Lybia.** Fezzan, 28.iii.1949, *Acacia seyal* and *Ziziphus sp.* (*A. S. Balachowsky*) (MNHN). **Saudi Arabia.** Riyadh, Fig [= *Ficus carica*], 6.x.1958 (F. Shalaby) (BMNH); Huraymila, 9.vi.1988, *Acacia ehrenbergiana* (BMNH); Deviyo, 16.i.1989, *Ficus* (BMNH).

Lecanodiaspis sardoa Targioni Tozzetti, 1869

Lecanodiaspis sardoa Targioni Tozzetti, 1869: 261.

Originally described from the island of Sardinia, it was later recorded from almost all the countries surrounding the Mediterranean Sea. This species feeds and develops exclusively on host plants belonging to the family Cistaceae (BEN-DOV, 2006, 2009). In Israel, ovipositing females appear in March and April.

Material examined. – Unless stated otherwise, the studied material is deposited in ICVI. **Algeria.** Kabylia, *Cistus salviae-folius* (A. S. Balachowsky) (MNHN). **Cyprus.** Kyrenia, *Cistus* sp., 2.i.1932 (E. E. Green) (BMNH); Nicosia, *Cistus* sp., 25.iv.1932 (E. E. Green) (BMNH); Nicosia, *Helianthemum* sp., 25.iv.1932 (E. E. Green) (BMNH). **Israel.** Qiryat Anavim, *Cistus* sp., 2.i.1932 and 30.ix.1942 (F. S. Bodenheimer); Mt. Atzmon, *Cistus* sp., 16.iii.1959 (H. Bytinski-Salz); Rehovot, *Cistus* sp., 3.x.1971 (Y. Ben-Dov). **Italy.** *Cheremotherca italica*, *Cistus* (BMNH); Sardinia, *Cistus salviae-folius*, 1914 (Paoli ex. Coll. Berlese) (BMNH); Sardinia, *Cistus* sp. (ex. coll. Newstead) (BMNH). **Spain.** Valley of Guadalquivir, near Seville, *Helianthemum* sp., 8.iii.1928 (G. C. Dudgeon) (BMNH); Santa Madrona, Ciudad Real, *Cistus ladanifer*, 15.ii.2008 (Iñigo Sanchez). **Turkey.** Istanbul, *Cistus albindus*, 6.iv.1939 (F. S. Bodenheimer); Istanbul, *Cistus*, 6.iv.1944 (F. S. Bodenheimer).

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REFERENCES

- BALACHOWSKY A. S., 1948. – Les cochenilles de France, d'Europe, du nord de l'Afrique et du bassin Méditerranéen. IV. Monographie des Coccoidea, classification - Diaspidinae (Première partie). *Actualités Scientifiques et Industrielles*, **1054**: 243-394.
- BEN-DOV Y., 2006. – *A Systematic Catalogue of Eight Scale Insect Families (Hemiptera: Coccoidea) of the World*. Elsevier, Amsterdam, The Netherlands, i-xix + 368 p.
- 2009. – ScaleNet, Family Lecanodiaspididae. <http://www.sel.barc.usda.gov/catalogs/Lecanodiaspididae.htm>. March, 2009.
- BORCHSENIUS N. S., 1959. – [Notes on coccid fauna of China. 7. A new family of soft scales, Lecanodiaspididae fam. n. (Homoptera, Coccoidea)]. (In Russian). *Entomologicheskoe Obozrenye*, **38**: 840-846.

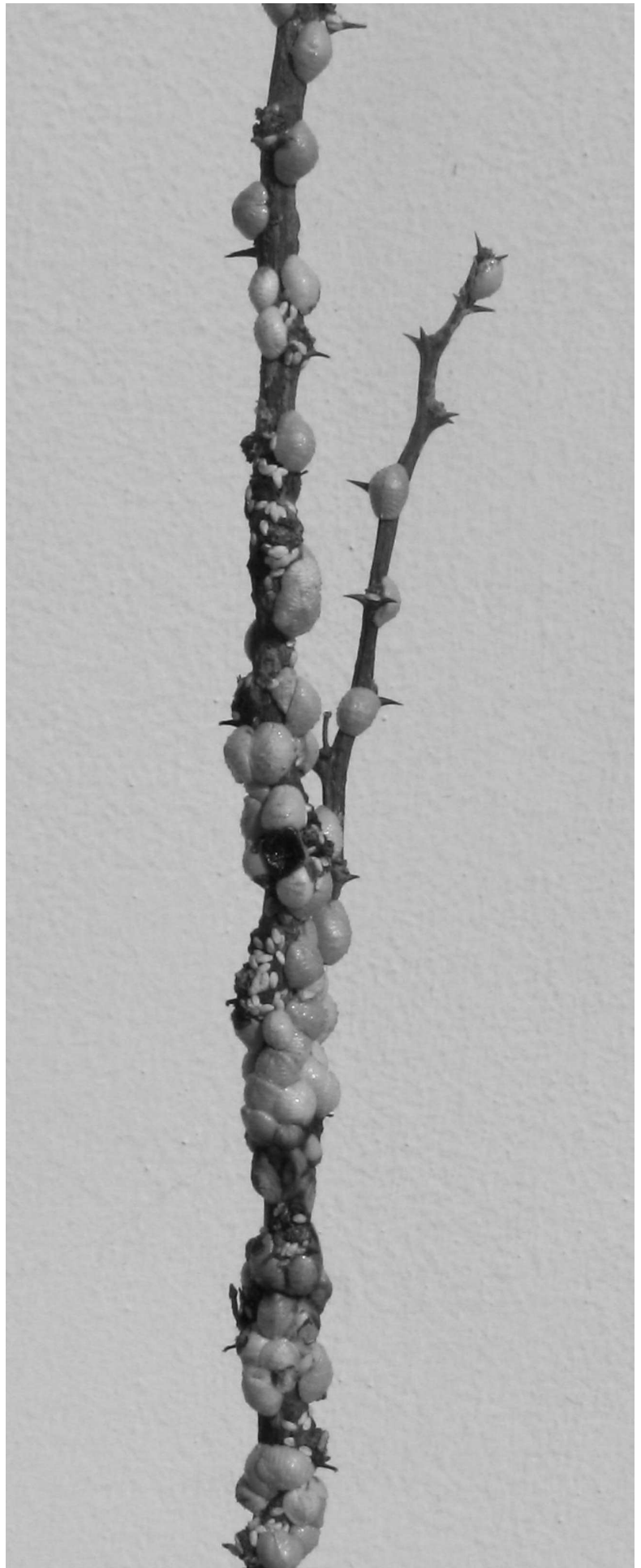
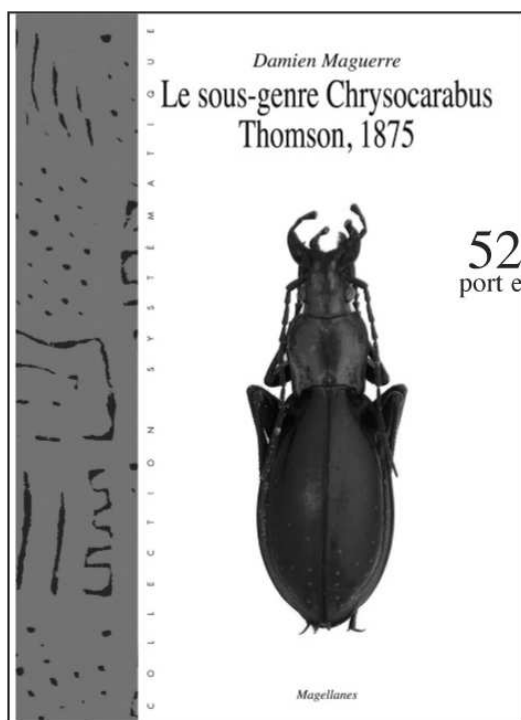


Fig. 2. – *Lecanodiaspis africana* Newstead, adult females and male scale coverings, on *Acacia tortilis*, Israel, En Yahav, February 2009.

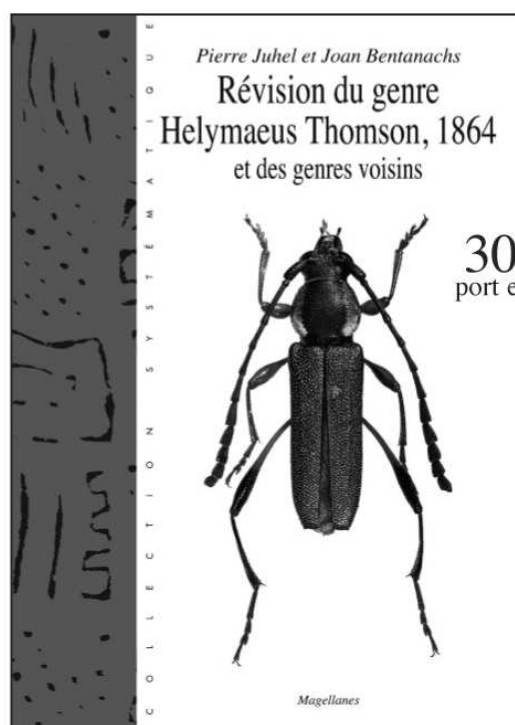
- FERNALD M. E., 1903. – A catalogue of the Coccidae of the world. *Bulletin of the Hatch Experiment Station of the Massachusetts Agricultural College*, **88**: 1-360.
- GREEN E. E., 1937. – An annotated list of the Coccidae of Ceylon, with emendations and additions to date. *Ceylon Journal of Science Section B., Zoology and Geology*, **20**: 277-341.
- HODGSON C. J., 1973. – A revision of the *Lecanodiaspis* Targioni-Tozzetti (Homoptera: Coccoidea) of the Ethiopian Region. *Bulletin of the British Museum (Natural History), Entomology*, **27**: 413-452.
- HOWELL J. O. & KOSZTARAB M., 1972. – Morphology and systematics of the adult females of the genus *Lecanodiaspis* (Homoptera: Coccoidea: Lecanodiaspididae). *Research Division Bulletin of the Virginia Polytechnic Institute and State University, Blacksburg*, **70**: 1-248.
- MORRISSON H. & MORRISSON E. R., 1966. – An annotated list of generic names of the scale insects (Homoptera: Coccoidea). *Miscellaneous Publication of the United States Department of Agriculture*, **1015**: 1-206.
- NEWSTEAD R., 1911. – Observations on African scale insects (Coccidae). (No. 3). *Bulletin of Entomological Research*, **2**: 85-104.
- SIGNORET V., 1870. – Essai sur les cochenilles ou gallinsectes (Homoptères - Coccides), 7e partie. *Annales de la Société Entomologique de France (série 4)*, **10**: 267-286.
- TARGIONI TOZZETTI A., 1869. – Sopra due generi di cocciniglie (Coccidae). *Bollettino della Società Entomologica Italiana*, **1**: 257-267.

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