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A NEW SCALE INSECT INJURIOUS TO CONIFERS
IN HOKKAIDO, WITH
DESCRIPTION OF A NEW GENUS
(HOMOPTERA: COCCOIDEA)

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In connection with the phytopathological and entomological survey of introduced trees held since 1959 by the Forestry Bureau I found a curious scale insect of the family Diaspididae on *Picea excelsa* at Yamabe, Hokkaido, in 1960. Further examples of the same insect occurring on *Abies sachalinensis* have been brought to me from Kitami-Esasi, Hokkaido, by Mr. M. Yogo, Forest Experiment Station, Hokkaido Branch, for identification. This species is apparently new to science. Moreover, I have concluded that a new genus should be erected for it as given below.

I wish to acknowledge my indebtedness to Prof. C. Watanabe, Hokkaido University, for his kind guidance. My thanks are also due to Prof. R. Takahashi, Ōsaka Prefectural University, for his encouragement, and to Prof. N. S. Borchsenius, Academy of Sciences of the USSR, Leningrad, for his kind suggestion in regard to the scale insect. I want also to thank Mr. C. Nishiguchi, Tokyo University, for his kindness shown in our survey at the Tokyo University Experiment Forest, Yamabe, Hokkaido.

Cynodontaspis, gen. nov.

Type: *Cynodontaspis piceae*, sp. nov.

Referable to the tribe Diaspidini Ferris by having "two-barred" ducts. Body elongate, fusiform. Pygidium produced marginally into thickly sclerotized processes, among which the median lobes are distinctly separated, conical, and sharply pointed apically and the lateral lobes duplex, with the lobules more or less similar to the median lobes in shape. Marginal macroducts of pygidium somewhat enlarged, absent between median lobes, four in number on each side, all occurring singly, each opened in a thick process. Dorsal macroducts of pygidium in segmental rows, not occurring on seventh and eighth abdominal segments in the type species. A pair of short, slender, apically truncated marginal gland spines present between median lobes, and similar ones along pygidium and posterior free abdominal segments. Ventral marginal setae of pygidium and also of posterior free abdominal segments much elongate. Anal opening close to base of pygidium. Perivulvar pores present in five groups, few so far as shown in the type species.

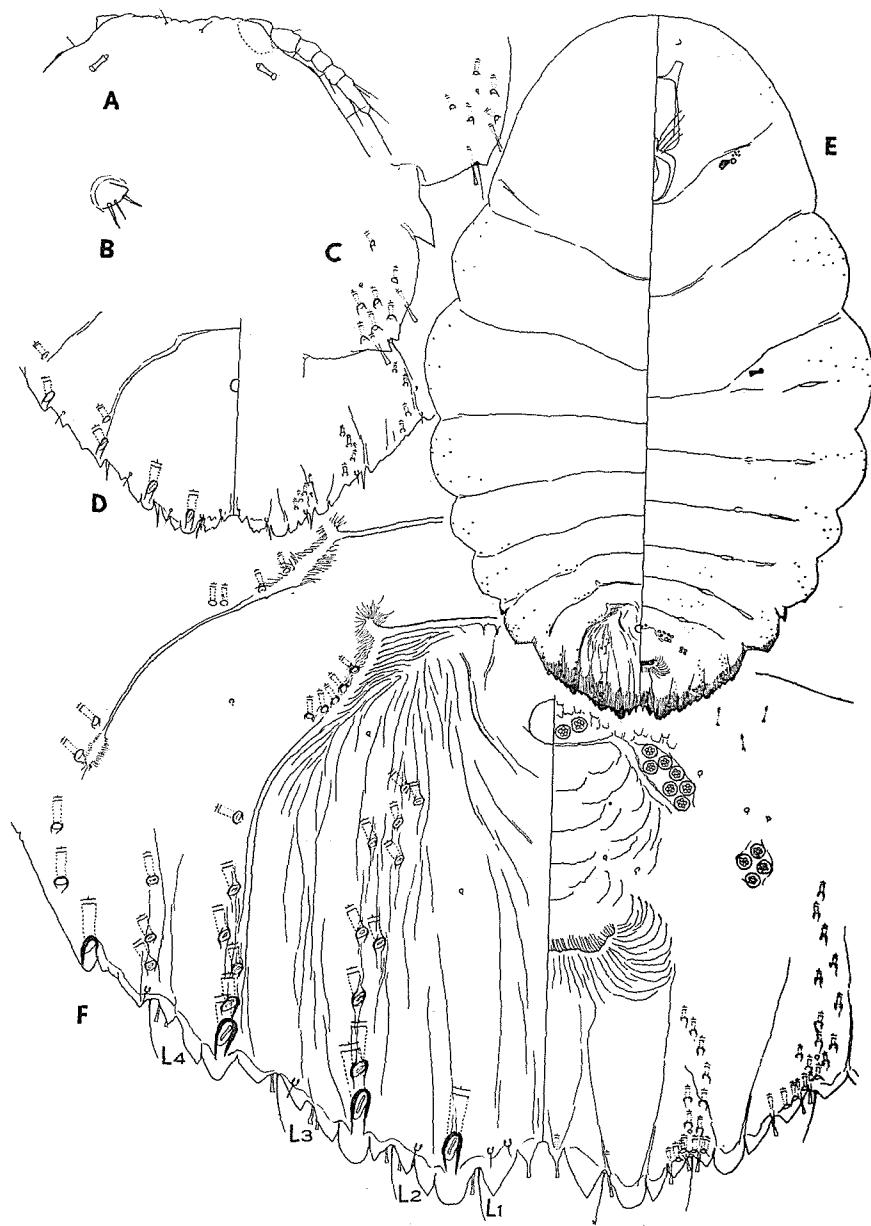


Fig. 1. *Cynodontaspis piceae*, sp. nov.

Adult female: body (E), margin of third and fourth abdominal segments in ventral aspect (C), antenna (B), and pygidium (F); second stage female, exuvium: pygidium (D); first stage female, exuvium: head (A).

First stage female with a pair of enlarged dorsal ducts on head, which are widely separated. Antennae six-segmented, the terminal segment much shorter than the preceding ones united. Scale of female elongate, with exuvia terminal, resembling that of *Lepidosaphes* or its allied.

By having enlarged marginal macroducts on the pygidium, a pair of gland spines between the median lobes, and, in the first stage, six-segmented antennae this genus shows unmistakable affinities with *Lepidosaphes* Shimer and the allied. On the other hand, it is so peculiar in the pygidial fringe that its particularly close situation to any can not be established. It has unpaired marginal macroducts on the pygidium like *Pallulaspis* Ferris, but as the two agree only in this point and are very unlike in many other characters the resemblance between them may not necessarily indicate their real relationship.

Cynodontaspis piceae, sp. nov.

Adult female broadly fusiform, membranous except for pygidium, very weakly produced laterally in free abdominal segments, about 1.0 mm. long and 0.6 mm. wide in most of the examined specimens which may be not fully grown. Pygidium broad, well sclerotized, shallowly and rather widely concave apically. Median lobes in the apical concavity, separated by a space slightly wider than one of them, parallel. Lateral lobes normally in three pairs, with both lobules well developed, more or less smaller than median lobes and conical or nearly so in shape. Dorsal macroducts rather small in size, not numerous in submarginal zone which extends anteriorly to mesothoracic region, third to fifth abdominal segments with a few submedian dorsal macroducts arranged along posterior margin, sixth abdominal segment with six to twelve macroducts in a submedio-submarginal row. Ventral submarginal ducts small, scattered around body, in three clusters on each side of pygidium. Marginal gland spines present to third abdominal segment anteriorly. Antennae set moderately apart, with three short setae. Anterior spiracles with a rather loose cluster of five to seven accompanying disc pores; posterior spiracles with none. A lateral spur present between third and fourth abdominal segments, with an accompanying dorsal duct. Fourth abdominal segment produced at lateral margin into two small, conical, sclerotized processes set close, and third into a similar one. Perivulvar pores in five groups, median group with three or four pores, anterior laterals four to nine, and posterior laterals three to five. Scale of female elongate, moderately broadened posteriorly, gently convex dorsally, and brown, with ventral scale well developed.

Collected at the Tokyo University Experiment Forest, Yamabe, Hokkaido, under the bark flakes of *Picea excelsa* (10. IX, 1960, S. Takagi); at Kitami-Esasi, Hokkaido, on the bark of *Abies sachalinensis*, under *Septobasidium kameii* (16. IX, 1960, S. Yokota). Type slides deposited in the collection of the Entomological Institute, Hokkaido University.

It should be noted that this species may associate with the fungus *Septobasidium kameii*. Because this fungus is now known to occur in many places of Hokkaido on *Abies sachalinensis*, *Picea jezoensis* or *Picea excelsa*, in certain cases serious damage being noticed to the conifers, detailed studies on the scale insect in economy may be much needed.