The importance of this importation will be readily understood by all entomologists as well as by all shade-tree lovers, and it is an interesting example of what may be done in this way. The thanks of all good Americans are due to Doctor Marchal, Monsieur Debreuil, and Professor Valery Mayet for their assistance in this important work.

THE INTRODUCTION OF IRIDOMYRMEX HUMILIS (MAYR) INTO NEW ORLEANS

By E. Foster, Vice-President Louisiana Society of Naturalists

The exact period of the introduction of the ant *Iridomyrmex humilis* (Mayr) into New Orleans must necessarily remain somewhat of a mystery. The source from whence it came has been also the cause of some dispute among the citizens. On more than one occasion it has been advocated that the insect was introduced during the time of the Cotton Centennial Exposition, held in Audubon Park during 1884 and 1885, and only quite recently I have seen the view expressed in the public press that it first invaded the port by way of the Algiers and Gretna, or west side of the Mississippi River. For these theories there is, in my opinion, little foundation.

Prof. Wilmon Newell has named this pestiferous insect the "Argentine Ant," from the fact that it was first described from specimens collected during 1866 in the neighborhood of Buenos Ayres. Against the adoption of this proposed popular name there can be no objection, although the insect is well-known in Brazil, and from the fact that all evidence point to this latter country as the native habitat of the first individual, or batch of individuals to land on our wharves, it might more appropriately have been named after the "place where the nuts come from."

New Orleans has had no direct commercial intercourse with the Argentine Republic; at least, in the form in which such an insect would be likely to be introduced. In the case of Brazil, however, it is quite a different matter, for cargoes of coffee have been coming to New Orleans almost since the date of the Louisiana Purchase, and certainly since the passage of the Compromise Act of 1833, when the abolition of the duty gave a great impetus to importations. But it is needless to speculate as to whether the ant landed on the wharves as far back as that date, and, moreover, my days have not been "long enough in the land" to hark back for the better part of a century.

It is an axiom that an insect pest visitation starts somewhat like a fire which, if not quenched in the incipient stage, spreads rapidly once
it has got a good hold. We have the case of the cotton boll weevil in point. When this insect first crossed the border at Brownsville, Texas, it was looked on as something insignificant except by the few, and I may state without being accused of boasting, that among that small minority were numbered the officials of our State Experiment Station. Just how much the spread of the boll-weevil has cost our cotton planters during the few years it has been with us is well known. That *Iridomyrmex humilis*—that "stranger within our gates"—has been introduced and has spread to an extraordinary extent—to such an extent as to threaten at least two of our great staples, on the one hand through its care of scale insects and plant lice; on the other through its antagonism to certain species of beneficial insects, notably the ant *Solenopsis geminata*—there is now every evidence, and it is a question whether any effective measures can be started even at this early date and the insect’s comparatively small range in the South. It is but another proof of the spreading of the fire through failure to quench it at the start, and I venture to say that hereafter the people of this section, at least, will give ear to the warnings of our economic entomologists.

From about 1891 to 1900 I was very much interested in the group of aculeate *Hymenoptera*, of which the ants form a no insignificant branch, and while my collecting was mainly confined to the Fossorial or "Digger" wasps, the hunt naturally led me more or less into contact with the *Formicidae*. During the early years of this period I collected rather assiduously along the levee front at Audubon Park and in the park itself, a field where the insect would have been comparatively conspicuous if it had been introduced by the exhibits at the Exposition of 1884–1885; at least, this can be assumed from our present knowledge as to its rapid increase. At that time our form of the large Carpenter Ant (*Camponotus herculeanus*, sub species *pennsylvanicus*) was quite a common insect, together with a very minute black ant which seems to live symbiotically; at least, that is the conclusion I have come to, for I have on many occasions found the two species together. What I took to be the American form, or one of the many subspecies of *Formica sanguinea* Fabr. was also present in numbers and the small yellow, or "pavement" ant (*Monomorium pharaonis* Linn), also the red ant *Solenopsis geminata* Fabr.—the one with fire at both ends—were very abundant, while another comparatively large fuscous form with a darker patch on the thorax was to be found abundant on the trees fringing the river. There were others, notably *Lasius flavus* De Geer, but it is needless to go into their names even if I could place them definitely. Today all of these species are
comparatively scarce in the Park section. *Iridomyrmex humilis*,
which was then practically absent as far as my observations went, has
almost displaced the lot. So much for the upper end of the city.

In 1893 my newspaper duties began to take me down daily into
the neighborhood of the Sugar Exchange, or two squares below Canal
Street and within a very short distance of the river. The variety or
sub species of *F. sanguinea* was common; in fact, I watched one nest
located at the corner of the sheds on N. Peters and Bienville streets
until four years ago; since then it has mysteriously disappeared.
Practically all of the species (with the exception of *Camponotus*),
just noted for Audubon Park were quite common in this locality. *I.
humilis* was present, but it was very scarce. Today this latter species
seems to have almost completely supplanted the others and has become
a veritable pest. Collecting at this period was also done in the neigh-
borhood of the slaughter houses, some three miles below Canal Street.
It was a rare insect there until 1895 or 1896. This covers my obser-
vations for the lower end of the city.

In these early days of entomological activity I lived on St. ChaHes
Avenue, nine squares from the river and twelve from Canal Street.
In 1891 the ant was there in fair numbers but in nothing like the
hordes it is today. That it had made its way east from the river
seventeen years ago may thus be taken as established; how far east I
am unable to say, but I have no recollection of having seen it at this
period at the West End resort on Lake Pontchartrain. Five or six
years later I was living on Peters Avenue, near St. Charles Avenue
and in the uptown district. *I. humilis* was then present but not abun-
dant. Thus uptown it had extended its range not only to the north
but east as well. In 1904 Mr. Titus, of the government Bureau of
Entomology, found it prevalent all over this district, and across the
Mississippi River as far west as Lafayette and Opelousas, while Mr.
Newell now reports it from Lake Charles. In 1906 I did not notice
it at the Gulf Biologic Station, some fifty miles south of Lake Charles,
but I have little doubt but that it has reached there, seeing that there
is constant steamboat communication between the two places.

I have no recollection of having seen the insect in the early nine-
ties while collecting at Shell Beach, on Lake Borgne, neither have I
any notes of its presence at Abita Springs, Slidell, Pearl River or
Mandeville, all on the east side of Lake Pontchartrain and where it is
decidedly the most abundant species now. *Solenopsis geminata* and
*Monomorium pharaonis* were the most conspicuous of the red ants,
while *C. herculaneus*, sub species *pennsylvanicus*, was just as common
in the woods. At all of these stations *I. humilis* seems to be ousting
all other species.
As to the possible site of its introduction: Mr. Chas. Dittmann, one of the best posted coffee importers in New Orleans, informs me that previous to 1890 all coffee steamers discharged at the wharves located between Julia and Orange streets, never further up the river than the latter; in other words, the landings were made within a distance of six blocks alongside the river, or from the 12th to 18th from Canal Street. Running east to St. Charles Avenue, this district would cover the house in which I resided in 1891, and where I first made acquaintance with the insect. This stretch of six blocks was, in my opinion, the starting point from which the insect has spread east, north, south and west; that it was there, and previous to the holding of the Cotton Centennial Exposition, the first invasion was made, for the rate of increase up to 1891 would necessarily be slow, but once started and nests established such increase would naturally become more pronounced, especially as we know that no steps were taken to check the advance. Moreover, at this date no note of complaint was heard, showing that the insect did not force itself on the attention of the ordinary observer by the mere fact of numbers; in fact, I believe that it was not until the year after the relaying of the street railroad tracks on Magazine Street (about 1895 or 1896) that the procession east became so pronounced as to cause general complaints, which were reëchoed in the press of the city. In the relaying of these tracks, numbers of nests would be disturbed and the ants driven to find new quarters.

The insect was first described by Gustav Mayr in 18681 in an obscure annual of the Society of Naturalists at Modena, Italy, under the name of Hypoclinea humilis, and from specimens collected during 1866 in the outskirts of Buenos Ayres. He described only the worker ant, and it was not until February of this year that on the request of Mr. Newell, full diagnoses of worker, male and female were published by Prof. W. M. Wheeler.2 Mayr does not mention this species in his paper on the South American Formicidae,3 published in 1887, nor in his list of the Formicidae of the United States,4 published the previous year, the latter of which lists all forms known from this country at that date. It does not figure in Cresson’s ‘Synopsis of the Hymenoptera of the United States,’ also published in 1887. If the insect had

1Formicidae nova americana.
4Die Formiciden der Vereinigten Staaten von Nordamerika, XXXVI, p. 432 et seq.
become obnoxious at that date. I think the fact would have been noted in one or other of our entomological journals, and that Cresson would have been fully in touch with it, for his work shows that he had access practically to all the literature to date.

Mayr erected the genus *Iridomyrmex* in 1862,\(^1\) and *Hypoclinea* in 1866.\(^2\) The species *humilis* figures in his key\(^3\) to the genus *Hypoclinea*, published in 1870. Six years later the two genera were combined by him, he having found many connecting forms. The literature of *I. humilis* may be small, but now that the insect has become such a serious economic pest, the mere systematic work of the entomologist will give place to that dealing with the biological side. The able article contributed by Mr. Newell to the initial number of this journal shows that a start has been made along the latter lines and much data gathered on the life-cycle and habits of the insect. With a full knowledge of such life-history, remedial measures may be possible, but the problem will be an extremely difficult one to solve and it goes without saying that every citizen of New Orleans, every sugar, cotton and rice planter, every florist and horticulturist will follow anxiously each step made towards that solution.

23d June, 1908.

NOTES ON SOME CECROPIA COCOONS AND PARASITES

By John B. Smith, Sc. D.

From a number of collectors reports came during the fall and winter of 1907–'08 of an unusual mortality in *cecropia* cocoons; or, more correctly stated, that an unusual number of the cocoons were "light," with remnants of untransformed larvae only. In a discussion before the Newark Entomological Society at its February meeting, it appeared that this trouble was widespread and yet somewhat local. Some collectors reported a very high percentage of sound cocoons in limited areas and a yet higher percentage of "light" examples in others. So there was a great difference in the species, the cocoons of *promethea* and *cynthia* running normal and mostly good. Mr. Brehme reported an unusual dearth of *polyphemus* cocoons and explained that by the statement that an epidemic disease attacked the nearly full-grown caterpillars so that they never spun up at all.

It occurred to me that it might be interesting to learn a little more

\(^1\)Myrmecologische Studien, p. 702.

\(^2\)Ameisen des baltischen Bernsteins.

\(^3\)Neue Formiciden, p. 959.

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