Lasioglossum bees are true bees that are much smaller than honey bees and they do not make honey that people can harvest. They are native bees and are likely to be important as pollinators for crops and for other plants. Individuals live independently of the others (i.e. they are solitary) or in small groups. These small black bees are not aggressive although they do have a mild sting that is much less painful than that of a honey bee.

Common Name (Language)

Sweat bees, mining bees (English)

Scientific Classification

Kingdom: Animal
Phylum: Arthropoda
Class: Insecta
Order: Hymenoptera
Family: Halictidae
Subfamily: Halictinae
Tribe: Halictini
Genus: *Lasioglossum* Curtis, 1833

Species in the Genus

About 280 species from all over the world have been described from this genus, making *Lasioglossum* one of the bee genera with the highest number of species. In Africa it is possibly the genus with the most species in it.

Species in East Africa

About 34 *Lasioglossum* species have been recorded in Kenya, Uganda and Tanzania. Amongst these, only 10 have been recorded in Kenya while in Uganda only 2 species have been recorded. Uganda has the highest record of 18 species. Species recorded include*: L. meruense* (Ug and Tz), and*, L. nairobicum, L. somereni* (Ke and Ug). Those occurring in individual countries include *L. bellulum, L. kabetiellum, L. masaiense, L. nairobicum, L. nairobiense, L. plicatinum, L. somereni, L. stellatifrons, L. tenuivene, L. wilkinsoni* (Kenya); *L. clavigerellum, L. entebbianum, L. gossypiellum, L. griseocinctum, L. hancocki, L. kampalense, L. meruense, L. microsellatum, L. nairobicum, L. nigritulinum, L. picaninum, L. radiatulum, L. rubritarse, L. semilucidum, L. somereni, L. ugandicum, L. xerophilinum, L. zonaturum* (Uganda); *L. duponti, L. ereptor, L. mazicum, L. meruense, L. montanum, L. pembense, L. snelli, L. tanganum* and *L. ufiomicum* (Tanzania). This genus is in urgent need of revision and their numbers and distribution information will certainly change.

Description

Lasioglossum (commonly known as sweat bees) are small black bees (smaller than honey bees) known to have bands of light hairs at the base of their abdominal segments. They also have the distal veins (i.e. those furthest away from the body) in the front wing that are more weakly developed than the proximal veins (i.e. those nearest to the body). Species of this genus are very varied in terms of their size, colour and physical appearance. The genus contains species with different social behaviour, some solitary and others social or communal. Some species of *Lasioglossum* have been recorded as nocturnal.

Economic / Ecological importance

Very little information exists about *Lasioglossum* bees in the Region but they are diverse and each species is usually fairly abundant so we can assume that they are important as pollinators. Their presence is a positive indicator of the health of an environment.

Potential confusion with similar taxa

These bees can be confused with some flies that have similar black colouring and size. Flies can be distinguished from *Lasioglossum* bees in that they have only two wings while bees have four wings. These bees are very closely related to those in the genera *Halictus* and *Patellapis*. *Lasioglossum which are black* can be distinguished from *Halictus* species which are metallic but *Lasioglossum* and *Patellapis* species may be difficult to distinguish from eachother apart from under a microscope.

Documented Distribution in Kenya, Tanzania, Uganda

There is little information about the distribution of these bees within the East Africa countries. However, considering their habitats and some previous studies (e.g. Martins 2008, Eardley and Urban 2010), representative species of these bees are likely to be found in all ecologies, farmed and protected areas, from coastal lands to highlands.

Habitats

Lasioglossum species can be found in all agricultural habitats (agro-ecologies) and natural habitats in the East African Region extending from the low coastal lands to the highlands. Representative species can be found both in dry and wet lands.

Nesting Sites

These bees construct their nests in soils.

Crops Visited

These bees are known to visit crop plants in the families; Asteraceae (Compositae) e.g. sunflowers, , Convolvulaceae (e.g. sweet potato), Cucurbitaceae (e.g. cucumbers and melons), Liliaceae (e.g. asparagus), Malvaceae (e.g. okra),, Papilionaceae (the pea family), Rosaceae (e.g. strawberries) and Solanaceae (e.g. tomatoes and peppers).

Other Plants Visited

Wild relatives of the crop families listed above are visited by these bees. There is also a wide range of plants belonging to many different families that provide pollen to halictid bees in natural habitats.

Threats

Very little is known about these bees in East Africa but it is likely that *Lasioglossum* species are threatened by factors such as habitat degradation, agricultural intensification, trampling of nests by livestock and people and the overuse of pesticides. Farming practices that involve over-digging of soils are likely to threaten populations of these bees.

Conservation and Management Practices

In the past little information on the usefulness of these bees to the lives of the people in East Africa has been gathered and there have been no scientific or farmer efforts to conserve them. However, information is now being sought and best practices for conservation and management of these bees in will be developed and utilised for improving crop productivity. Theoretically, bee conservation and management is inexpensive and adopted activities can also improve the aesthetic value of the landscape. Such practices involve setting land aside (e.g. a 1-metre strip) in the farmland to host all year round food resources for the bees, as well as safer sites for nesting, mating, resting and hiding from natural enemies. During flowering, farmers should manage pesticide usage carefully to avoid poisoning flower-visiting bees. Farmers should also minimise pesticide drift from the field to adjacent areas. Trampling by people and livestock and tilling should be managed to conserve the nesting sites of soil-nesting species such as *Lasioglossum* bees. KARI (the Kenya Agricultural Research Institute) is developing protocols for mass rearing of different species of solitary bees. Any successful results from this research will be freely communicated to the public.

Legislation (National and International)

There is not yet any legislation in East Africa that explicitly addresses pollinators. However, there is scattered legislation for the protection of biodiversity particularly that covering environmental protection, protection of wildlife and heritage sites, protection of forests and natural resources such as water catchments. Such legislation, together with developments such as the Good Agricultural Practices (GAPs) codes, standards and regulations may help to protect bees albeit incidentally. Farmers should lobby their governments to develop Integrated Pest Management policies that would protect bees and other useful insects of importance in agriculture.

Sources of Further Information and Links

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