First record of the larval parasitoid *Diadegma insulare* (Cresson) (Hymenoptera: Ichneumonidae: Campopleginae) from Senegal

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In January 2014, individuals of *Diadegma insulare* (Cresson) (Hymenoptera: Ichneumonidae: Campopleginae) were collected in farmers’ fields on *Brassica oleracea* L. (Brassicaceae) at Dalifort (14°44′35.06″N 17°24′41.67″W) and Maristes (14°44′16.54″N 17°26′02.96″W). This is the first record of this parasitoid from Senegal and West Africa. In 2015, several specimens were collected in another locality called Gorom (14°49′29.6″N 17°09′14.38″W), as well as from Mboro (15°08′32.54″N 16°52′58.08″W) in January 2016 when some individuals were found on farmers’ cabbage crop. Currently, according to these observations, it seems that this species is moving to the north of the Niayes coastal area. Some specimens were deposited in France in the private collection of P. Rousse, an international taxonomist, who specialises in Campopleginae and who works in the French Agricultural Centre for International Development (CIRAD, France). He identified the species using the key proposed by Azidah et al. (2000). Other specimens were sent to the entomological laboratory of the Fundamental Institute for African Research (IFAN, Dakar, Senegal) and recorded under the numbers IFAN/ZIT-0328, IFAN/ZIT-0329, IFAN/ZIT-0330, IFAN/ZIT-0331 and IFAN/ZIT-0332, while others were stored in the Department of Animal Biology, Agroecological Laboratory, at Cheikh Anta Diop University of Dakar (UCAD).

*Diadegma insulare* is a larval endoparasitoid of *Plutella xylostella* (L.) (Lepidoptera: Plutellidae) in North America (Biever et al. 1994; Mitchell et al. 1997; Munir et al. 2015) and has spread from the Nearctic to northern Neotropical regions and some Pacific islands (Wagener et al. 2004). It is also present in Morocco and in Israel (Rousse & Villemant 2012). In North America, *D. insulare* is the principal natural enemy of *P. xylostella*, diamondback moth (DBM), having an efficient host-searching capability that can substantially parasitise all larval stages of *P. xylostella* (50 to 95 %), have gained economic importance as biological control agents of DBM and are therefore the best known and well-examined species of the genus *Diadegma* (Wagener et al. 2006). Despite its large capacity for parasitising *P. xylostella* larvae (50 to 95 %), *D. insulare* has not been the subject of augmentative or inoculative field releases to enhance control of *P. xylostella* (Shelton 2002), with the excepting of Mexico where this species controlled *P. xylostella* populations in cabbage crops (Salazar et al. 2001).

It is therefore not clear when and how *D. insulare* arrived and became established in Senegal. The following hypothesis can be proposed. Commercial exchanges between Morocco and Senegal have existed for a very long time (Sanée 2013). Senegal imports more and more agricultural products from Morocco: onions, cabbages, carrots, potatoes and other Moroccan vegetables fill market stalls (Gueye 2013). *Diadegma insulare* is present in Morocco on cabbages and potatoes, where females parasitise *P. xylostella* and *P. operculella*, respectively, (Rousse & Villemant 2012). It is likely that *D. insulare* (probably immature stages in parasitised host larvae) have been introduced on cabbages...