An Annotated List of Cleridae and Thanerocleridae (Coleoptera) of Israel

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Thirty-five species of Cleridae and Thanerocleridae are recorded from Israel, 15 for the first time. General and local distribution, phenology, prey insect and their host plants are listed.
KEY WORDS: Cleridae; Thanerocleridae; Coleoptera; Israel; faunal list; prey insects; host plants.

INTRODUCTION

The checkered beetles (Cleridae and Thanerocleridae) contain approximately 300 genera and about 4000 described species. They are distributed in the warm regions of the world. The records of most Palaearctic species are from low-density populations, sporadic and usually single specimens.

With the exception of central European species, little is known about the reproduction, developmental stages, food or behavior of clerids. Both larvae and adults of most species are supposed to be predators of other insects, such as wood-boring Coleoptera. Some of those are considered to be effective natural enemies of forest and seasoned-wood-products pests. The larvae of many *Trichodes* species are known to be predators of the preadult stages of solitary bees (*Anthophora, Megachile, Osmia* etc.). There have been unverified reports on damage done to honeybees. *Trichodes* larvae seem to favor unclean hives, where they feed on dead larvae, pupae or adults which have fallen to the bottom of the hive.

The first record on the occurrence of Cleridae and Thanerocleridae in Israel, and still the most comprehensive one, was by Bodenheimer (1). Bytinski-Salz (2, 3), Bytinski-Salz and Sternlicht (4), Halperin (6) and Winkler (8, 9) recorded the presence of some additional species.

The objective of the present paper is to summarize the material collected by H. Bytinski-Salz, V. Chekatunov, A. Freidberg, D. Furth and others, deposited in the National Collection of Insects, Department of Zoology, Tel-Aviv University. Several specimens are deposited in the collections of R. Gerstmeier and J. Halperin.

Names of prey insects (mostly small powderpost beetles – the food of the predaceous checkered beetles) and their host plants in Israel were provided by the second author; the identifications were made by the first author. The taxonomy is adopted from Gerstmeier (5); genera and species are arranged alphabetically. The notes comprise the general distribution

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based on world literature and data gathered by Gerstmeier (5), local distribution in Israel (Fig. 1), phenology (months of collection or beetle emergence in Roman numerals), commonness (rr-very rare, r-rare, c-common, cc-very common), plant hosts and the prey insects. As there are several additional species expected to occur in the fauna of Israel, this work is done without a key and we therefore refer to Gerstmeier (5).

LIST OF THE PREY COLEOPTERA AND THEIR PREDATORS
(from collections made in the field)

Supposed prey species	Predator (Cleridae)
Anobiidae	
Gastrallus corsicus Schilsky	*Denops albofasciatus*
Bostrychidae	
Calopertha truncatula Ancey	*Denops albofasciatus*
	Teloclerus compressicornis
	Tillodenops plagiatus
Dinoderus bifoveolatus Wollaston	*Denops albofasciatus*
Dinoderus minutus Fabricius	*Denops albofasciatus*
Enneadesmus forficula Fairmaire	*Eucymatodera senegalensis*
	Wittmeridecus mediozonatus
Enneadesmus trispinosus (Olivier)	*Denops albofasciatus*
Paraxylogenes pistaciae	*Denops albofasciatus*
Schistocerus bimaculatus Olivier	*Denops albofasciatus*
Scobicia chevrieri (Villa)	*Denops albofasciatus*
	Phloiocopus andresi
Sinoxylon ceratoniae (Linnaeus)	*Cylidrus megacephalus*
	Denops albofasciatus
	Eucymatodera senegalensis
Xyloperthella picea Olivier	*Cylidrus megacephalus*
	Denops albofasciatus
	Flabellotilloidea palaestina
Bostrychidae gen. sp.	*Opilo longipilis*
Buprestidae	
Buprestidae gen. sp.	*Tillodenops bimaculatus*
Lyctidae	
Lyctus africanus Lesne	*Tarsostenus univittatus*
Lyctus brunneus Stephens	*Tarsostenus univittatus*
Lyctus parallelocollis Blackburn	*Tarsostenus univittatus*
Lyctus planicollis Le Conte	*Tarsostenus univittatus*
Trogoxylon impressum (Comolli)	*Tarsostenus univittatus*

ENUMERATION

Thanerocleridae Kolibáč, 1992 (7)

1. *Thaneroclerus buqueti* Lefebvre, 1835

Distribution: Cosmopolitan.
In Israel: 3 (Haifa, tobacco factory); X; rr. Introduced, tropical predator.

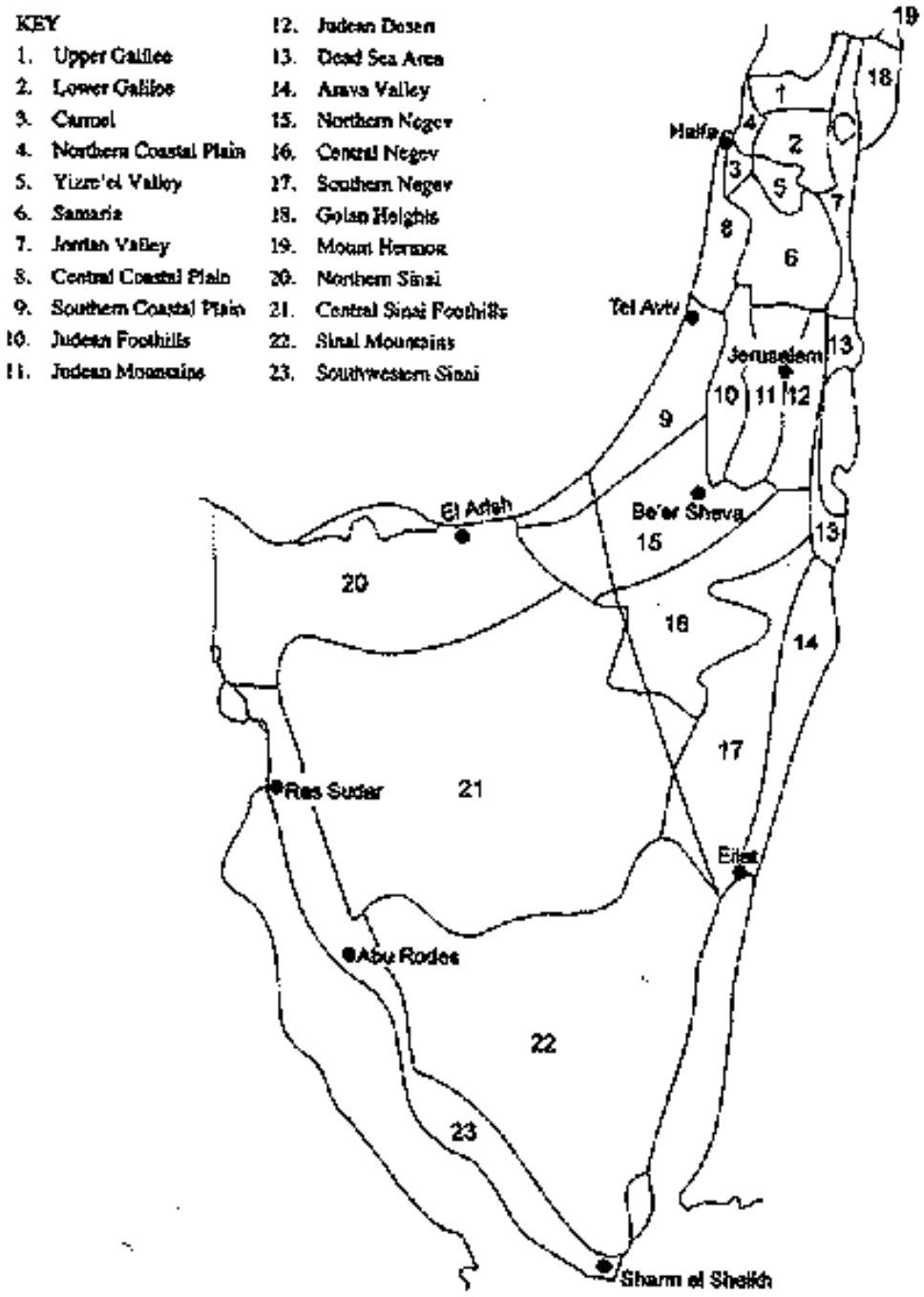

Fig. 1. The “Fauna Palaestina Committee” map of the regions of Israel and of adjacent areas.

2. *Cylidrus megacephalus* Spinola, 1844
Distribution: Central Africa reaching into Palaearctic.
In Israel: 7, 9, 10; IV-XI; r; bred from *Acacia albida* inf. with *Sinoxylon ceratoniae* and *Xyloperthella picea.*

3. *Denops albofasciatus* (Charpentier, 1825) **New record for Israel**
Distribution: From Portugal to Asia Minor.
In Israel: 1-4, 7-12, 14-16; IV-X; cc; bred from *Acacia albida* inf. with *Sinoxylon ceratoniae* and *Xyloperthella picea; Acacia raddiana* and *A. tortilis* inf. with *Calopertha truncatula* and *Sinoxylon ceratoniae; Acacia saligna* inf. with *Gastrallus corsicus; Arundo donax* inf. with *Scobicia chevrieri; Bambusa* sp. inf. with *Dinoderus* spp. and *Scobicia chevrieri; Ceratonia siliqua* inf. with *Scobicia chevrieri; Cercis siliquastrum* inf. with *Sinoxylon ceratoniae; Dalbergia sissoo* inf. with *Sinoxylon ceratoniae* and *Xyloperthella picea; Delonix regia* inf. with *Scobicia chevrieri* and *Sinoxylon ceratoniae; Eucalyptus* sp. inf. with *Xyloperthella picea; Ficus carica, F. retusa* and *F. sycomorus* inf. with *Scobicia chevrieri; Pistacia vera* inf. with *Paraxylogenes pistaciae, Scobicia chevrieri* and *Sinoxylon ceratoniae; Punica granatum* inf. with *Schistocerus bimaculatus; Schinus terebinthifolius* inf. with *Scobicia chevrieri; Tamarix* sp. inf. with *Enneadesmus trispinosus; Ulmus* sp. inf. with *Scobicia chevrieri.*

4. *Eucymatodera senegalensis* (Castelnau, 1832)
Distribution: Sahara, reaching Israel and Saudi Arabia.
In Israel: 14; VII, VIII; rr; bred from *Acacia tortilis* inf. with *Enneadesmus forficula* and *Sinoxylon ceratoniae.*

5. *Flabellotilloidea palaestina* (Pic, 1900)
Distribution: Turkey and Israel.
In Israel: 1, 2, 10, 19; V; r; bred from *Acacia saligna* and from *Quercus calliprinosus* inf. with *Xyloperthella picea.*

6. *Teloclerus compressicornis* (Klug, 1842) **New record for Israel**
Distribution: From Morocco to Saudi Arabia, also southern Spain and some African countries.
In Israel: 17; II; rr; bred from *Acacia tortilis* inf. with *Calopertha truncatula.*

7. *Tillodenops bimaculatus* (Schenkling, 1899) **New record for Israel**
Distribution: Sahara, East Africa, Saudi Arabia, India.
In Israel: 13 (En Gedi); IX; rr; bred from *Acacia* sp. inf. with Buprestidae.

8. *Tillodenops plagiatus* (Fairmaire, 1892) **New record for Israel**
Distribution: Sahara, Senegal, East Africa, Saudi Arabia, Oman, Iran.
In Israel: 14, 22; V, IX; r; bred from *Acacia raddiana* inf. with *Calopertha truncatula.*

9. *Wittmeridecus mediozonatus* (Fairmaire, 1892)
Distribution: Sahara, to Israel and Saudi Arabia.
In Israel: 14; VI; cc; bred from *Acacia raddiana* inf. with *Enneadesmus forficula.*

Hydnocerinae

10. *Emmepus bonnairii* Fairmaire, 1883 **New record for Israel**
Distribution: South Algeria, Egypt.
In Israel: 14; IV, V; cc.

11. *Emmepus pallidipennis* Pic, 1898 **New record for Israel**
Distribution: South Algeria.
In Israel: 15; IV, V; rr.

Clerinae

12. *Opilo longipilis* Fairmaire, 1892 **New record for Israel**
Distribution: Somalia, Egypt.
In Israel: 8-12, 14, 16; II, VII, VIII; c; bred from *Acacia tortilis, Quercus* sp., *Retama raetam* inf. with *Bostrychidae.*

13. *Opilo taeniatus* (Klug, 1842)
Distribution: From Greece and Turkey to Austria, Caucasus, Syria and Israel.
In Israel: 1-3, 7, 18; V; rr; bred from *Quercus calliprinos.*

14. *Opilo tilloides* Chevrolat, 1876 **New record for Israel**
Distribution: Syria.
In Israel: 7; V; rr.

15. *Phloiocopus andresi* Schenkling, 1912 **New record for Israel**
Distribution: Egypt, Syria.
In Israel: 1-5, 8-11, 15, 16, 18; IV - X; c; bred from *Pistacia atlantica* inf. with *Scobicia chevrieri.*

16. *Phloiocopus basalis* (Klug, 1842)
Distribution: Sinai, Asia Minor, Cyprus.
In Israel: 4; VIII; rr.

17. *Trichodes affinis* Chevrolat, 1843
Distribution: East Mediterranean.
In Israel: 1-13, 15, 18; II - V; cc; few larvae were found on 29.XII.1990 at Newe Ilan (west of Jerusalem) in decayed wood; pupation occurred in mid September and beetles emerged 3 weeks later.

18. *Trichodes cyprius* Reitter, 1893 **New record for Israel**
Distribution: Cyprus.
In Israel: 12; V, VI; rr.

19. *Trichodes dilatipennis* Reitter, 1893
Distribution: Syria, Israel, Jordan.
In Israel: 3, 6, 8, 11, 15; IV - VI; r.

20. *Trichodes ganglbaueri* Escherich, 1893
Distribution: Turkey, Cyprus, Israel.
In Israel: 16; VI; rr.

21. *Trichodes inermis* Reitter, 1893
Distribution: Turkey, Caucasus, Russia, Israel.
In Israel: 11; IV; rr.

22. *Trichodes laminatus* Chevrolat, 1843
Distribution: East Mediterranean, Caucasus, Crimea, Iran.
In Israel: 11, 14, 16; V, VI; r.

23. *Trichodes nobilis* Klug, 1842
Distribution: East Mediterranean, Iran, Armenia, Russia, Turkmenistan, Kazakhstan.
In Israel: 1, 3, 7; III - V; r.

24. *Trichodes punctatus* Fischer von Waldheim, 1829
Distribution: East Mediterranean, Crimea.
In Israel: 16; III; rr.
ab. *viridifasciatus* Chevrolat, 1843
Distribution: East Mediterranean, Iran.
In Israel: 6, 8; IV, X; rr; found in wax of beehive.

25. *Trichodes quadriguttatus* Adams, 1817
Distribution: East Mediterranean, Transcaspia, Kazakhstan.
In Israel: 1, 2, 5, 6, 8-11, 15, 18; III - VI; c.

26. *Trichodes rubrolimbatus* Chevrolat, 1876
Distribution: Turkey, Syria, Israel.
In Israel: 7-11; IV - VII; r.

27. *Trichodes sipylus* (Linnaeus, 1758)
Distribution: East Mediterranean, Caucasus, Transcaucasia, Transcaspia, Armenia, Iran.
In Israel: 12, 13, 16; IV - VI; c.

28. *Trichodes syriacus* Spinola, 1844
Distribution: Turkey, Syria, Israel, Jordan.
In Israel: 1-7, 10-12, 18; III - VII; cc.

29. *Trichodes viridiaureus* (Abeille, 1881)
Distribution: Israel.
In Israel: 1, 7, 12, 16, 18; V; r.

Tarsosteninae

30. *Tarsostenus univittatus* (Rossi, 1792)
Distribution: Cosmopolitan.
In Israel: 2-4, 8-11, 13, 14; IV - X; c; bred from *Acacia raddiana* inf. with *Lyctus africanus; Acacia* sp. inf. with *Trogoxylon impressum; Carya pecan* inf. with *Lyctus parallelicollis; Cercis soliquastrum* inf. with *Trogoxylon impressum; Eucalyptus maculata* inf. with *Lyctus brunneus; Ficus retusa* inf. with Trogoxylon impressum; Quercus sp. (on board introduced from Serbia) inf. with *Lyctus planicollis; Schinus terebinthifolius* inf. with *Trogoxylon impressum; Triplochiton sclerodendron* (Obeche) on plywood and furniture made from plywood inf. with *Lyctus* spp. Note: An important predator of *Lyctus africanus*, which causes severe damage to wood products (Geist and Halperin, in preparation).

Korynetinae

31. *Korynetes coxalis* Reitter, 1894 **New record for Israel**
Distribution: Syria, Crete.
In Israel: 1; IV; rr.

32. *Korynetes pusillus* Klug, 1842 **New record for Israel**
Distribution: Corsica, Sardinia, Sicily.
In Israel: 4; IV, V; rr.

33. *Necrobia ruficollis* (Fabricius, 1775) **New record for Israel**
Distribution: Cosmopolitan.
In Israel: 8, 15; IV, IX; rr.

34. *Necrobia rufipes* (DeGeer, 1775) **New record for Israel**
Distribution: Cosmopolitan.
In Israel: 15; IV; rr.

35. *Necrobinus defunctorum* (Waltl, 1835) **New record for Israel**
Distribution: Spain, Portugal, Morocco, Algeria, Tunisia, Syria.
In Israel: 15; II; rr.

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