

## **ALEYRODIDS, COCCIDS, DIASPIDIDS AND PSEUDOCOCCIDS (HOMOPTERA) FROM ASWAN GOVERNORATE**

**SHAABAN ABD-RABOU**

*Plant Protection Research Institute, Agricultural Research Center, Dokki, Giza, Egypt*

(Manuscript received June 2003)

---

### **Abstract**

This work included the survey of Families Aleyrodidae(11), Coccidae (7), Halimococcidae (1), Lecanodspididae (1), Phoenicococcidae (1), and Pseudococidae (4) (Homoptera) and their parasitoids in Aswan Governorate during 2001-2002. Fourty one species of these pests were recorded as well as hosts, distribution and parasitoids of the species were given. Twenty parasitoids species were recorded attacking the formentioned pests. Diaspidis is the largest group in Aswan Governorate, followed by the aleyroidids.

### **INTRODUCTION**

Climatic factors has an ultimate determining role in the distribution and abundance of organisms (Huffaker *et al.*, 1984). It also greatly influences (and at least restricts) the distribution and abundance of animal and plant populations (Huffaker and Gutierrez, 1990).Aswan Governorate characterized by special weather condition which reflects on fauna and flora of this location (Abd-Rabou, 1998). The present work dealt with the collected material from whiteflies (Aleyrodids), armored scale insects (Diaspidids), soft scale insects (Coccids), pseudomealybugs (Pseudococcids) and their parasitoids in different locations in Aswan Governorate during 2001-2002.

### **MATERIALS AND METHODS**

A survey was carried out alllover Aswan Governorate during 2001-2002. Infested host plants with any of the prospective insect groups were examined in the field, using a pocket lens. Leaves from different host plants were collected and placed

separately in paper bags for further examination in the laboratory. Identification of aleyrodids, coccids, diaspidids and pseudococcids and other scale insect families were made by examining their pupal case and mounted adults in Canada balsam, according to Bink-Moenen (1983). Materials were also kept in a well-ventilated container until the emergence of any parasitoids. Identification of parasitoids was made by examining their mounted adults in Hoyer's medium (Noyes, 1982).

### RESULTS AND DISCUSSION

Whiteflies (Aleyrodidae), armored scale insects (Diaspididae), soft scale insects (Coccidae), pseudomealybugs (Pseudococcidae) and their parasitoids at different locations in Aswan Governorate during 2001-2002, are presented in Table 1.

During the present work forty one species of aleyrodids, coccids, diaspidids, halimococcids, lecanodiaspidids, phoenicococcids and pseudococcids and other scale insects families were collected from Aswan Governorate. Bink -Moenen (1983) recorded 6 species of whiteflies from Aswan. Later, Abd-Rabou (1997) added two new recorded species from the same Governorate. While Mohammed and Nada (1991) recorded two species from soft scale insects. Priesner and Hosny (1940) recorded three parasitoid species from Aswan attacking some species of these pests. While in the present work twenty two of parasitoids species were collected.

Table 1. Aleyrodids, coccids, diaspidids and pseudococcids and their parasitoids

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
I. Aleyrodidae	1. <i>Acaudaleyrod-es citri</i> Priesner & Hosny)	The black alurodid	<i>Acacia</i> sp., <i>Acacia tortilis</i> , <i>A. nilotica</i> , <i>Alhagi maurorum</i> , <i>Leptadenia heterophylla</i>	Kom Ombo, El-Deka and Selwa; Idfu, El-Ramady; Aswan city, Elefantine Island and El-Aaqab	None
	2. <i>Aleurocanthus zizyphi</i> Priesner	Nabkh whitefly	<i>Balanites aegyptiaca</i> , <i>Zizyphus spina-christi</i>	Aswan city, Elefantine Island and Kom Ombo, Korta	<i>Encarsia lutea</i> (Mas).
	3. <i>Aleurolobus niloticus</i> Priesner & Hosny	Mignonette whitefly	<i>Balanites</i> sp., <i>B. aegyptiaca</i> , <i>Lawsonia inermis</i> , <i>Ficus sycamorus</i> , <i>Z. spina-christi</i>	Idfu, El-Tonab; Kom Ombo, El-Kagog; Aswan city, El-Aaqab and Abu Simbil	<i>Encarsia elegans</i> Masi. *

Table 1. Con't

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
	4. <i>Aleurotuzerulatus porosus</i> (Priesner & Hosny)	Porosus nebkh whitefly	<i>Z. spina-christi</i>	Kom Ombo, Korta	None
	5. <i>Aleuroplatus acacia</i> Bink-Moenen	Sunt whitefly	<i>A. nilotica</i>	Aswan city, Elefantine Island	None
	6. <i>Bemisia afer</i> (Priesner & Hosny)	Sycamore whitefly	<i>A. nilotica</i> and <i>Albizia</i> sp.	Kom Ombo, El-hegadya and El-Kagag	<i>Encarsia davidi</i> <i>Viggiani</i> , <i>E. lutea</i> , <i>Eretmocerus corni</i> Heideinan, <i>E. mundus</i> (Mercet).

Table 1. Cont'

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
	<i>Z. Bemisia</i> ( <i>tabaci</i> complex) (Genn.)	Cotton whitefly	<i>Acacia</i> sp., <i>A. tortilis</i> , <i>Althaea</i> sp., <i>Bauhinia</i> sp., <i>Cucumis sativus</i> , <i>Helianthus annuus</i> , <i>Lantana camara</i> , <i>Lathyrus articulatus</i> , <i>Lotus arabicus</i> , <i>Lycopersicon esculentum</i> , <i>Malva rotundifolia</i> , <i>M. sylvestris</i> , <i>Parkinsonia aculeata</i> , <i>Saccharum officinarum</i> , <i>Withania somnifera</i>	Kom Ombo; El-Rakawa, Seiwa, Korta, El-Kagog and El-Aqilata; Idfu, El-Rdliya, El-Sebaya and El-Tonab; Daraw, El-Gaferia and El-Retay; Aswan city, El-Aeqab	<i>Encarsia davidi</i> Viggiani, <i>E. lutea</i> , <i>Eretmocerus corni</i> Haldeman, <i>E. mundus</i> (Mercet),

Table 1. Con't

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
	8. <i>Dialeurodes Airkaldyi</i> (Kobinsky)	Jasmine whitefly	<i>M. rotundifolia</i>	Daraw, El-Retay	None
	9. <i>Ramsessus folioli</i> Zahradnik	Egyptian whitefly	<i>M. rotundifolia</i>	Aswan city Elefantine Island	<i>Encarsia ramsesi</i> Polaszek and <i>Eretmocerus</i> sp
	10. <i>Siphonius phyllirea</i> (Hal.)	Pomegranate whitefly	<i>Punica granatum</i>	Aswan city, Elefantine Island	<i>Encarsia inaron</i> (Walker).
	11. <i>Tetraleurodes leguminicola</i> Blnk-Moenen	Leguminous whitefly	<i>A. nilotica</i>	Aswan city, Elefantine Island	<i>Encarsia acauleyrodis</i> Hayat, E. davidi, E. ramsesi and <i>Euderomphale</i> sp.

7

Table 1.Con't

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
II. Coccidae	1. <i>Ceronomia africana</i> Mactfc	African wax scale	<i>Ficus nitida</i>	Kom Ombo, Korta	None
	2. <i>Coccus hesperidum</i> L.	Brown soft scale	<i>Bambusa</i> sp.	Aswan city, El-Aaqab	<i>Diversinervus elegans</i> Silvestri.
	3. <i>Parasaissetia nigra</i> (Nietner)	Niger soft scale	<i>F. scaymours</i>	Kom Ombo, El-Ramady	<i>Paraceraptencerus africanus</i> Girault
	4. <i>Pulvinaria tenuivalvata</i> (Newstead)	Sugar cane soft scale	<i>S. officinarum</i>	Nasr El-Noba, Dar El-Salam	<i>Coccophagus scutellaris</i> (Dalman)
	5. <i>Saissetia coffeae</i> (Walker)	Hemispherical soft scale	<i>Ficus nitida</i>	Kom Ombo, El-Kagag	None

Table 1.Cont'

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
	6. <i>Saissetia oleae</i> (Walker)	Mediterranean black scale	<i>Ficus nitida</i>	Idfu, El-Sebaya	<i>D. elegans</i> and <i>Scutellista cyanea</i> (Mot.).
	7. <i>Waxiella mimosea</i> (Signoret)	Acacia wax scale	<i>A. nilotica</i>	Aswan city, Elefantine Island	<i>P. africanus</i>
III. Diaspididae	1. <i>Abgrallaspis cyanophylli</i> (Signoret)	Chaff scale	<i>Arcaetus pritchardii</i>	Kom Ombo, Selwa	None
	2. <i>Adiscodiaspis tamariccola</i> Malenotti	Tamarix scale	<i>Tamarix</i> sp.	Aswan city, Elefantine Island	<i>Habrolepis aspicioti</i> Compere.
	3. <i>Aonidiella aurantii</i> (Maskell)	Red scale	<i>Ficus nitida</i>	Kom Ombo, El-Hegadya	None
	4. <i>Artemisaspis farsetiae</i> (Hall) species.	Farsetia scale	<i>Tamarix</i> sp.	Aswan city, Elefantine Island	None



Table 1.Cont'

Family	Species	Common Name	Host Plants	Locations	Recorded Parasitoids
	6. <i>Saissetia oleae</i> (Walker)	Mediterranean black scale	<i>Ficus nitida</i>	Idfu, El-Sebaya	<i>D. elegans</i> and <i>Scutellista</i> <i>cyanea</i> (Mot.).
	7. <i>Waxiella mimosea</i> (Signoret)	Acacia wax scale	<i>A. nilotica</i>	Aswan city, Elefantine Island	<i>P. africanus</i>
III. Diaspididae	1. <i>Abgrallaspis</i> <i>cyanophylli</i> (Signoret)	Chaff scale	<i>Arcaetus</i> <i>pritchardii</i>	Kom Ombo, Selwa	None
	2. <i>Adiscodiaspis</i> <i>tamaricicola</i> Malenotti	Tamarix scale	<i>Tamarix</i> sp.	Aswan city, Elefantine Island	<i>Habrolepis aspidioti</i> Compere.
	3. <i>Aonidiella</i> <i>aurantii</i> (Maskell)	Red scale	<i>Ficus nitida</i>	Kom Ombo, El-Hegadya	None
	4. <i>Artemisaspis</i> <i>farsetiae</i> (Hall) species.	Farsetia scale	<i>Tamarix</i> sp.	Aswan city, Elefantine Island	None

Table 1. Cont'

Family	Species	Common Name	Host Plants	Distribution	Recorded Parasitoids
	5. <i>Aspidaspis longilobus</i> (Hall)	Long tail scale	<i>Tamarix</i> sp.	Aswan city, Elefantine Island	None
	6. <i>Chrysomphalus aonidium</i> (L.)	Black scale	<i>Eucalyptus</i> sp.	Kom Ombo, El-Deka	<i>Encarsia lounsburyi</i> (Berlese& Paloli).
	7. <i>Chrysomphalus dictyospermi</i> (Morgan)	Dictyospermum scale	<i>Ficus nitida</i>	Kom Ombo, El-Hegadiya	None
	8. <i>Contigaspis zillae</i> (Hall)	Zilla scale	<i>Calatropis procera</i> , <i>Forssetia aegyptiaca</i> , <i>Ochradenus baccatus</i> , <i>Telephium sphaerospermum</i>	Kom Ombo, El-Rakawa and El-Aqilate; Idfu, El-Rdiya; Daraw, El-Retay	None
	9. <i>Insulaspis pallidula</i> (Green).	Mango scale	<i>Mangifera indica</i>	Kom Ombo, Selwa	None
	10. <i>Lepidosaphes beckii</i> (Signoret)	Purple scale	<i>M. indica</i>	Nasr El-Noba, Balana	None

Table 1. Cont

Family	Species	Common Name	Host Plants	Distribution	Recorded Parasitoids
	11. <i>Lineaspis striata</i> (Newstead)	Arborvitae scale	<i>Thuja ovariantali</i>	Nasr El-Noba, Balana	<i>E. lounsburyi</i>
	12. <i>Kirishchenkella cellulose</i> (Hall)	Unknown	<i>Iperata cylindrical</i>	Kom Ombo, El-Rakawa	None
	13. <i>Nilotaspis isis</i> (Hall)	Isis scale	<i>Tamarix</i> sp.	Nasr El-Noba, Balana	None
	14. <i>Parlatoria oleae</i> (Clovee)	Olive scale	<i>Oleander</i> sp.	Daraw, El-Retag	<i>Aphytis diaspidis</i> How.
	15. <i>Pseudotargionia glandulosa</i> (Newstead)	Acacia scale	<i>Acacia</i> sp.	Kom Ombo, El-Kagog	None
	16. <i>Sallicola africana</i> (Newstead)	Willow scale	<i>Salix</i> sp.	Nasr El-Noba, Dar El-Salam	None

Table 1. Con't

Family	Species	Common Name	Host Plants	Distribution	Recorded Parasitoids
IV. Halimococcidae	1. <i>Halimococcus thebaicae</i> Hall	Thebaica scale	<i>Hyphaene thebaica</i>	Kom Ombo, Korta	None
V. Lecanodiaspididae	1. <i>Lecanodiaspis africana</i> (Newstead)	African scale	<i>Psidium guajava</i>	Kom Ombo, Korta	None
VI. Phoenicococcidae	1. <i>Phoenicococcus marlatti</i> Cockerell	Red date palm scale	<i>Phoenix dactylifera</i>	Kom Ombo, El-Sebaya	None
VII. Pseudococcidae	1. <i>Dysmicoccus trispinosus</i> (Hall)	Unknown	Halfa grass	Kom Ombo, El-Hegadya	<i>Leptomastix abnormis</i> (Girault).
	2. <i>Kiritchenkella sacchari</i> (Green)	saccharum mealybug	Halfa grass	Aswan city, Elefantine	<i>Anagyrus pseudococci</i> (Girault).
	3. <i>Macromelicoccus hirsutus</i> (Green)	Hibiscus mealybug	<i>Hibiscus</i> sp.	Idfu, El-Tonab	<i>Anagyrus kamali Moursi</i>
	4. <i>Saccharicoccus sacchari</i> (Cockerell)	Pink sugar cane mealybug	<i>S. officinarum</i>	Idfu, El-Rdisya	<i>Paraphaenacodiscus</i> sp.

**REFERENCES**

1. Abd-Rabou, S. 1997. Hosts, distribution and vernacular names of whiteflies (Homoptera :Aleyrodidae) in Egypt. *Annals of Agric. Sc., Moshtohor*, 35(2): 1029-1048.
2. Abd-Rabou, S. 1998. Role of environmental factors on specific occurrence of whitefly parasitoids (Hymenoptera: Chalcidoidea) in Egypt .The Third Conference, Meteorology and Sustainable Development,Cairo , : 267-274.
3. Bink-Moenen, R. M. 1983. Revision of the African whiteflies (Aleyrodidae) mainly based on a collection from Tchad. *Monogra fien Van de Nederlandse Entomologische Vereniging*,10: 1-210.
4. Huffaker, C.B. and A. P. Gutierrez. 1990. Natural enemies and prey population regulation PP.185-193. In: Rosen, D. (ed) *Armored scale insects*.
5. Huffaker, C.B., A.A. Berryman. and J. E.Laing. 1984. Natural control of insect population. In: Huffaker, C. and Rabb, R. (eds). *Ecological Entomology*, Wiley, New York.
6. Mohammed, Z. K.and S. Nada. 1991.Observation on the Coccidae of Egypt (Homoptera :Coccoidea).Fourth Arab Congress of Plant Protection Cairo, :105 -110.
7. Noyes, J.S. 1982. Collecting and preserving chalcidid wasps Hymenoptera : Chalcidoidea. *Journal of Natural History*,16:315-334.
8. Priesner, A. and M. Hosny. 1940. Notes on parasites and predators of Coccidae and Aleyrodidae in Egypt. *Bull. Ent. Soc. Egypt*, 24:56-70.

الذباب الأبيض والحشرات القشرية الرخوة والمسلحة والبق الدقيقي  
وطفيلياتهم في محافظة أسوان

شعبان عبد ربه

معهد بحوث وقاية النباتات مركز البحوث الزراعية - الدقي جيزة - مصر

تم في هذا العمل حصر للذباب الأبيض والحشرات القشرية المسلحة والحشرات القشرية الرخوة والبق الدقيقي والطفيليات المصاحبة لهم بالإضافة الي العوائل النباتية والتوزيع الجغرافي لهذه الأنواع في محافظة أسوان أثناء الفترة من ٢٠٠١-٢٠٠٢. وقد أظهرت النتائج أن محافظة أسوان بها ٤٢ نوعا من هذه الأقات مصاحبة لها ٢٢ طفيل.