

IDENTITY OF IMPORTANT COMMERCIALY USED MEALYBUG PARASITOID FINALLY CONFIRMED



A tiny parasitic wasp of the genus *Anagyrus*, family Encyrtidae, is one of the most important biological control agents of citrus mealybug and grapevine mealybug in South Africa and many other countries. For decades, there has been much confusion about the specific identity of this parasitoid and it has been variously referred to under any of five or more names. Importantly, it was unclear whether only a single species was involved throughout the wasp's distributional range across several continents.



(Photo credit – Insectec)

The identity of the wasp was recently resolved by Sharon Andreason, Serguei Triapitsyn and Thomas Perring of the University of California at Riverside. Based on morphological taxonomy, supported by morphometrics, molecular sequencing and cross-breeding, they concluded that the mystery wasp is in fact a new species, which they subsequently described and named as *Anagyrus vladimiri*. The analyses by these authors and the wasp's taxonomic description were based on specimens from only the USA, the Mediterranean basin and central Asia. Since no South African examples were included, the specific identity of the South African population of the wasp remained unknown.

To verify the identity of the species found in South Africa, two local commercial biocontrol agent supply companies independently submitted specimens to the identification service of the SA National Collection of Insects at ARC Plant Health and Protection. Retired parasitoid wasp taxonomist Gerhard Prinsloo tentatively identified the specimens as *Anagyrus vladimiri*. Vivienne Uys, manager of the Identification Service, sent some of the specimens for morphological and molecular verification to Dr Triapitsyn in California, who could confirm that the local species in question is indeed *Anagyrus vladimiri*.

After many years, uncertainty regarding the identity of this hugely important natural enemy of two of the most notorious mealybug pests in South Africa has now been allayed. This will result in significant benefit to the country's commercial insectaries and to the entomologists managing these pests.

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