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## Scale insect species names that have been combined with the genus name *Dactylopius* Costa (Hemiptera: Sternorrhyncha: Coccoomorpha)

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### Abstract

The genus *Dactylopius* is the only genus at present in the family Dactylopiidae. Since the name *Dactylopius* was proposed in 1829, however, numerous other species names belonging to different families of scale insects have been combined with it and these are also listed. The present status and the family placement are also given for each species.

**Key words:** Coccoomorpha, scale insects, species names, *Dactylopius*, present status

### Introduction

When Linnaeus described *Coccus cacti* Linnaeus (Linnaeus, 1758: 457), he had relied on specimens sent to him by Daniel Rolander who had collected them on cactus in St Eustatius Island in the Netherlands Antilles. For well over 100 years, this name was generally accepted by the scientific community. However, Rolander had sent specimens also to Charles De Geer, who described and illustrated the species, also naming it *Coccus cacti* (De Geer, 1776: 447–449, figs 12–18).

It became obvious to Cockerell (1899: 5) that these descriptions and the illustrations did not belong to the cochineal insect of commerce, and so Cockerell (1902: 716) transferred the species to the scale insect genus *Monophlebus* Guérin-Ménéville as *Monophlebus cacti* (Linnaeus) and later (Cockerell, 1902a: 319) to the genus *Llaveia* Signoret as *Llaveia cacti* (Linnaeus). A discussion on the error was made by Cockerell and Hellems (1907). Later, the species was transferred again to the genus *Protortonia* Townsend by Morrison (1928: 191) as *Protortonia cacti* (Linnaeus) and has recently been redescribed and illustrated in detail by Williams and Gullan (2008: 87–89).

The cochineal insect of commerce remained without a scientific name until 1829 when Costa (1829) described it as *Dactylopius coccus*. It is not clear if Costa had discovered Linnaeus' error but, if so, he did not mention it. However, Costa accepted Linnaeus' name in synonymy. In his later publication (Costa 1835: 6), only the species *Dactylopius coccus* is discussed in the genus *Dactylopius*. However, in his 1829 paper (Costa 1829), he also mentioned *Dactylopius adonidum* [*Coccus adonidum* Linnaeus, 1767: 740] on page 17 when discussing adult males, and listed *D. polonicus* [*Coccus polonicus* Linnaeus, 1758: 456], the only other two species then included in *Dactylopius*. At that time, the name *D. adonidum* (L.) was attributed to the longtailed mealybug and, because Costa had included it in the genus *Dactylopius* with *D. coccus*, it probably led later workers to include many other mealybug species in the genus *Dactylopius*. In Costa (1840), only the genus *Dactylopius* was discussed without species names but his figure 2 clearly shows the longtailed mealybug. No-one seemed to refer to Costa's articles until Targioni Tozzetti (1866) described *Dactylopius boasi* Targioni Tozzetti, but this species is regarded as unrecognisable. Signoret (1875) described a number of mealybugs (now in the family Pseudococcidae) in the genus *Dactylopius* and many more species of mealybugs and other species were wrongly described in *Dactylopius* until well into the 19th century despite corrections having been made in *A Catalogue of the Coccidae of the World*