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DIOPSIS NIGRASPLENDENS, A NEW SPECIES OF DIOPSISIDAE (DIPTERA)

by

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Feijen, H. R., *Diopsis nigrasplendens*, a new species of Diopsidae (Diptera).

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Diopsis nigrasplendens spec. nov. is described from the Drakensberg, South Africa. The black *Diopsis* species are divided into groups and some earlier established synonymies are rejected. *D. nigrasplendens* takes an isolated position in its genus, but is probably related to both the *gnu*-group and the *carbonaria*-group.

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INTRODUCTION

In the Diopsidae collection of the Natal Museum a new black *Diopsis* was found, which originated from the Drakensberg. Although this species is clearly not closely related to any other *Diopsis* known, it stands probably closest to some of the other black *Diopsis*. It is definitely not related to the black *Diopsis* with banded wings belonging to the *circularis*-group (see Feijen, 1984), but might be related to the black *Diopsis* with irregularly infuscated wings. This group has eleven species, if *Diopsis nigra* Illiger, 1807 is not included. *D. nigra* can better be regarded a "species incerta sedis" and might even have been a teneral, discoloured brownish specimen. Because of its preapical wingband and pollinose thorax it certainly cannot be an older name for *D. carbonaria* Hendel, 1923, as stated by Cogan & Shillito (1980).

The group of eleven black species is likely to contain a number of synonymies, as most species were described without reference to earlier authors. After study of the genitalia the eleven species might be reduced to just two or three species. For the moment the eleven black species can be divided into

two groups. The first group can be referred to as the *carbonaria*-group and is characterized by the presence of tiny Inner and Outer Vertical Bristles (a synapomorphic condition within the black *Diopsis*) and strongly incrassate front femora. It includes *carbonaria*, *melania* Eggers, 1925, *aterrima* Brunetti, 1926, *diversipes* Curran, 1928, *baigumensis* Séguy, 1955 and *nitela* Séguy, 1955. The second group can be referred to as the *gnu*-group and is characterized by the synapomorphic presence of an inner and outer spine on the stalks (replacing the IVB and OVB) and hardly incrassate front femora. It includes *gnu* Hendel, 1923, *acanthophthalma* Eggers, 1925, *angustifemur* Brunetti, 1926, *anthracina* Brunetti, 1928 and *orizae* Séguy, 1955. Séguy (1955) considered *aterrima* a junior synonym of *acanthophthalma*, a view that was followed by Steyskal (1972) and Cogan and Shillito (1980). However, as they clearly belong to different groups, this synonymy has now to be rejected. As the new black *Diopsis* species also lacks spines on the stalks and has incrassate front femora it stands perhaps closer to the *carbonaria*-group, but studies of the genitalia have to confirm this view. The new species can easily be distinguished from all other black *Diopsis* by the curious pollinosity pattern on the thorax and the absence of facial teeth.

The only other diopsid so far described from the Drakensberg is *Diopsina draconigena* Feijen, 1981, which is the only diopsid with a brachypterous form.

***Diopsis nigrasplendens* spec. nov.**

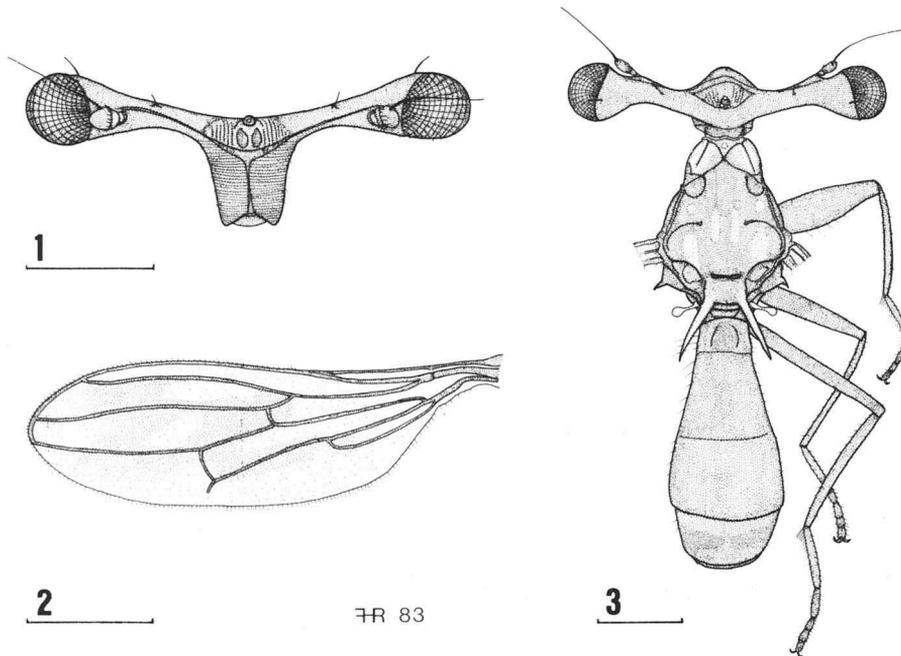
(figs. 1-11)

Type material: ♂ holotype and 1 ♀ paratype from Giants Castle Reserve, Drakensberg, Natal, South Africa, ix.1963, B. & P. Stuckenberg; 1 ♀ paratype from same location collected by B. Stuckenberg; 1 ♂ paratype from Cathedral Peak area, Drakensberg, Natal, iii.1955, B. Stuckenberg. All type material is in the Natal Museum (NM 2651), except for one paratype in the Leiden Museum.

Measurements: length of body of holotype 5.7 mm, ♂ paratype 6.6 mm and ♀ paratype 6.5 mm, eyespan 3.7, 4.0 and 3.8 mm, respectively, length of wing 4.0, 4.5 and 4.9, respectively, length of scutellar spine 0.77, 0.84 and 0.78 mm, respectively.

Head: central section dorsally shining blackish, ocellar tubercle black, oval; frons with two depressions (fig. 1) in front of ocellar tubercle, area in front of ocellar tubercle with typical granulated structure, laterally of depressions fine vertical ridges; arcuate groove black, area of face and frons bordering on arcuate groove chestnut brown; face blackish brown, covered with fine horizon-

tal ridges, facial corners angular, facial teeth absent; eyestalks moderately sized, shining blackish brown, broad apical sections darker and pollinose, stalks with very fine longitudinal lines, ptilinal-frontal suture strongly elevated, forming a ridge; IVB small, OVB about twice the size of IVB; antennae brown pollinose, segment 2 with about eight small black hairs apically, arista long, subdorsal; eyes dark reddish brown; stalks and face covered with a number of small white hairs.



Figs. 1-3. *Diopsis nigrasplendens* spec. nov., male holotype. 1, anterior view of head; 2, wing; 3, dorsal view. Scales 1 mm.

Thorax: black pollinose with a typical configuration of glossy spots (fig. 3), collar with glossy central knob and dorsolateral areas, scutum with two shining longitudinal spots mesally between the intrascutal sutures, posteriorly of the humeral calli two small round glossy spots, posteriorly of the intrascutal sutures two large glossy spots, scutellar spines shining, sternopleuron with large glossy spot, ridge-like posterior section of mesopleuron glossy and more brownish; collar very strongly developed, metapleural spines rather small, pointing somewhat backwards, scutellar spines well developed, $2\frac{1}{2}$ times scutellum, diverging at an angle of 55° , almost straight, apically turning slightly inward; thorax almost bare, only some fine white hairs, especially on scutellar spines and below wingbase.

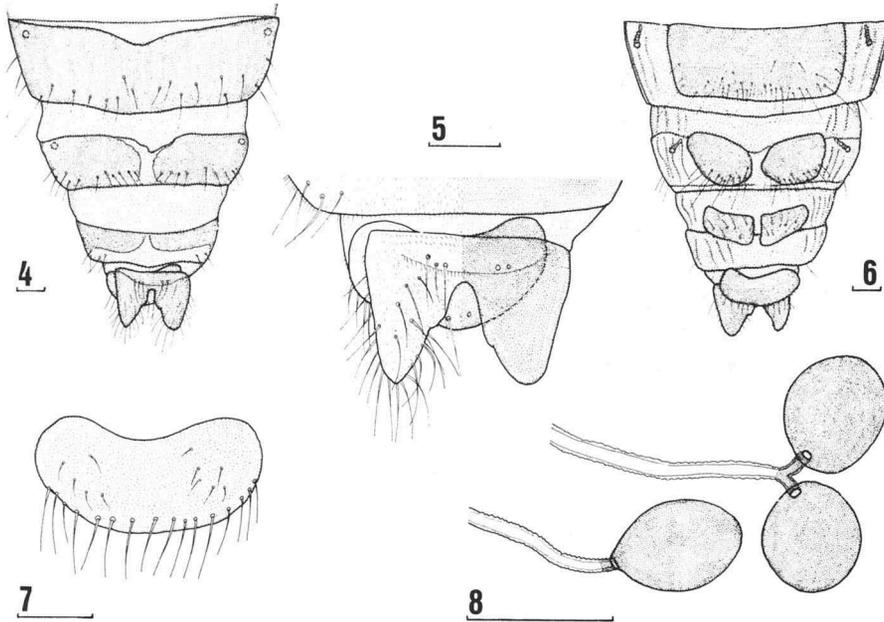
Wing: transparent with centrally a very large, irregularly shaped, pale brownish spot (fig. 2) in which are several transparent patches, the spot starts at one-tenth from the apex in the submarginal, first posterior and second posterior cell, does not reach the posterior edge of the wing and continues basally towards two-fifth from the wingbase, just occupying the proximal tips of the first basal cell and the anal cell; first posterior cell and submarginal cell each with a large transparent patch; base of wing completely hyaline in costal cell, basal tip of submarginal cell, basal half of first basal cell, basal tip of second basal cell and basal half of anal cell, rest of wing covered with microtrichia; halteres white.

Legs: coxa 1 and trochanter 1 dark brown, femur 1 blackish brown, tibia 1 blackish, tarsus 1 dark brown; other legs dark brown with slightly paler coxae and tarsi; coxa 1 glossy with pollinosity on inner side, trochanter 1 also with some pollinosity on inner side, femora glossy and with a typical finely granulated structure on inner side; femur 1 strongly incrassate with on distal two-thirds of ventral side two rows of acute, black tubercles, the outer row counting on average 13.7 tubercles (range 12-15), and the inner row on average 16.2 tubercles (range 15-17); no apical spurs on any of the femora; ventral side of tarsi 1 and 3 with dense yellowish pubescence; coxae, femora and tibiae with some white hairs, tarsi with rows of blackish hairs, pulvilli whitish.

Preabdomen: moderately clavate, dorsally glossy black, tergum 4 with a transverse pollinose band, interrupted mesally, tergum 5 pollinose, except for anterior and posterior edges; sterna dark brown, first two sterna mainly glossy, other sterna pollinose; sternum 1 with mesal ridge.

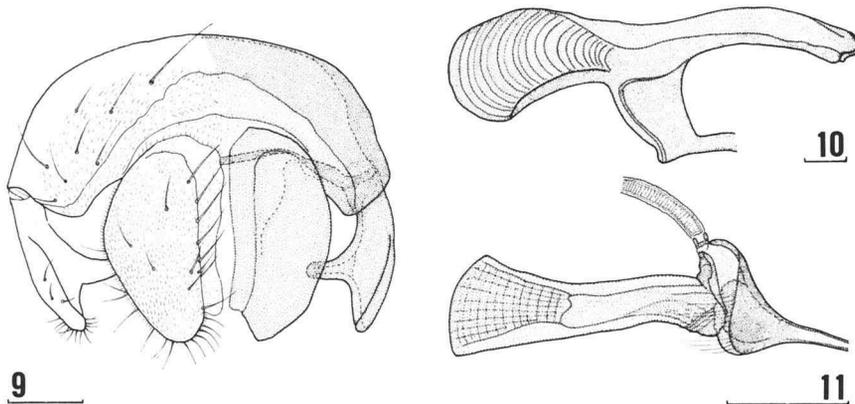
Female postabdomen: tergum 6 a single rectangular sclerite (fig. 4), tergum 7 consisting of two rectangular sclerites, separated by a narrow, less sclerotized, mesal area; tergum 9 with two, well sclerotized, rectangular areas anteriorly, less sclerotized mesally and posteriorly; tergum 10 with five hairs; cerci (fig. 5) small, somewhat triangular, pointed apically, ratio length/width about 1.7, with a number of long hairs; sternum 6 a single rectangular piece (fig. 6), sterna 7 and 9 each consisting of two sclerites separated by a narrow mesal area, sternites 9 located rather anteriorly; subanal plate (fig. 7) kidney-shaped with a row of 16 strong hairs at the posterior edge; spermathecae (fig. 8) round to slightly ovoid, smooth, base of ducts darkly sclerotized.

Male postabdomen: periandrium (fig. 9) with about eight pairs of strong hairs, only posterior section covered with microtrichia; telomeres rather straight with halfway a strong mesally directed apodeme, only some small hairs apically and along edge, no microtrichia; cerci simple, clearly broader in the middle, apically obtuse, ratio length/width 1.9, covered with microtrichia and a number of longer hairs, especially around the edges; telomeres con-



Figs. 4-8. *Diopsis nigrasplendens* spec. nov., female paratype. 4, dorsal view of postabdomen; 5, dorsal view of cerci; 6, ventral view of postabdomen; 7, ventral view of subanal plate; 8, spermathecae. Scales 0.1 mm.

ned by slender processus longi; phallapodeme (fig. 10) solidly built, anterior section somewhat mussel-shaped with rounded corners; ejaculatory apodeme (fig. 11) rather slender, only slightly broadening anteriorly, seminal ducts finely structured with transverse ridges.



Figs. 9-11. *Diopsis nigrasplendens* spec. nov., male paratype. 9, dorsal view of perianthrium with telomeres and cerci, showing underlying structures on right half; 10, phallapodeme; 11, ejaculatory apodeme and sac. Scales 0.1 mm.

Habitat: two specimens were collected from grassland on the bank of a small stream at an altitude of 1800 m. Another specimen was collected at an altitude of 1950 m.

Diopsis nigrasplendens can be distinguished from other *Diopsis* by the following combination of characters: black colour, ptilinal-frontal ridge, absence of facial teeth, small IVB, medium-sized OVB, pollinosity pattern on thorax, large collar, large, irregular, central wingspot, incrassate front femora, absence of spurs on femora, mesal division of terga 7 and 9 and sterna 7 and 9 in female, kidney-shaped subanal plate, mesally directed process of telomeres, absence of microtrichia on telomeres and slender processus longi.

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