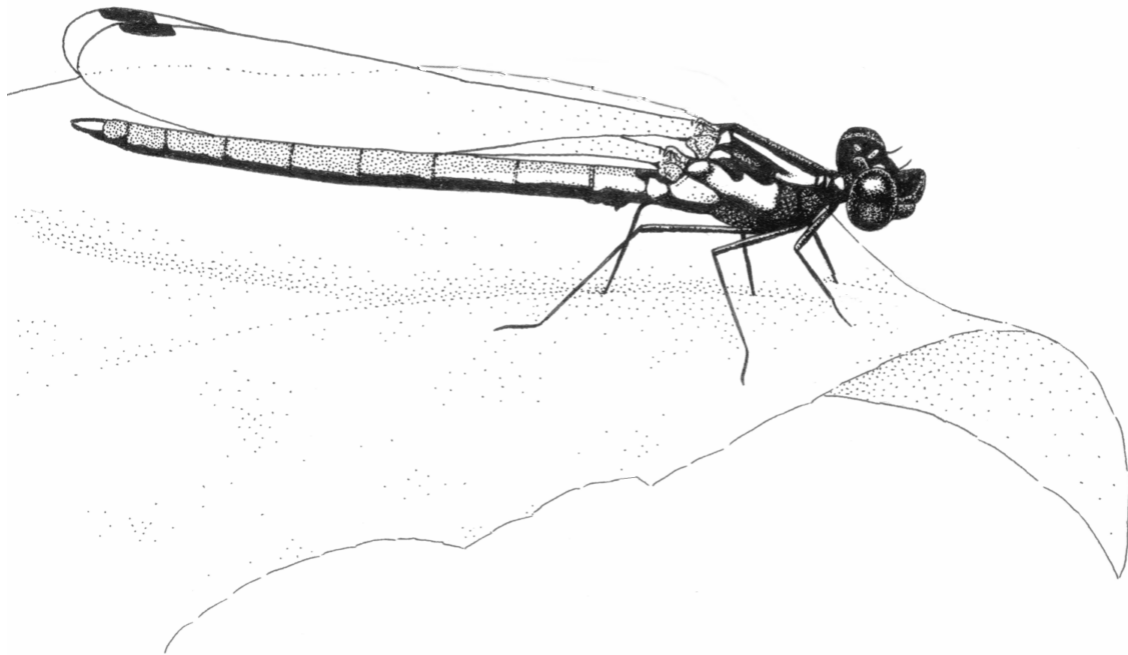


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Front cover: Chlorocypha tenuis, a species of damselfly found in Kakamega Forest. Drawing by K.-D. B. Dijkstra.



NatureKenya

THE EAST AFRICA NATURAL HISTORY SOCIETY



NATIONAL MUSEUMS OF KENYA

WHERE HERITAGE LIVES ON

FIRST RECORDS OF TWO POTENTIALLY INVASIVE DAISY (COMPOSITAE) SPECIES FROM LAIKIPIA, KENYA

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Wildlife conservancies are among the few remaining refugia of unique biodiversity. However, comprehensive documentation is incomplete as emphasis has been on the big mammals and birds (Terer, 2022). The East African Herbarium (EA) was fortunate to participate in a two-week botanical survey at the Borana Wildlife Conservancy (BWC) in August and September 2020, as part of a biodiversity assessment. Voucher specimens were collected for species identification at the EA using various volumes of the Flora of Tropical East Africa (FTEA, 1952–2012), among other relevant taxonomic literature and online databases (CABI, 2022; BioNET-EAFRINET, 2011), as well as matching of field samples with herbarium collections. The survey resulted in several interesting records, including two new species records for Kenya. These are *Carthamus creticus* L. and *Xanthium spinosum* L., both in the Compositae (Asteraceae) family. The former species was not represented by any specimen at the EA before this discovery. It did not match five other species (*Carthamus lanatus* L., *C. oxyacanthus* M.Bieb., *C. persicus* Desf. ex Willd., *C. tenuis* (Boiss. & C.I.Blanche) Bornm., and *C. tinctorius* L.) stored in the herbarium and thus online literature was used to confirm its identity (Keil & Turner, 2012). A later visit to Laikipia County by Kennedy Matheka in May 2022 documented a second population of *C. creticus* near Mwireri shopping Centre, towards Lolldaiga Hills Ranch (0°04' 51.01"N, 37°08' 03.47"E) at an altitude of 1973 m above sea level. This second population of about 200 individuals was growing by the roadside occupying a stretch of about 200 metres. The population at BWC was much smaller with about five plants. Unlike *X. spinosum*, this species is not formally included in the main online databases of invasive species such as the Global Invasive Species Database (2022), despite it being reported as a noxious weed in North America (FNA, 2022).

Xanthium spinosum matched with specimens from Arabia, Ethiopia, Greece and South Africa stored at EA. Only three individual plants were seen at the BWC area. Although the species was not recorded by Witt and Luke (2017) in their revision of alien invasive plants of East Africa, CABI (Pasciecznik, 2013) warns of its potential existence in East Africa.

These two species were documented in the wild in Kenya for the first time and thus our findings contribute to the growing list of alien invasive species for close monitoring by the relevant government and non-government organisations. Their population trends need urgent documentation and necessary action taken before any potential explosions. Given that the extant individuals are by now mature and have distributed their seed, many more individuals are expected to grow with the onset of the rains and multiply their numbers yet further and the cycle continues. A potential dispersal through migratory birds is postulated because of other populations being recorded near wetlands outside Kenya.

Although protected areas have over the years been largely prioritised by national and international researchers for executing their research proposals, little focus is paid to ecosystems within private lands where land-use change is at the mercy of the owners. However, ad hoc field excursions in more organised private establishments such as ranches and wildlife conservancies have resulted in new species records for the country (such as in this communication) or new species range extensions. Moreover, private lands in rural communities within agricultural systems have also yielded new species to science (Malombe *et al.*, 2020; Matheka *et al.*, 2020) and therefore future explorations should target these unexplored relic indigenous vegetation patches within private lands to document extant species before they are lost.

TAXON TREATMENT

Compositae

Carthamus creticus L.

Matheka & Malombe BWC 48, 4 Sept. 2020, Laikipia County (K3), Borana Wildlife Conservancy, eastern edge of 'Big Dam', 0° 14'06.86"N, 37°17'23.70"E, 1966 m. A herb to 0.8 m, disc florets 'dirty-white' to very pale yellow. In disturbed grassland on the edge of a man-made dam; five individuals seen.

Globally, the species (widely known by the common name, smooth distaff thistle) is native to north western Africa, Turkey and southwestern Europe and has been introduced in North America (POWO, 2022) and now in Kenya. This noxious weed can cause severe degradation of rangelands in the country where it invades (FNA, 2022).



Figure 1. Flowering plant (left) and a dense stand (right) of *Carthamus creticus* photographed near Mwireri Shopping Centre in Laikipia County. (Photos by Kennedy Matheka).

Xanthium spinosum L.

Matheka & Malombe BWC 26, 4 September 2020, Laikipia County (K3), Borana Wildlife Conservancy, Kangulo River towards 'Big Dam', 0° 13'48.35", N, 37°17' 12.61"E, 1967 m. A bushy herb to 0.5 m. In bushed grassland along a seasonal river; three individuals seen.

This species (also known by the common name, Bathurst burr) is native to North and South America from the central and eastern Canada through to the southernmost part of Argentina. However, it has been introduced in many other countries in Africa, Asia and Europe according to POWO (2022) and is here documented to be present in Kenya for the first time. Classified as one of the 'world's worst weeds', the species can quickly dominate vast areas of agricultural and pasture lands thus outcompeting crops and native flora (Pasiecznik, 2013).



Figure 2. Field photographs of *Xanthium spinosum* at BWC. (Photos by Kennedy Matheka).

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