

Reprinted from ENTOMOLOGICAL NEWS, Vol. LXXIV, No. 8, Oct., 1963
Printed in U. S. A.

Argentine Myrmecology

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Argentina has been fortunate in the investigators who have dealt with its ant fauna. The great trio of Auguste Forel, Felix Santschi and William Morton Wheeler made full use of the cooperation of resident Argentine students of ants. In particular the widely distributed books by Forel and Wheeler took advantage of the generosity of Carlos Bruch in supplying excellent photographs and scientific data. To a lesser extent Carlo Emery identified Argentine material, such as from the noted collector Silvestri. Bruch and Dr. Angel Gallardo published scholarly works on the Argentine fauna in the 1910's to early 1930's, relying primarily on the able European myrmecologists for identifications.

No better photographs of ants and their nests exist than those published by Bruch. Of German origin, he had a background as a professional photographer before becoming a professor at the University of La Plata. He vacationed in the Cordoba Hills where he learned much about the rich fauna there and also had correspondents in other parts of the country who sent him specimens. Felix Santschi identified most of his specimens and, despite his tendency to describe minor variations, Santschi was well acquainted with the neotropical fauna so that the species were on the whole accurately identified.

Gallardo was a contemporary of Bruch and was also a professor. He had a fine estate on what is now the outskirts of metropolitan Buenos Aires. Outstanding studies were a mono-

graph of dolichoderine ants and studies of fungus-growers. Both Gallardo and Bruch published their last work in the early 1930's. A son of the former, Dr. Jorge Gallardo, is a distinguished herpetologist of Buenos Aires.

One of the earliest writers on the fauna was a favorite son of Argentina, W. H. Hudson. His book, "Idle Days in Patagonia," contains a good account of *Acromyrmex lobicornis* as determined by Emilio MacDonagh. The latter bridged the Gallardo-Bruch period and the present, dying in 1962. Contributors of the 1940's include J. B. Daguerre and J. C. Otamendi and, of the 1950's, L. De Santis and H. A. Zunino.

One of the few non-resident contributors was the European, W. Goetsch, who produced an excellent work on *Atta* and *Acromyrmex* in 1939.

Keeping the Gallardo-Bruch tradition alive were until recently Dr. Nicolas Kusnezov of the Instituto Lillo, University of Tucuman and Professor A. A. Bonetto and his associates of the University of Santa Fe. These universities are located in areas with a particularly rich fauna and the investigators have explored other parts of the country as well.

Dr. Kusnezov unfortunately is reported to have died January 1963 according to the Director of the Instituto Lillo, Dr. Abraham Willink (*in lit.*). Dr. Kusnezov in recent years had become increasingly preoccupied with evolutionary theory. I had visits with him in Buenos Aires and also in Tucuman, where he was generous with his time and offer of specimens. Of Russian origin, he has been widely quoted from Soviet publications under the name of N. Kuznetzov-Ugamsky. It is understood that he came to Argentina in 1948. Among his useful Argentine works are studies on Patagonian ants and an illustrated key to the fauna published in 1956 by the Ministry of Agriculture and Stockraising (Idia, Min. Agr. y Ganaderia, Agosto—Sept. 1956, pp. 1-56, Buenos Aires). This publication contains a good bibliography of Argentine works on ants.

Dr. Bonetto and his associates have been working on the ants of the Province of Santa Fe. These studies are subordinate to other duties he has in the Natural Resources section of the pro-

vincial Ministry of Agriculture and Stock-raising and the University of Santa Fe. His useful work on the leaf-cutting ants of the genera *Atta* and *Acromyrmex* was published in 1959 (Las Hormigas Cortadoras de la Provincia de Santa Fe, Dir. Gen. Recursos Naturales, Min. Agr. y Ganaderia, Prov. Santa Fe, pp. 1-87, Santa Fe). It also has a good bibliography.

The Argentine ant fauna is of particular interest to North Americans since Argentina occupies a temperate position in the Southern Hemisphere comparable to the United States in the north. Both are connected with the rich Neotropical fauna but differ greatly in the relatively few contributions this has made to the United States fauna while the Argentine fauna is an extension of the tropics. The grasslands and semi-deserts of Argentina, however, not only are comparable in general terms with the United States Middle and Southwest but their fauna is similar generically. Among the fungus-growing tribe of ants, both contain *Cyphomyrmex*, *Trachymyrmex*, *Acromyrmex* (*s. lat.*) and *Atta*. The notorious *Solenopsis saevissima rich-teri* of Argentina has become a successful and pernicious component of the fauna of southeastern United States.

Convergences in habits between Argentine and United States ants strike the observer. The mound-builders of the United States, so generally consisting of species of *Formica* in the northern and mountain states, are represented by species of other genera in Argentina. The western United States *Formica obscuripes* thatch mound is duplicated by *Acromyrmex ambiguus* and other species in its appearance, size and habitat. The latter, however, are fungus-growers derived from the Tropics to the north while *Formica* is a strictly Holarctic genus. The cosmopolitan *Camponotus* is not generally a mound-builder in the United States but in Argentina *punctulatus* forms large, isolated earth mounds covered with grass and herbs. These occur in the northeastern part of the country with mounds of the fire ant, *Solenopsis saevissima*. Both species may form mounds of 50-80 centimeters in height although those of the *Solenopsis* are more often in the 30-50 cm range. At the southern limit of the range of *Camponotus* in the New World, the

species (*chilensis* and *distinguendus*) nest inconspicuously in or under rotted wood as other species do at the northern limit. In summary, Argentina may be commended to anyone interested in ants, both for the solid foundation already laid down by previous workers and for the nature of its fauna.