

Sirex noctilio F., A Recent Introduction in South Africa

By J. S. TAYLOR

In January 1961 a portion of 6" × 2" timber of Baltic origin in a Port Elizabeth timber yard was found to be infested by a wood-boring insect and was handed over to the local office of the Division of Plant Control and Quarantine. Subsequently the infested piece of timber, together with some living insect material, was passed on to the Entomologist's office.

The infested portion of timber measured some eighteen inches in length and contained a number of burrows and flight holes 2 to 3 mm. in diameter. With the timber were three adult female siricid wasps and one living pupa, while a few days later a male wasp and another female emerged. The piece of timber is being kept intact in case of further emergences.

The siricid was identified as being *Sirex noctilio* F., otherwise known as the Steel-Blue Wasp or Horntail (Step, 1932). It is a common European species, and has been recorded as a timber pest in Germany and Northern Europe where it causes serious damage in the forests. It also occurs in Britain where its numbers are often augmented by shipments of timber from abroad. It is not thought to be indigenous there and is not of major economic importance.

This wood-boring wasp was introduced into New Zealand about 1900 and became a serious pest; it has also been recorded in Canada. It is usually found in pine, but will attack spruce, silver fir and larch as well. There is a fairly extensive literature and most authors state that sickly trees are preferred by the insect. Felled timber and poles are likewise subject to attack.

The eggs are deposited under bark in tunnels a quarter of an inch in depth and the larvae bore through the softwood to the hardwood and even into the pith (Clark, 1933). Chrystal (1928) states that the incubation period occupies 3 to 4 weeks, the larval period c. 21 months, and the pupal period 5 to 6 weeks; the total period from egg to adult taking c. 2 years. The average number of eggs dissected from large females was from 300 to 400, and up to six oviposition tunnels were found in one square foot of bark. Duffield (1927) mentions that the larvae bore into the hardwood, and generally pupate just below the bark, the adults emerging the following spring. The larval galleries spoil the wood for technical purposes. A German author (Scheidter, 1923) gives the number of eggs per female as c. 400, and adds that very few males were found among some hundreds of females. Poles are preferred for oviposition because the relatively short ovipositor is unable to pierce the thick bark. Painting with carbolineum or creosote will prevent attack on freshly-felled timber, but felled or broken trunks should not be left about as they are used for breeding by the wasp. In Germany, woodpeckers are the principal natural enemies. The horntail has been satisfactorily controlled in New Zealand by introduced parasites, notably by *Rhyssa persuasoria* L., a large species of ichneumonid from Europe (Cawthorn Institute, 1946).

S. noctilio does not appear to have been observed in South Africa before, and there are only three other records of Siricidae in the archives of the Division of Entomology, all concerning interceptions in timber of foreign origin. One was *Xeris spectrum* L., ex crate wood from Germany; another involved unidentifiable specimens in American lumber; and the

third was probably *Sirex gigas* L., in German crate-wood. In this connection Mr. R. B. Benson of the British Museum of Natural History and an authority on Siricidae writes as follows: "I am most interested, but not in the least surprised, to hear of *Sirex noctilio* being found alive in South Africa in timber of Baltic origin. I have no actual note of this or any other siricid being introduced previously into South Africa, and it may be the first, although I have not had time to make a thorough search. There are, of course, two native species of siricid in tropical Africa belonging to the endemic genus *Apotremex*, but these species are presumably on hardwood trees. The introduction of *Sirex* or other Siricinae is fraught with danger in South Africa, because of your introduced conifers. So far as I know, *S. noctilio* only feeds on trees of the Pinaceae, and would perhaps readily attack your species of *Pinus*".

It remains to be seen whether this wood-boring wasp becomes established in South Africa. Few, if any, individuals can have escaped on this particular occasion but other introductions could easily take place and remain unnoticed. Should this wasp become established and assume serious proportions the introduction of *Rhyssa persuasoria*, which has been so effective in controlling it in New Zealand, would appear to be the obvious remedy.

ACKNOWLEDGMENT

The writer is much indebted to Mr. R. B. Benson of the British Museum of Natural History, London, for information on the distribution and status of *S. noctilio*.

REFERENCES

- Cawthorn Institute, Nelson, New Zealand. (1946). *Annual Report, 1945-46*.
Chrystal, R. N. (1925). The *Sirex* Wood Wasps and their influence in Forestry. *Bull. ent. Res.*, XIX: 3, 219-247.
Clark, A. F. (1923). The Hornal Eoper and its Fungal Association. *N.Z. J. Sci. Tech.*, 15, 3, 153-190.
Duffield, C. A. W. (1927). Wood Wasps. *Gard. Chron.*, 1, XXXII: 21, 31, 348.
Scheidter, E. (1922). Zur Lebensweise unserer Holzwespen. *Zeitschr. Schadlingbekämpfung*, I, 2, 89-98.
Step, E. (1922). Bees, Wasps, Ants and Allied Insects of the British Isles. London, F. Warne and Co.