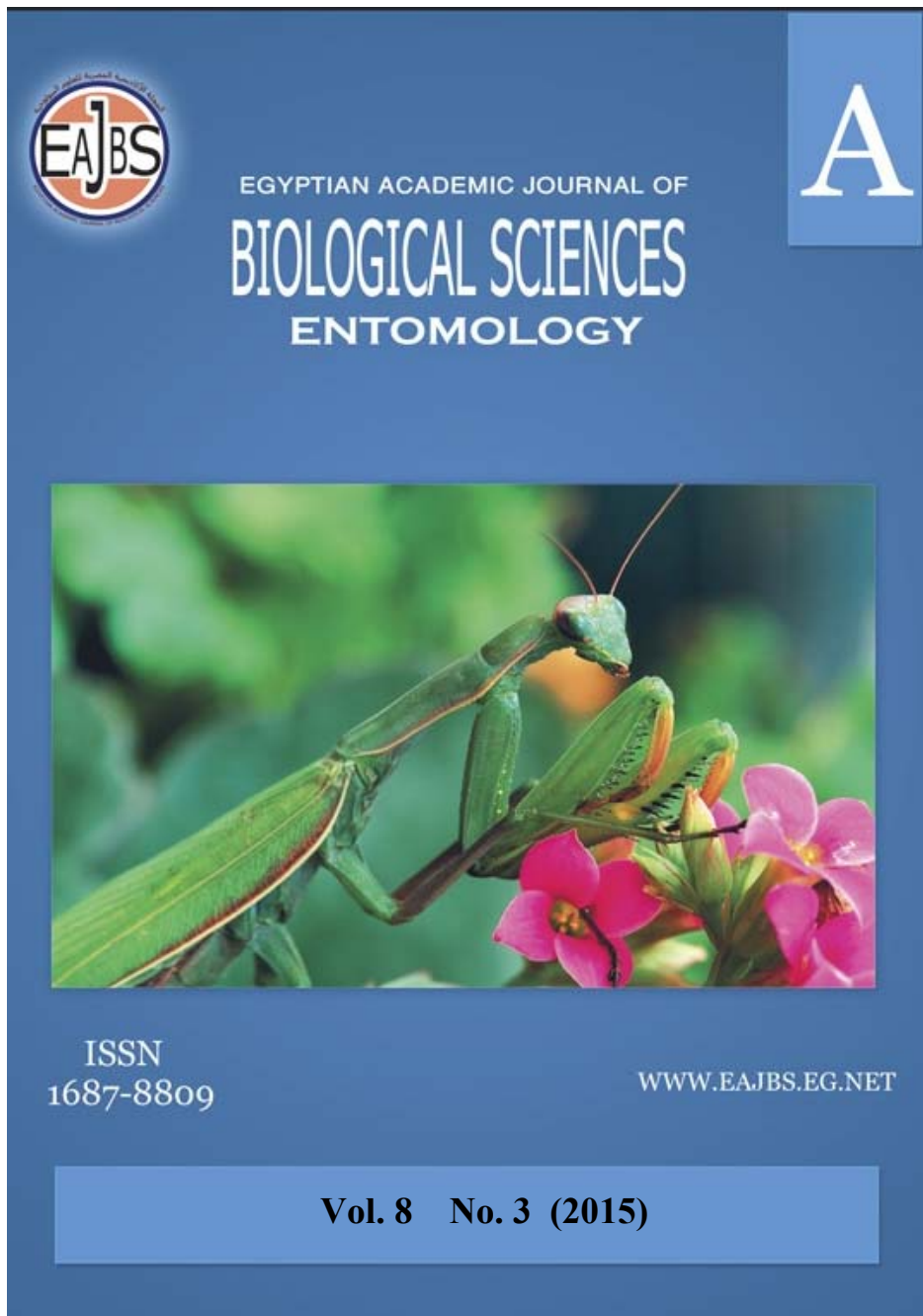


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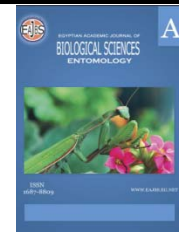


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New Species and New Record of The General *Aceria* Keifer and *Calepitrimerus* Keifer (Prostigmata: Acari: Eriophyidae) From Egypt

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ABSTRACT

A new species, *Aceria alba* n. sp. (Acari: Prostigmata: Eriophyidae) collected from *Sida alba* L. (Malvaceae) from Egypt. *Calepitrimerus vitis* (Nalepa) collected from *Vitis vinifera* L. (Vitaceae) described for the first time in Egypt.

INTRODUCTION

Eriophyoid mites (Acari: Eriophyoidea) are one of the most diverse groups among plant-feeding arthropods. Many of them are of great economic importance because of the abnormalities they induce on their host plants or the plant viruses they transmit, moreover some species have been considered to have high potential for use as classical biological control agents of weeds (Oldfeld & Proesler, 1996; Westphal & Manson, 1996). The super family Eriophyoidea contains about 4000 species and the current rate of description of new eriophyoid taxa remains high (Amrine *et al.*, 2003; De lillo & Skoracka, 2010). Although knowledge about eriophyoid geographical diversity has been restricted largely due to the climatic regions of the world and tropical and subtropical countries, where more than 90% of known species have been found (De lillo & Skoracka, 2010). The fauna of Eriophyoidea in Egypt has not yet been studied comprehensively. At the eighth decade of the 19th century, the Egyptian fauna represented by sixty eight species through the collective work conducted by Zaher *et al.*(1984), while in the 20th century, few scientific papers have been published and included new species and other species were synonymous (Halawa & Azza Mohamad, 2015); (El-halawany & Ueckermann, 2015) and (Halawa,*et al*, 2015). As, the studies on these group of mites are very rare, because of its complexity and difficulty in terms of isolation, mounting and classification, this paper, we describe and illustrate new species from genus *Aceria* collected from weeds (*Sida alba* L) grew in grape farms and re-description of other species from genus *Calepitrimerus* on grape leaves recorded for the first time in Egypt.

MATERIALS AND METHODS

Irregular samples were collected from vineyard orchards *Vitis vinifera* L. throughout Egypt during two years (2012-2014). Samples included leaves , fruits, buds and weeds under trees and were individually kept in tightly-closed plastic bags

and transported at same day to the Fruit Acarology Department, Plant Protection Research Institute (PPRI), Agricultural Research Center (ARC). Mites were removed using a fine hairbrush under dissecting stereomicroscope and cleared, mounted on micro-slides by using Keifer medium according to Keifer (1975), Then dried at 40 C° for one week (Zhang, 2003) and finally examined under Carl Zeiss compound microscope. Collected mites were Identified according to Amrine *et al.* (2003) and published descriptions of *Calepitrimerus* and *Aceria* species. The type materials were deposited as slide- mounted specimens in the mite collection of the Agricultural Research Center, Plant Protection Research Institute, Fruit Acarology Department

RESULTS

Taxonomy

Family: Eriophyidae Nalepa, 1898

Subfamily: Eriophyinae, 1898

Tribe: Aceriini Amrine & Stasny, 1994

Genus: *Aceria* Keifer, 1944.

=*Eriophyes* Vonsiebold, 1851:89; Newkirk and Keifer, 1971:2.

Type species: *Eriophyes tulipae* Keifer, 1938: 185

***Aceria alba* sp. nov (Fig. 1)**

Diagnosis: Females of *Aceria alba* sp. nov. are similar to females of *Aceria ficus* (Cotte) in dorsal, ventral and leg taxa but can be distinguished by absence of dorsal shield lines which are present in *A. ficus*, prodorsal shield is smooth in *A. alba* sp. nov while it punctuated in lateral area in *A. ficus*; feather claw with four rays in *A. alba* sp. nov while it with five rays in *A. ficus*; microtubercles rounded in *A. alba* sp. nov while ovoid in *A. ficus*.

Description: Females (n= 8). Body vermiform, 155(145-192) long, 48 (45-69) wide; color in life light yellow. Gnathosoma: projecting slightly downwards, 20 (19-20) long; pedipalp coxal setae *ep* 4(2-4) long dorsal pedipalp genual setae *d* 4(3-6) long, subapical pedipalp tarsal setae *v* 2(2-3) long. Chelicerae 17 (15-19) long, straight. Prodorsal shield: 30 (29-33) long, 49(48-52) wide, semicircular. Scapular setae *Sc* 33(30-34) long on scapular tubercles 4 (3-5) apart on rear shield margin, directed to the rear margin, shield design smooth. Frontal lobe 15 (13-16) long. Legs: with all setae present. Leg I 39 (32-39) long; femur 11(10-12) long, venter basiformal setae *bv* 4 (4-6) long; genu 7 (6-8) long, antaxial geual setae *l''* 18 (17-20) long; tibia 6 (6-7) long, paraxial tibial setae *l'* 6(5-7) long; tarsus 7 (5-6) long, antaxial fastigial tarsal setae *ft''* 19 (17-20) long, paraxial fastigial tarsal setae *ft'* 11 (11-12) long, paraxial unguinal tarsal setae *u'* 5 (5-6) long, solenidion straight slightly knobbed 8 (7-9) long; empodium entire 5 (4-5) long, 4 rayed. Leg II 30 (29-33) long; femur 10 (8-12) long, venter basiformal setae *bv* 6 (4-7) long; genu 7 (6-8) long, antaxial geual setae *l''* 17 (17-20) long; tibia 8(6-8) long, paraxial tibial setae *l'* 4(4-5) long; tarsus 5 (5-6) long, antaxial fastigial tarsal setae *ft''* 20 (17-20) long, paraxial fastigial tarsal setae *ft'* 11(11-12) long, paraxial unguinal tarsal setae *u'* 5 (5-6) long, solenidion straight slightly knobbed 8 (7-9) long; empodium entire 5(4-5) long, 4 rayed. Internal coxisternal apodeme a line 9 (9-11) long. Anterior setae on coxisternum I *Ib* 4(4-6) long, 1 (1-2) apart; proximal setae on coxisternum I *Ia* 30 (28-32) long 11(11-13) apart; proximal setae on coxisternum II *2a* 42(33-43) long; distance between setae *Ib* and *Ia* 10(7-10) long. Opithosoma: with 69 (65-81) dorsal annuli, microtubercles rounded. Ventral opithosoma with 62(60-79) annuli, with rounded microtubercles; both dorsal and ventral microtubercles situated slightly ahead of, or on margin of

each annuli. Last 4-6 dorsal annuli smooth. Opithosoma setae *c*₂ 20(19-25) long 53(50-55) apart, on annulus 9 (9-11); opithosomal setae *d* 35 (33-39) long, 41(40-44) apart, on annulus 32 (22-24); opithosomal setae *e* 17 (16-18) long, 22 (20-23) apart, on annulus 46 (45-46); opithosomal setae *f* 15(14-16) long, 19 (15-22) apart, on annulus 69 (67-72); opithosomal *h*₂ 45 (42-48) long; opithosomal *h*₁ 5 (5-6) long. Genital coverflap: 42 (4-44) wide, 37 (35-37) long, with 4 longitudinal ridges; proximal setae on coxisternum III *3a* 30 (28-30) long, 17 (15-17) apart.

Type material: Holotype female 14 paratypes (10 females, 4 males), ex *Sida alba* L (Malvaceae). Egypt: Sohag province, Shandawil district, 20 April 2014, coll. Dr. Azza Mohamad.

Type deposition: Holotype and paratypes deposited at the Plant Protection Research Institute – Agricultural Research Center- Fruit Acarology Collection, Dokki, Kairo, Egypt.

Relation to host: The mites live on terminal buds of grass *Sida alba* L

Etymology: The new species name is derived from the scientific name of the host plant (*Sida alba* L).

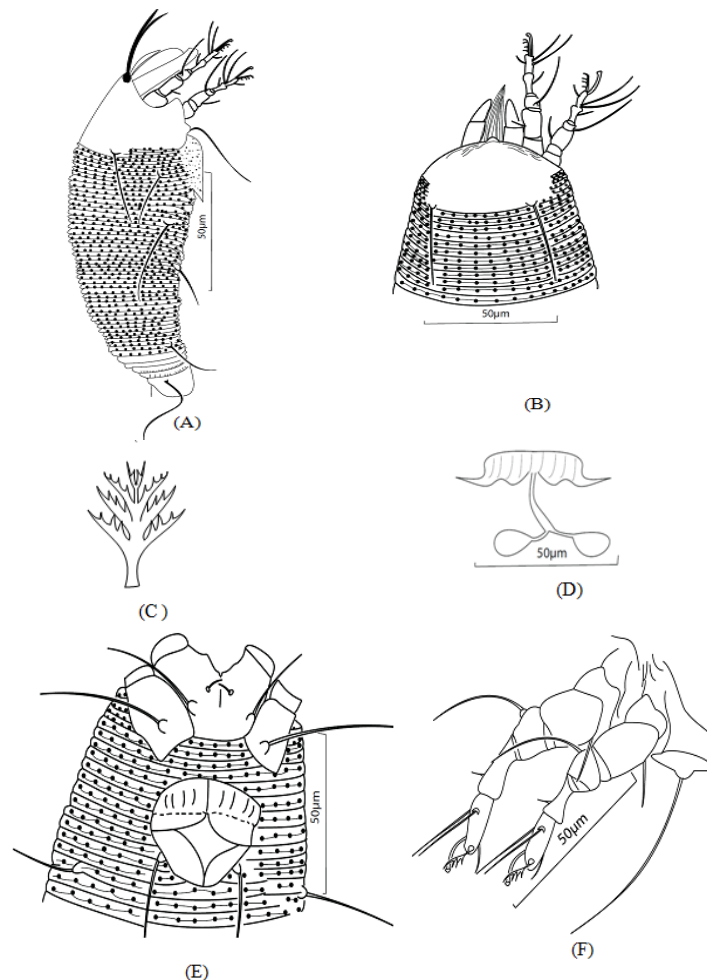


Fig. 1: *Aceria alba* Halawa sp. nov. (A) Lateral view (B) Dorsal shield (C) Feather claw (D) Female internal genitalia (E) Female coxigenital (F) Legs (D).

Family: Eriophyidae Nalepa, 1898

Subfamily: Phyllocoptinae, 1898

Tribe: Phyllocoptini Nalepa, (1892)

Genus: *Calepitrimerus* Keifer, 1938.

= *Phyllocoptes* Nalepa, 1887

Type species: *Calepitrimerus cariniferus* Keifer, 1938: 310: 27

***Calepitrimerus vitis* (Nalepa), 1905: 445 :42 (Fig. 2)**

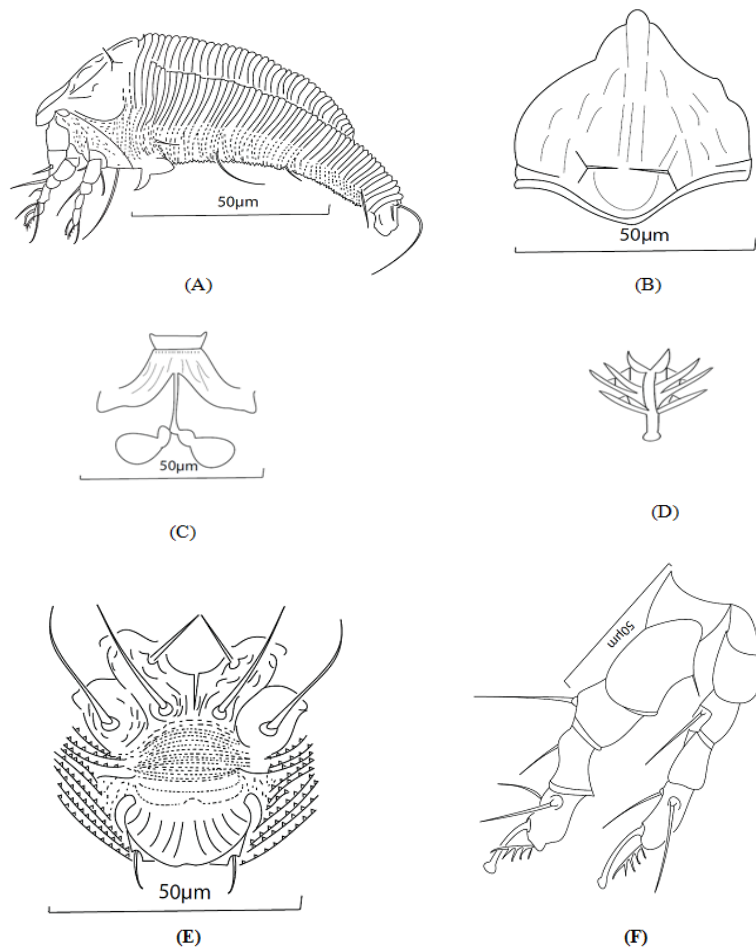


Fig. 2: *Calepitrimerus vitis* (Nalepa) (A) Lateral view (B) Dorsal shield (C) Feather claw (D) Female internal genitalia (E) Female coxigenital (F) Legs (D) .

Synonyms:

***Epitrimerus vitis* Nalepa, 1905:445:42.**

***Phyllocoptes vitis* Nalepa, 1905: 268:42.**

Re-descriptions: Females (n=5). Body fusiform 175 (150- 190) long, 55(49-73) wide, color in life light yellow. Gnathosoma slightly downwards, 18 (17-20) long. Prodorsal shield 67(65-71)long, 55(50-63) wide; design a series of microtuberculate lines as follows: median line short, admedian line complete but broken submedian lines curved, short and broken, U shape present ahead of rear margin under tubercles of prodorsal setae. Scapular setae *Sc* 17 (15-19) long on scapular tubercles 3 (2-4) apart directed to inner side. Prodorsal shield with a lobe over gnathosoma 10 (8-12). Coxal area with short lines. Leg I 55 (50-55), femora, 10 (9-13), femoral setae *bv* 7(5-

7); genua 5 (4-7), genual setae l'' 12(10-12); tibiae 16 (12-16), tebial setae l' 8(7-9); tarsi 9(8-11); inner fastigial setae ft' 12(10-13), outer fastigial setae ft'' 11(10-11); solenidian 12(10-13), knobbed; empodia 8(7-9), 4- rayed; Leg II 49(49-15), femora, 10 (9-11), femoral setae bv 6 (5-7); genua 5 (5-7), genual setae l'' 10 (10-12); tibiae 14(12-16), tebial setae l' absent; tarsi 8 (8-10); inner fastigial setae ft' 11 (10-11), outer fastigial setae ft'' 11 (11-12); solenidian 12(10-13), knobbed; empodia 9 (7-9), 4- rayed. Coxal setae lb 12 (11-12), 15 (13-16) apart; coxal setae la 18 (11-20), 17 (13-18); coxal setae $2a$ 20 (14-20), 19 (16-20). Coverflap genitalia 25(20-25), 45(40-49) wide with 10 longitudinal ridges arranged in one rank; setae 13(11-14). Dorsal opithosoma: with 69(65-81) dorsal annuli and central ridge sharper and higher ending in a board trough before lateral ridges; dorsal opithosoma with 52(50-59) rings. Ventral opithosoma with 74 (7-80) rings and all ventral opithosoma setae present; setae $c2$ 14 (12-16) on annulus 11(9-12); setae d 31(30-15) on annulus 25 (23-30); setae e 20 (18-22) on annulus 40 (37-42); setae f 22 (20-23) on annulus 61(59-64); setae $h2$ 39 (39-44). MALE: not recorded.

Material examined: 5 females ex *Vitis vinifera* L. (Vitaceae). Egypt: Sohag province, Shandawil district, 20 April 2014, coll. Dr. Azza Mohamad.

Relation to host: The mites live on lower surface of grape leaves causing browning spots.

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ARABIC SUMMERY

نوع جديد وتسجيل اول مرة لانواع من اجناس *Aceria Keifer* و *Calepitrimerus Keifer* من مصر (*Prostigmata :Acari : Eriophyidae*)

علاء محمد حلاوة

قسم بحوث اكاروس الفاكهة – معهد بحوث وقاية النباتات – مركز البحوث الزراعية.

تم وصف نوع جديد (*Aceria alba* n. sp.) على نبات *Sida alba* L. وتسجيل وإعادة وصف النوع (*Calepitrimerus vitis* (Nalepa) على العنب *Vitis vinifera* لأول مرة في مصر.