

Notes on the Aloe Vera Aphid, *Aloephagus myersi* Essig (Hemiptera: Aphididae) on Non-native Aloe Plants in Korea

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우리나라 비자생 알로에식물의 알로에진딧물 (노린재목, 진딧물과)에 대한 보고

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ABSTRACT: The aloe vera aphid, *Aloephagus myersi* Essig, was collected on imported *Aloe vera* (L.) Burm.f. (Xanthorrhoeaceae) grown in greenhouses in Korea. This species is native to tropical Africa and probably was introduced into greenhouses via the aloe plant trade. This introduction reinforces the need to focus attention on the eradication from collected localities, and for constant surveillance and detection at ports of entry to prevent introduction and establishment of new pests in the Korean environment. In this paper, additional information for the aloe vera aphid is provided with diagnoses and photographs along with host plant and distribution data for accurate species identification.

Key words: *Aloephagus myersi*, Exotic species, Invasion, Greenhouse, Korea

초록: 온실에서 재배되는 수입 알로에묘목에 알로에베라진딧물, *Aloephagus myersi* Essig, 이 채집되었다. 이 종의 원산지는 아프리카로 알려져 있고 수입된 식물을 통해 온실에 도입된 것으로 추정된다. 우리나라의 자연환경에 도입과 정착을 방지하기 위한 이들 종의 진단형질, 사진자료, 기주 및 분포정보를 제공하고자 한다.

검색어: *Aloephagus myersi*, 외래종, 침입, 온실, 한국

In Korea, various non-native plants steadily have been introduced from tropical and subtropical areas due to reasons such as beauty, diversity, health food etc. Based on a database of Pest Information System (PIS, 2014), 64,798 quarantine inspections of imported plants were made between 2009 and 2013; of these, aloe plants accounted for 0.44% of imported plants. Aloe plants usually originated from China (66.7%) and USA (13.7%). The number of invasive insect pests introduced

through such biological pathways was 26 species. Of these, one aphid species, *Aphis fabae* Scopoli, has been documented (Park, 2010). During import inspections of aloe plants, four species of pests were found. Of them, an aphid was intercepted once and identified to the level of family according to data on PIS.

Recently specimens of a new non-native aphid, *Aloephagus myersi* Essig (Hemiptera: Aphididae), were collected from the bases of the leaves of imported *Aloe vera* (L.) Burm.f. (Xanthorrhoeaceae) grown in greenhouses of growers on 16.iv. 2014 at Jeju. However, it has not been intercepted during

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inspections of imported plants, including aloe plants at Korean ports of entry up to now. Even though the aloe vera aphid is believed to be Afrotropical (Blackman and Eastop, 1994), it has spread and invaded several regions including USA (California) and Europe prior to this detection (Halbert, 2002). Aloe vera aphids are intercepted infrequently in Florida (Halbert, 2002). In the field, aloe vera aphids look similar to mealybugs since they are covered with fuzzy whitish wax. They may have been overlooked previously because mealybugs occur commonly in greenhouses. The only known hosts of *Aloephagus myersi* are

Aloe and *Haworthia*. In Africa, a host alternation between *Pistacia* and *Aloe* is suspected, but not documented (Blackman and Eastop, 1994).

When it comes to economic importance, the aloe vera aphids feed at the bases of the leaves or in rolled ends of damaged leaves (Fig. 1A-B). Soiling from honey dew and sooty mold can be extensive. The distribution of this non-native species within Korea probably will be restricted to climate zones suitable for tropical plants. The Korean climate may not be appropriate for them in most of Korea. However, this species may pose a threat

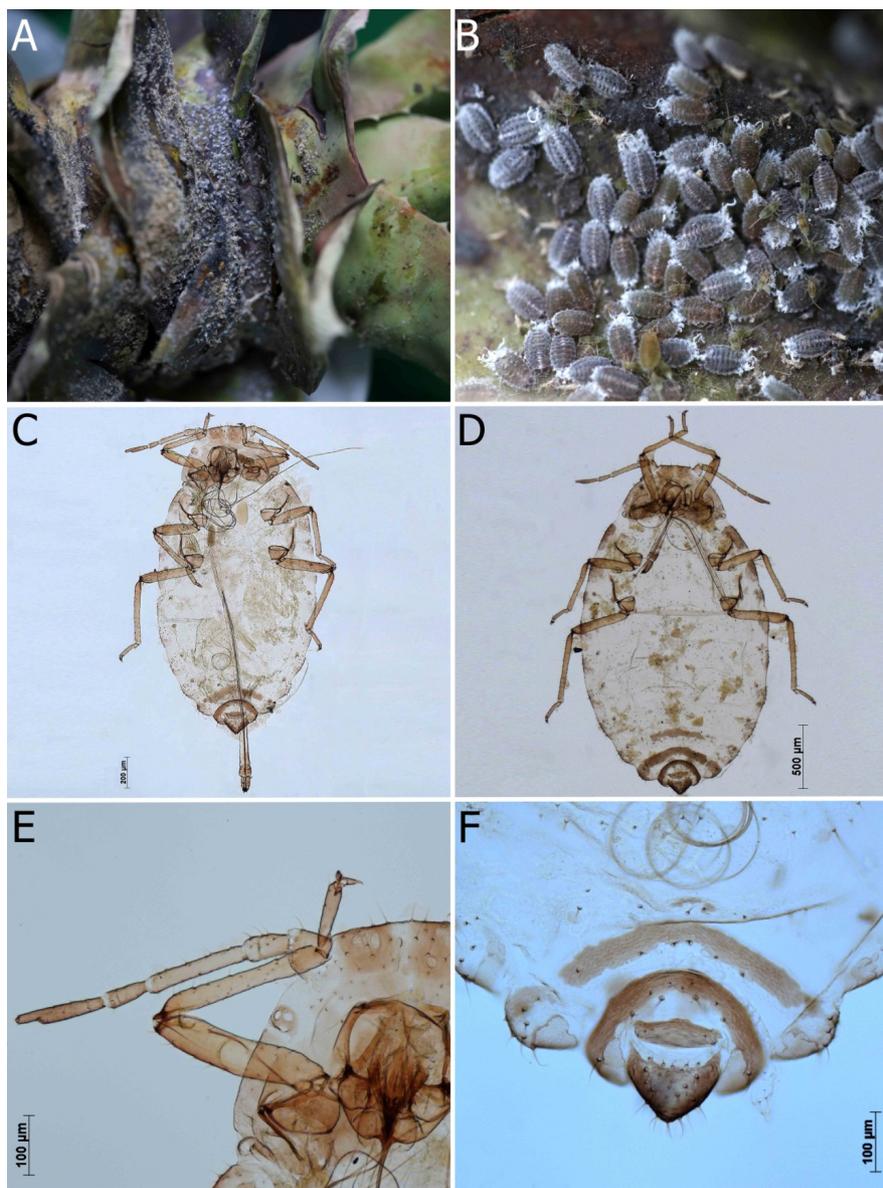


Fig. 1. *Aloephagus myersi* Essig; A-B. habitus, C. female with long and slender rostrum, D. female with retracted rostrum, E. head, F. cauda (sub-anal plate).

to its host in greenhouses (Essig, 1950; CCPC, 2014). The need to focus attention on the eradication from collected localities and for constant surveillance and detection at ports of entry is reinforced.

Essig (1950) gave a good description and illustration of *Aloephagus myersi*. A brief diagnosis is provided in the following paragraphs. All of the specimens for this paper were processed and mounted in Canada Balsam on microscope slides and are deposited in the Collection of Plant Quarantine Technology Center (PQTC), QIA. Photographs of slide-mounted specimens were taken using an AxioCam MRc5 camera through ZEISS Axio Imager M2 Microscope.

Aloephagus myersi Essig (Fig. 1C-F)

Diagnosis. Field characters (apterous form): Body oval; body orange-brown or dull-green; fuzzy whitish wax covering body, not thick enough to hide body color with 2 submedial longitudinal bare areas on dorsum. Slide-mounted characters (apterous form): Sparsely covered with short spines arranged in transverse rows on the abdominal segments; with groups of glandular areas; rounded lateral tubercles on the prothorax, and six obvious abdominal segments. Antennae 5-segmented; length ratio of processus terminalis/base less than 0.4. Eyes small and 3-faceted; rostrum long, reaching to or beyond the tip of the abdomen (according to the original description, long and slender rostrum present, however, specimens collected quickly will not show this character if the rostrum is retracted), slender with apical segments somewhat swollen with few short hairs. Siphunculi absent. Cauda (sub-anal plate) nearly the form of an isosceles triangle with many short, stout curving hairs.

Material examined. Korea. Jeju-do: Aewol-eup, Jeju-si, 8 adult females on four slides, two vials containing 98 adult females and 34 nymphs, on the leaves of *Aloe vera* (greenhouse), 16.iv.2014 (J.-H. Song).

Hosts. Xanthorrhoeaceae: *Aloe africana*, *A. arborescens*, *A. aristata*, *A. castanea*, *A. chabaudii*, *A. cooperi*, *A. eru*, *A. glauca*, *A. mawii*, *A. munchii*, *A. pearsonii*, *A. percrassa*, *A. secundiflora*, *A. striata*, *A. variegata*, *A. vera*, *Aloe* sp., *Haworthia rugosa*, *Haworthia* sp. (Essig, 1950; Blackman and Eastop, 1994).

Distribution. Nearctic: US (California). Afrotropical: Algeria, Angola, Ethiopia, Kenya, Malawi, Mozambique, South Africa,

Zimbabwe. Palaearctic: Japan, UK (greenhouse) (Blackman and Eastop, 1994; Millar, 1994; Halbert, 2002; Sano and Matsumoto, 2005; Laamari et al., 2010; Salisbury et al., 2011; CCPC, 2014).

Remarks. It has been reported as a pest (Essig, 1950; CCPC, 2014).

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