The Life Cycle of *Ascia monuste* (L.) (Lepidoptera, Pieridae) in Trinidad, W.I.

Ascia monuste (L.) also known as the great southern white is one of the 29 Pieridae butterflies found in Trinidad & Tobago (Barcant 1970, Cock 2014) and is considered common. However, we did not find any published account of the life cycle of this species in Trinidad.

The host plant species observed in this note were naturally occurring *Cleome* sp., a member of the Cleomaceae, and cultivated *Eruca vesicaria*, commonly known as arugula, a member of the Brassicaceae. The latter family includes cabbages, radish and kale, and *A. monuste* is considered a pest on cabbage crops in the Caribbean (Buckmire 1975). Identification of the plants and butterfly at all stages was facilitated by Matthew Cock.

The life cycle of *A. monuste* was recorded through observations by the authors at different locations over a 10-month period. These observations were submitted to iNaturalist.org.

On 15 August 2019 MCSM observed what was initially thought to be a butterfly trapped in a fence. On closer examination it turned out to be a newly emerging *A. monuste* (Fig. 1) (https://www.inaturalist.org/observations/30870995) from a casing attached to the wire fence (10.6520°; -61.4199°). The empty case reflected the white and brown colouration of the adult.

On 22 August 2019 MCSM notices a caterpillar resting on a PVC structure (10.6520°, -61.4199°) (Fig. 2) (https://www.inaturalist.org/observations/31304607). Two days later a chrysalis (Fig. 3) (https://www.inaturalist.org/observations/31358480) had taken its place. The caterpillar, which was green in colour with yellow-green longitudinal stripes along its sides was identified online as *A. monuste*. The main flowering plants observed in the immediate vicinity were *Cleome* sp. (Fig. 4) and *Bidens* sp. While the emergence of the adult was not observed in this instance, it was noted that the casing was empty six days after initial sighting of the chrysalis.

On 3 January 2020, an adult female was observed by RWL at the Trincity Industrial Estate, Trinidad (10.6376°, -61.3761°), at the end of Suite Drive and adjacent to the Tacarigua River. It was hovering near a plant that was growing from a crack between the sidewalk and parking lot area. When it landed and was seen ovipositing on the underside of the leaves (Fig. 5) (https://www.inaturalist.org/observations/37233450). The forewing and hindwing colouring displayed on the adult female was brown at the marginal and apex point, the remainder of the wing was white and pale yellow. The eggs were of a yellow colour. At the time of this observation the plant was still unknown. The following day another photographic observation was done to confirm it as *Cleome* sp. (Fig. 6).

Fig. 1. Newly emerged *A. monuste* and chrysalis. Photo Margaret Chin Sue Min.

Fig. 2. *A. monuste* caterpillar. Photo Margaret Chin Sue Min.

While on a morning walk to the hillside area along Maracas Royal Road, Maracas Valley (10.6773°, -61.4110°) on 2 May 2020 RWL spotted an *A. monuste* (https://www.inaturalist.org/observations/44592570). It was flying low and near to a small garden bed of arugula *Eruca vesicaria* planted by a family member. While identifying the butterfly on iNaturalist Matthew Cock commented that there were eggs along the edges of the arugula leaf. RWL returned to the site during the afternoon and examined the arugula more closely and observed multiple eggs (https://www.inaturalist.org/observations/44632095). The yellow eggs are torpedo-shaped with a flat bottom that allow them to stand individually but are positioned in a cluster close to the edge of the leaf (Fig. 7).

Whilst *Ascia monuste* is considered a pest by farmers this note records the life cycle on the a native host.

Fig. 3. *A. monuste* chrysalis. Photo Margaret Chin Sue Min.

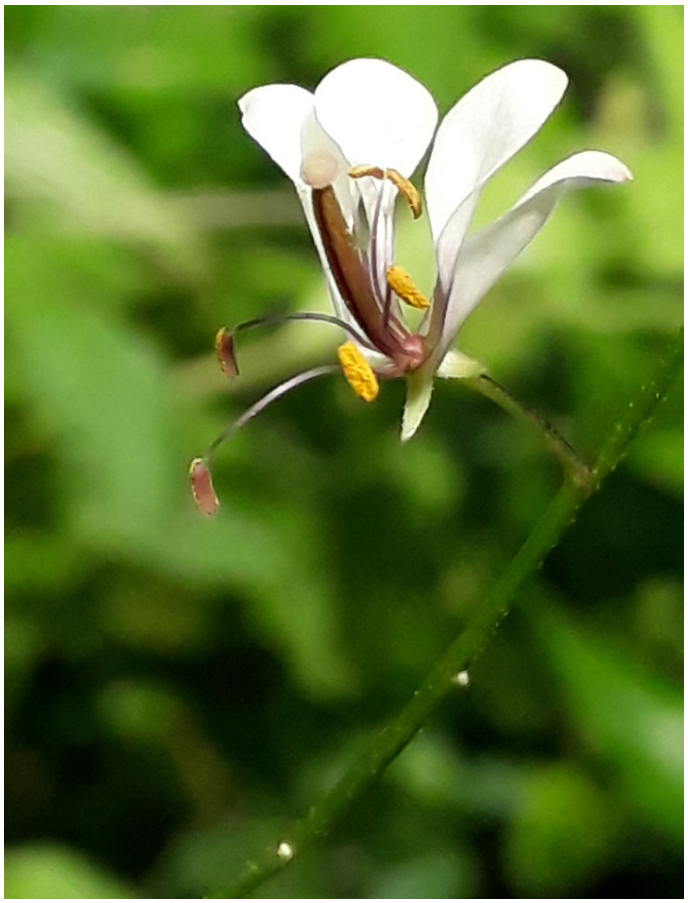

Fig. 4. *Cleome* sp. flower. Photo Margaret Chin Sue Min.

Fig. 5. *A. monuste* ovipositing on *Cleome* sp. Photo Rachael-Ann Williams-Littzen.

Fig. 6. *Cleome* sp. Photo Rachael-Ann Williams-Littzen.

Fig. 7. *A. monuste* eggs on arugula. Photo Rachael-Ann Williams-Littzen.

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