

# The Dictynid Spiders of New Zealand\*

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## Abstract

THE spiders of the family Dictynidae in New Zealand have been surveyed, using some 300 collections from many parts of both main islands, including about 2,000 individuals. Three new genera, 11 new species and 2 new subspecies are proposed, as follows:

*Ixeuticus angustiae*, *I. nuntius*, *I. vallus*, *I. calypso*, *I. dalmasi*; *Maniho*, nov. gen., *M. tigris*, *M. gracilis*, *M. arboris*; *Amarara* nov. gen., *A. fera*; *Ithurakius* nov. gen., *I. forsteri*; *Syrorisa aucklandensis*; *Ixeuticus charybdis occidentalis*; *Ixeuticus rubrioides mckerrowi*.

For comparison examples of the following species are redescribed:

*Ixeuticus martius* (Simon), *I. charybdis* (Hogg), *I. janus* Bryant, *Dictyna cornigera* Dalmas, *D. decolor* (Urquhart).

THE workers who have studied and described the Dictynid spiders of New Zealand have been few, and none have had access to much material. L. Koch (1873) described *Amaurobius Finschi* from a single male from New Zealand and his description includes a mention of four tibial apophyses on the palp. No spider since collected has this character, and the specimen may have been a variant of *Ixeuticus martius* (Simon). If this were so, *Finschi* would have priority. Koch also mentions *A. longinquus* from Queensland as occurring in New Zealand, but there is doubt in the locality record (Dalmas, 1918). Dalmas takes the New Zealand specimens to be *I. martius*.

Simon (1899) described *Amaurobius martius* from French Pass and also an immature specimen as *Badumna subfasciata*. He also described a further species from the Chatham Islands in the genus *Amaurobius*. In 1908 he described many species of Dictynid spiders from South West Australia under various generic names including *Amaurobius*, *Epimecinus*, *Syrorisa*, *Phryganoporus* and *Aphyctoschaema*. These genera are important in Polynesia (Berland, 1924).

Hogg (1909) described *Amaurobius charybdis* from Stewart Island and also, in another publication, two species from the Sub-antarctic Islands in the genera *Amaurobius* and *Badumna*.

Dalmas (1918) summarised the work of these authors and, pointing out that the Australasian *Amaurobius* differed from the European genus in having the calamistrum formed of a single row of hairs instead of a double row, he erected the genus *Ixeuticus* for the New Zealand and Australian forms attributed to the genus *Amaurobius*. His generic description also states that the fourth pair of coxae are separated and the sternum elongated in *Ixeuticus* rather than the coxae contiguous and sternum short as in *Amaurobius*. There is no mention in the generic description of any other characters. Dalmas thus placed the species *martius*, *subfasciatus*, *finschi*, *charybdis*, *chathamensis* and *rubrioides* in the genus *Ixeuticus* along with certain Australian species including *I. robustus* and *I. senilis*. Dalmas also describes as new two species of *Dictyna*, *D. cornigera* and *D. nigella*.

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L. Berland (1924) points out that the generic characters given by Dalmas for *Ixeuticus* do not distinguish the genus from those of Simon for the Australian genera. Berland (1925) redescribed *I. rubrioides* from Auckland and Campbell Island.

Bryant (1933) synonymises *Dictyna nigella* with *Linyphia decolor* Urquhart and gives this species the name *Dictyna decolor*. She also (1935) describes three new species of *Ixeuticus*, of which *I. helsoni* differs little from *I. martius*, and agrees with the belief expressed by Berland that the genus should be divided.

Chamberlain (1946) gives a key to the New Zealand spiders and mentions locality records for the *Dictyna* species.

Forster (1955) gives a complete description of *I. rubrioides* with many locality records on Auckland and Campbell Islands.

In the following systematic descriptions many measurements are given.

Total length: From anterior margin of carapace to posterior margin of abdomen with the animal in a normal position, in mm.

Carapace (length and breadth): From hard margin to hard margin, in mm.

Ratio of eye diameters: Greatest diameter measured in divisions of  $\frac{1}{1305}$  mm.

Breadth ocular area: Between outer margins of lateral eyes in mm.

Distances apart: Measured in divisions of  $\frac{1}{1305}$  mm.

Width clypeus: Measured in divisions of  $\frac{1}{1305}$  mm.

Sternum: Measured between hard margins in mm.

Legs: Order of size above the line. Leg ratios, leg length divided by carapace length below the line.

Tibial index: Length of patella plus tibia divided by breadth of the proximal end of patella.

Measurements of joints in mm.

Abdomen length and breadth in mm.

#### ACKNOWLEDGMENTS

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#### TYPE LOCALITIES

*Ixeuticus chathamensis occidentalis* n.s.sp. Holotype female. Whero I., Stewart I.; December, 1938. B. J. Marples (Otago Museum).

*Ixeuticus rubrioides mckerrowi* n.s.sp. Holotype female; Lake McKerrow; January, 1955. R. R. Forster (Canterbury Museum).

*Ixeuticus angustiae* n.sp. Holotype female. Arthurs Pass. April, 1953. R. R. Forster (Canterbury Museum).

*Ixeuticus calypso* n.sp. Holotype female; Wanaka; January, 1955. T. G. Marples (Otago Museum).

*Ixeuticus dalmasi* n.sp. Holotype female; Lake Tarawera; May, 1956. B. J. Marples (Otago Museum).

*Ixeuticus nuntius* n.sp. Holotype female; Mt. Davis, near Greymouth; January, 1950. R. R. Forster (Canterbury Museum).

*Ixeuticus vallus* n.sp. Holotype male, allotype female; Moana; March, 1950. R. R. Forster (Canterbury Museum).

*Maniho tigris* n.sp. Holotype male, allotype female; Nelson district; December, 1953. B. J. Marples (Otago Museum).

*Maniho gracilis* n.sp. Holotype female; Tuatapere; May, 1956. R. R. Marples (Otago Museum).

*Maniho arboris* n.sp. Holotype female; Tuatapere; May, 1956. R. R. Marples (Otago Museum).

*Syroris aucklandensis* n.sp. Holotype female, allotype male (immature); Auckland district; May, 1951. B. J. Marples (Otago Museum).

*Amarara fera* n.sp. Holotype male; allotype female; Auckland Domain; May, 1956. B. J. Marples (Otago Museum).

*Ithurakius forsteri* n.sp. Holotype male; allotype female; Vinegar Hill Reserve, Taihape; December, 1948. R. R. Forster (Canterbury Museum).

#### Genus IXEUTICUS

This genus is large and complex with twelve species in the New Zealand area and several Australian species. It is either identical with, or closely allied to *Hesperauximus* of North America.

*Characters:* Cribellum divided; calamistrum uniserial. Cheliceral teeth: prolaterally three or four teeth, the largest being the second from the ventral end of the groove; retro-laterally two teeth close together, closer to the fang origin than the largest prolateral tooth. Sternum and carapace variable but with a tendency to be elongate. Epigyne with a central plate flanked by two openings and laterally often showing a spike or tooth pointing postero-medially.

TYPE SPECIES: *I. martius* (Simon).

The New Zealand species can be arranged in four species groups.

- (1) *martius*
- (2) *charybdis*, *chathamensis*, *rubrioides*.
- (3) *angustiae*, *nuntius*, *vallus*.
- (4) *calypso*, *janus*, *dalmasi*.

*Ixeuticus martius* (Simon). Text-fig. I, fig. 2; Text-fig. II, figs. 3 and 5.

*Amaurobius martius* Simon (1908)

*Badumna subfasciata* Simon (1908)

*Ixeuticus subfasciatus* Dalmas (1918).

*Ixeuticus helsoni* Bryant (1935).

*Hesperauximus sternitzkii* Gertsch (1937).

DISTRIBUTION. Cosmopolitan in New Zealand. Dalmas notes *I. subfasciatus* from Tasmania. Gertsch describes *Hesperauximus* from California.

HABITAT. This species has colonised man's artificial structures to a large extent but the animal is also found living on cliffs and dead tree stumps. Generally prefers a dry sunny environment with cooler retreats.

WEB. Many webs were examined in different parts of the range. The general pattern consists of a T-shaped tube in which the vertical stroke indicates the retreat running back into the rock or into a corner. The cross tube is continued above and below to give two sheets parallel with one another. The pattern varies with the precise details of the position. If the surface is relatively flat the upper sheet joins onto the lower sheet around the mouth of the tube, but where the surface is rough or the retreat is in a corner the upper sheet may become the trap, or both upper and lower sheets may be of large extent.

The web is a permanent structure which is added to, and is repaired if damaged. Several webs were destroyed and time varying up to five days elapsed before the spider repaired the damage.

The tube and a small area round each of the mouths is spun of dense, non-sticky threads. In the trap portion of the web these non-sticky threads are laid parallel and about a centimetre apart, along the edge, so that they do not run from the opening to the edge of the web but rather tangentially.

The calamistrated threads are laid down in a zigzag manner between the two supporting threads. However, the sticky silk runs along the supporting threads for a short distance each time, so the general effect is that of an irregular ladder. Each sticky thread can be seen to be double in fresh webs and in the new ladders which are laid down along the edge of the old web from time to time.

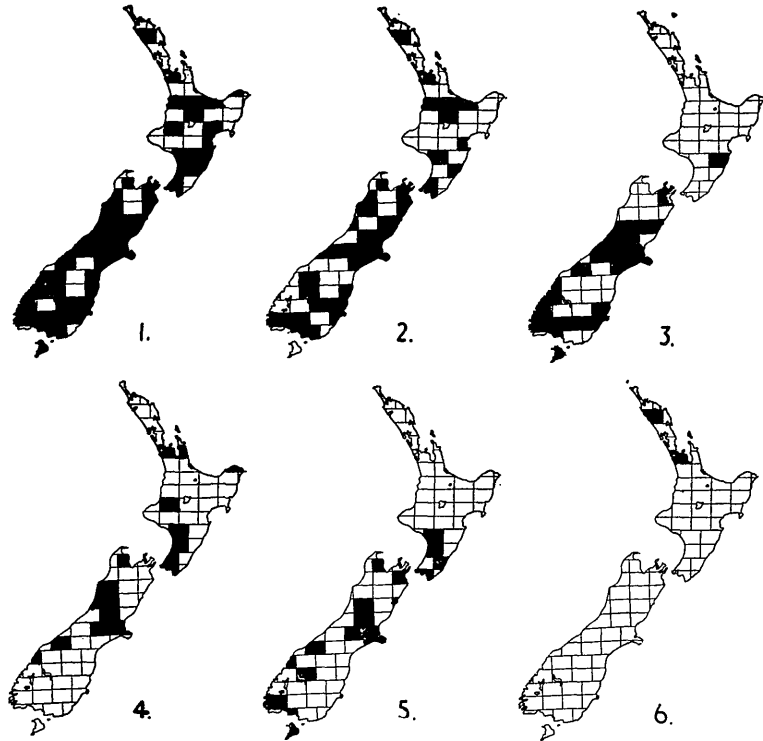


FIG. 1.—Distribution of Dictynid Spiders in New Zealand. (1) Records of Dictynid Spiders. (2) *Ixeuticus martius*. (3) *Ixeuticus charybdis*. (4) *Ihurakius forsteri*. (5) *Maniho tigris*. (6) *Amarara fera*.

#### FEMALE

Length, 14.17 mm.

**COLOURATION.** Cephalothorax dark red-brown darkening to black anteriorly. No pattern. In the living animal cephalothorax black with many recumbent white hairs which do not extend into the ocular area. Thoracic groove black. Abdomen grey with indistinct pattern. The living animal has a much more distinct pattern, antero-dorsally there is an elongated black streak which has a streak of white hairs inside it. Behind and lateral to this streak there are two lines of fine black marks separated by patches of white hairs. These two rows converge posteriorly. Lateral faces grey, spotted with white. Ventrally brown with four longitudinal streaks of white hairs of which the inner pair are the narrower. Spinnerets dark. Sternum dark red, almost black at the margins. In the living specimen sternum and coxae dark brown with many recumbent white hairs. Legs even sooty red. Living specimen has legs almost black with rings of white and black hairs alternately. These rings are more distinct on the last two pairs of legs than on the first. Maxillary lobes and lip very dark brown, black at the bases. Tips white. Chelicerae black.

**VARIATION.** The intensity of colouring in this species is very variable. Specimens of the same size may be quite different in colour from pale yellow-grey to black. There appears to be a tendency for the more northern forms to be darker and with less pattern. Immature forms are more sooty, especially in the sternum.

**CARAPACE.** Length, 6.00 mm; breadth, 4.33 mm. Elongated and rounded. Cephalic portion of carapace broad. Cephalic notch deep but not acute. The cephalic portion swells out anteriorly to the cephalic notch. Cephalic groove distinct but shallow, except midlaterally. The thoracic groove short and longitudinal, not in posterior triangle. Posterior margin of the carapace biconvex with a sharp but short median indentation. There are five irregular rows of spines running from the thoracic groove to the ocular area.

**EYES.** 8, in two rows. From above, anterior row slightly recurved, posterior row procurved. From in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 315:240:288:190. Breadth ocular area: 2.00 mm. Distances apart (ratio): AM-AM, 200; AM-AL, 486; AL-PL, 233; PL-PM, 774; PM-PM, 600; AM-PM, 497. Width clypeus, 375. Lateral eyes on a low tubercle.

**CHELICERAE.** Knead at the base. Strong, sub-rectangular but swollen. Boss very prominent. Anterior face covered with many bristles. Fang groove not steeply inclined. Prolateral margin of the fang groove bears four blunt teeth of which the second from the ventral end is the largest. The most ventral tooth and the third are the same size and the fourth is smaller. The ventral tooth is prolonged down the ventral aspect of the chelicera as a sharp unsertated ridge. The retrolateral margin of the groove bears two blunt teeth of which the more ventral tooth is the larger. This tooth is equal in size to the largest prolateral tooth and opposite to it. The second retrolateral tooth is the same size as the third prolateral tooth and is opposite the fourth. Fang short and heavy.

**MAXILLARY LOBES.** Broadening towards the tip but tip rounded. Medial margin straight, lateral margin smoothly curved. Scopula present on tip and medially, very thick. Laterally and apically there is a hard serrated ridge or file.

**LIP.** A little longer than broad. Tip not notched. An indentation separates the basal part and extends about  $\frac{1}{6}$  of the length up the sides.

**STERNUM.** Length, 3.33 mm; breadth, 2.28 mm. Elongated; elliptical; convex. Anterior margin smoothly convex. Lateral margins very slightly undulating. Spine short, blunt and equilateral.

LEGS.	1	2	4	3	Palp			
	2.8	2.3	2.2	1.9	1.0			
				Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		4.61	6.17	4.00	1.83	16.61	
II	.....		4.22	5.06	3.28	1.50	14.06	
III	.....		3.50	3.72	2.67	1.22	11.11	
IV	.....		3.78	5.28	3.33	1.22	13.61	
Palp	.....		1.94	2.06	—	1.94	5.94	

Tibial Index: I, 7.4; IV, 7.0.

**CALAMISTRUM.** Very long,  $\frac{5}{9}$ ths length of metatarsus.

**ABDOMEN.** Length, 7.78 mm, breadth, 6.11 mm. Broad elliptical. Epigyne large and distinctive. Cribellum large, divided.

**COCOONS.** The cocoon is circular and 9–12 mm in diameter, 3–5 mm thick and only lightly attached to the substrate. The number of eggs varied from 65 to 250 eggs, with a mean of 88 eggs. Two cocoons were hatched in the laboratory and gave 73 and 75 spiderlings respectively.

#### MALE

Length, 11.61 mm.

**COLOURATION.** Paler and more orange, otherwise as in female.

**CARAPACE.** Length, 5.56 mm; breadth, 3.89 mm. As in female.

**EYES.** 8, arrangement as in female. Ratio of eyes: AM:AL:PL:PM = 277:257:242:176. Breadth of ocular area: 1.78 mm. Distances apart: AM-AM, 211; AM-AL, 365; AL-PL, 164; PL-PM, 609; PM-PM, 533; AM-PM, 425. Width clypeus, 312.

**CHELICERAE.** A little more slender than in the female.

**MAXILLARY LOBES AND LIP.** As in female.

**STERNUM.** Length, 2.94 mm; breadth, 2.00 mm.

LEGS.	1	2	4	3	Palp			
	3.3	2.7	2.7	2.3	0.9			
				Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		4.89	6.83	4.72	1.72	18.16	
II	.....		4.56	5.17	3.83	1.61	15.17	
III	.....		3.83	4.50	3.17	1.28	12.78	
IV	.....		4.17	5.50	3.67	1.33	14.67	
Palp	.....		2.06	1.44	—	1.67	5.17	

Tibial Index: I, 8.2; IV, 8.6.

Palp with three apophyses. Calamistrum replaced by a row of long hairs. Row long. ABDOMEN. Length, 6.06 mm; breadth, 3.72 mm. Longer and thinner than in the female. Cribellum: Large, obvious and divided, but spinning areas smooth and non-functional.

This species was originally distinguished from *I. subfasciatus* when Simon collected an immature individual which he described as *A. subfasciata*. The characters used to distinguish the two species by Dalmas break down in a long series especially the eye characteristics. Dalmas lists absolute size at maturity which is seen to be very variable in both this species and in *I. charybdis*. None of his other characters are directly meaningful considering the variation seen in a sample from one locality. The colour differences could well be those of a recently moulted individual. Dalmas points out correctly the close resemblances of the New Zealand species to the Australian species *I. senilis* and *I. robustus* and shows that they form a graded series *I. subfasciatus*, *I. senilis*, *I. martius* and *I. robustus*. He even points out that the proportions and relative sizes of the eyes and ocular areas are dependent on size. While he separates the species, I prefer to place them all in one species which is abundant, variable and widespread. In all the male and female genital apparatus is similar in plan and any differences between individuals in this respect come within the range of variation of a large sample from one locality. *I. helsoni* Bryant also fits into the series between *subfasciatus* and *senilis*.

While these forms are all placed in the species *I. martius* there does appear to be some divergence within the species. In New Zealand individuals from the far north are distinguishable from those from Otago, but neither is really or certainly distinguishable from more centrally living forms. A cline is probably demonstrable with more measurements and individuals, from larger darker forms with a rather more pendulous lip on the epigyne in the north to the smaller more brown southern individuals.

*I. martius* appears to be synonymous with *Hesperauximus sternitzkii* Gertsch, 1937, from California. Perhaps this indicates introduction by means of shipping lines trading between New Zealand and San Francisco.

#### SPECIES GROUP II—*I. charybdis*, *I. chathamensis*, *I. rubrioides*.

This group is based on epigyne shapes and general appearance. All the species are large and reddish on the cephalothorax. Each has three prolateral teeth and a gently inclined fang groove. The epigyne pattern is open with the lower part of the central bar strongly accented and bulbous. The group consists of southern forms and *I. chathamensis* and *I. rubrioides* are included at this point. Specimens of these two species were examined in the course of the study but are not included in the form of a detailed description.

It appears that complex subspeciation has occurred in the *chathamensis-rubrioides* group and two subspecies are described. However, it is most likely that further study of the Fiordland area will show a cline in these subspecies similar to that shown by *I. martius* but at present the number of specimens is too few and apparently real differences can be seen which may with further study disappear. ***Ixeuticus charybdis*** (Hogg) 1909. Text-fig. I, fig. 3; Text-fig. II, figs. 1 and 7.

#### SYNONYMY

*Amaurobius charybdis* Hogg, 1909.

*Ixeuticus charybdis* de Dalmas, 1914.

*Ixeuticus setosus* Bryant, 1935.

**DISTRIBUTION.** Widespread in the South Island. One record from the North Island.

Hogg describes a single male from Stewart Island and Bryant several females from Canterbury. These are probably the same species. The species is a closely-knit group and though absolute size varies to a large degree the proportions remain nearly constant.

**HABITAT.** The species is more commonly found in damper situations than *I. martius* and has not colonised human structures to the same extent. Most usually it lives on tree trunks and damp vertical faces which are exposed to a certain amount of light and wind.

**WEB.** The web is small and applied closely to the substrate. It consists of irregularly radiating threads upon which a narrow zigzag of cribellated silk is laid rather like the typical Filistatid web.

#### FEMALE

Length, 16.14 mm.

**COLOURATION.** Carapace dark reddish-brown anteriorly, paling to yellow orange posteriorly. Three dark stripes run from the thoracic groove forward, one medially, and two laterally along edges of the cephalic region forming a trident-shaped marking. Abdomen with 5 pairs of indistinct dark marks separated by pale marks down the mid-dorsal line, the light patterning giving the appearance of a St. Andrew's cross. Ventrally grey with many small pale spots at the sides, a strip mid-ventrally, grey with longitudinal white streaks. Spinnerets surrounded by grey area. Sternum and legs yellow with reddish-brown chitinised edges, covered with black hairs.

**MAXILLARY LOBES AND LIP.** Dark red-brown with white tips. Chelicerae darker red-brown.

**VARIATION.** The general pattern is constant but the degree of pigmentation is quite variable. Small mature individuals tend to be the palest and are almost yellow. The trident-shaped marking on the carapace is more evident in the paler and immature forms.

**CARAPACE.** Length, 8.76 mm; breadth, 4.91 mm; just overlapped by abdomen in the selected specimen. Cephalic region distinct, marked off by the lateral stripes of the trident mark. These bear strong hairs.

**EYES.** 8, in two rows. From above, anterior row slightly recurved, posterior row procurved; from in front anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 212:296:250:248. Breadth of eye group: 2.5 mm. Distances apart (ratio): AM-AM, 472; AM-AL, 633; AL-PL, 238; PL-PM, 1017; PM-PM, 624; AM-PM, 716. Width of clypeus, 500. Lateral eyes on a protuberance.

**CHELICERAE.** Large and stout, kneed at the base, with prominent boss. Many hairs on prolateral face especially near the fang groove. Three prolateral teeth, the middle tooth the largest, the ventral tooth the next largest one. Two retrolateral teeth, the more ventral tooth the larger, equal in size to the middle prolateral tooth and at the same level. Retrolateral aspect of the fang protected by a flange. Fang stout and short with a darker basal half.

**MAXILLARY LOBES.** Widening from base to about  $\frac{2}{3}$  length, then narrowing from the side to a white tip bearing a strong scopula.

**LIP.** Longer than broad, base indented, and tip with an apparent notch, but the colouration is misleading.

**STERNUM.** Length, 3.78 mm; breadth, 2.61 mm. Top edge with central rounding, spine between coxae of IV legs blunt and equilateral.

Legs.	1	4	2	3	Palp				
	2.48	2.29	2.20	2.04	0.80				
			Femur	Pat. & Tibia	Metatarsus	Tarsus	Total		
I	.....		5.28	7.39	4.56	2.22	19.45		
II	.....		5.06	6.78	3.83	1.89	17.56		
III	.....		4.67	5.72	3.83	1.61	15.83		
IV	.....		5.17	6.89	4.44	1.72	18.22		
Palp	.....		2.28	2.56	—	2.20	7.04		

Tibial Index: I, 7.62; IV, 8.26.

**CALAMISTRUM.**  $\frac{5}{16}$ ths of metatarsus.

**ABDOMEN.** Length, 8.50 mm; breadth, 5.54 mm.

#### MALE

Length, 11.99 mm.

**COLOURATION.** As in female.

**CARAPACE.** Length, 6.19 mm; breadth, 4.18 mm.

**EYES.** From above, anterior row recurved, posterior row procurved, from in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 192:245:255:195. Width of clypeus, 240. Breadth of eye group: 2.00 mm. Distances apart: AM-AM, 317; AM-AL, 466; AL-PL, 182; PL-PM, 733; AM-PM, 567; PM-PM, 519.

MOUTH PARTS. As in female but spinier hairs.

STERNUM. Length, 2.94 mm; breadth, 2.11 mm.

PALP. 3 nonapical, very sharp, tibial apophyses.

LEGS.	1	2	4	3	Pat. & Tibia	Metatarsus	Tarsus	Total
	3.3	2.8	2.8	2.6				
				Femur				
I	.....			5.00	7.50	4.89	2.17	19.56
II	.....			4.78	6.61	4.56	2.00	17.95
III	.....			4.39	5.39	3.67	1.50	14.95
IV	.....			4.72	6.28	4.11	1.67	16.78
Palp	.....			2.17	1.56	—	1.83	5.56

Tibial Index: I, 6.61; IV, 9.4.

CALAMISTRUM.  $\frac{2}{3}$ ths metatarsus.

ABDOMEN. Length, 5.66 mm; breadth, 3.18 mm.

Hogg (1909) described this species from one male from Stewart Island. Bryant (1935) described a female from Christchurch which is apparently of the same species, but her description is not very clear.

This species shows resemblances with *Ixeuticus rubrioides* in the apophyses of the male palp and in the form of the epigyne. The epigyne form is connected with that of *I. martius* through the form shown by *I. r. mckerrowi*, and the number and arrangement of the palpal apophyses. It differs from the other forms in the distinctness and constancy of its trident-shaped black marking on the cephalothorax. This allows the identification of immature forms.

*Ixeuticus chathamensis occidentalis* (Hogg) n. supsp. Text-fig. II, fig. 11.

DISTRIBUTION. Whero Island, Foveaux Strait, near Stewart Island. 2 females, 1 immature male, and 4 juveniles.

#### FEMALE

Length, 13.04 mm.

COLOURATION. Carapace tawny-orange darkening to red anteriorly. Vague reddish stripes running from the thoracic groove towards each leg. Thoracic groove dark red. A slight sootiness intensifies the stripe running towards Leg I along the cephalic margin. Abdomen dark with many white spots dorsally but anteriorly the dark shade is almost entirely due to the many black hairs. The pattern is of 5 pairs of dark spots on the posterior two-thirds of the abdomen, and a faint dark cross between the first two pairs of spots. Ventrally two broad bands edged with paler bands run longitudinally. Spinnerets pale brown. Sternum yellow-orange with redder edge. Legs yellow-orange-white, more cuticularised edges orange. Legs without rings.

MAXILLARY LOBES AND LIP. Dark orange with white tips and black around the bases.

CHELICERAE. Dark red, nearly black.

CARAPACE. Length, 6.20 mm; breadth, 4.42 mm. Elongated. Thoracic groove long, half in posterior triangle. Many small black spines over dorsal part and down edges of posterior triangle, and long ones in three bands from the thoracic groove to the eyes. Two transverse lines of spines posterior to the eyes. Cephalic portion merges with thoracic without a deep groove.

EYES. 8, in two rows. From above, anterior row straight, posterior row procurved; from in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 171:262:263:231. Breadth of ocular area: 2.06 mm. Width clypeus, 484. Distances apart: AM-AM, 394; AM-AL, 468; AL-PL, 162; PL-PM, 698; PM-PM, 560; AM-PM, 531. Lateral eyes on a tubercle.

CHELICERAE. Knead. Strong with prominent smooth boss. Many spines and hairs pro-laterally and a few retrolaterally. Prolateral teeth 3, the middle one being largest, the other two of similar height. A sharp unserrated ridge runs medially down the distal halves of the chelicerae ending in the first tooth. Two small retrolateral teeth, the more ventral one being larger and situated opposite the space between 2nd and 3rd prolateral teeth. A large flange protects the fang base. Groove of slight slope, 30°. Scopula thick.

LIP. Longer than broad. Indented at base, notched at tip. Narrows distally.

STERNUM. Length, 3.17 mm; breadth, 2.44 mm. Convex but nearly flat medially. A slight protuberance opposite each coxae. Anterior margin concave with lateral straight pieces opposite the maxillary lobes. A posterior spine, narrow and sharp, separates the IV coxae.

LEGS.	1	4	2	3	Palp			Total
	3.1	2.7	2.6	2.3	1.0			
			Femur	Pat. & Tibia	Metatarsus	Tarsus		
I	.....		5.11	7.11	5.06	1.83	19.11	
II	.....		4.67	5.94	4.00	1.61	16.22	
III	.....		4.06	5.28	3.44	1.39	14.17	
IV	.....		4.72	6.17	4.39	1.44	16.72	
Palp	.....		2.17	2.22	—	1.89	6.28	

Tibial Index: I, 9.5; IV, 8.5.

CALAMISTRUM.  $\frac{1}{2}$ th length of metatarsus. Not very dense.

ABDOMEN. Length, 7.50 mm; breadth, 5.28 mm. Cribellum divided, breadth, 0.33 mm. Epigyne: Length, .83 mm; breadth, 1.11 mm.

This subspecies differs from *I. chathamensis chathamensis* in the details of the epigyne, in having a darker, more even colouration, and in size. It is very similar in many respects to *I. r. mckerrowi*. As it is recorded from one locality some doubt is permissible on the validity of the subspecies.

*I. rubrioides mckerrowi* n. sub. sp. Text-fig. II, fig. 8.

DISTRIBUTION. Two females from Lake McKerrow.

#### FEMALE

Length, 11.33 mm.

COLOURATION. Cephalic portion of carapace red-orange, thoracic portion yellow-orange. Thoracic groove red. A grey stripe runs medially along the cephalic portion and a grey area marks the cephalic groove. Abdomen grey, with four pale chevrons pointing along the dorsal surface with a faint pale streak in front. Ventrally grey with two longitudinal pale stripes laterally. Spinnerets pale orange. Sternum yellow darkening to sooty red marginally. Legs yellow-orange with cuticularised portions red. Anterior legs redder than posterior legs. Chelicerae dark red. Fang nearly black.

CARAPACE. Length, 5.22 mm; breadth, 4.00 mm. Cephalic portion distinct. Cephalic notch very deep. Cephalic grooves present as grooves. Thoracic groove long, half in posterior triangle. Posterior triangle distinct. Posterior margin of carapace smoothly but deeply indented. Spines, in three rows run from the thoracic groove to the ocular area, which bears more spines. Recumbent black hairs run up the margins of the posterior triangle and cover the cephalic portion.

EYES. 8, in two rows. From above, anterior row slightly recurved; posterior row slightly procurved. From in front, anterior row straight, posterior row procurved. Eyes small and widely separated. Ratio of eyes: AM:AL:PL:PM = 182:237:247:209. Breadth of ocular area: 1.80 mm. Distances apart: AM-AM, 348; AM-AL, 405; AL-PL, 131; PL-PM, 638; PM-PM, 477; AM-PM, 430. Width of clypeus, 456.

CHELICERAE. Knead at base. Strong. Rectangular, with many spines and hairs on the anterior face. Fang groove with three strong teeth on the prolateral margin of which the middle one is the largest and the other two are the same size. The medial tooth continues down the medial face of the abdomen as a sharp ridge. Retrolateral teeth, two; the first is larger but is smaller than any prolateral tooth, opposite the space between prolateral teeth 2 and 3. The second is yet smaller and is closer to the fang origin than the last prolateral tooth. Fang short and strong.

MAXILLARY LOBES. Broadest about  $\frac{2}{3}$ rd from the proximal end. Overhang the lip. Scopula sparse. File present.

STERNUM. Length, 2.89 mm; breadth, 2.06 mm. Elongated shield-shape. Anterior margin smoothly convex. Lateral margins fairly smooth. Opposite coxae IV the margin is straight. Sternal spine long, more acute than equilateral but blunt.

LEGS.	1	2	4	3	Palp			Total
	3.0	2.6	2.5	2.2	1.0			
			Femur	Pat. & Tibia	Metatarsus	Tarsus		
I	.....		4.39	5.83	3.72	1.83	15.77	
II	.....		3.83	5.11	3.28	1.56	13.78	
III	.....		3.50	4.11	2.89	1.22	11.72	
IV	.....		3.67	4.50	3.44	1.50	13.11	
Palp	.....		1.78	1.94	—	1.56	5.28	

Tibial Index: I, 9.5; IV, 7.4.

CALAMISTRUM.  $\frac{1}{3}$ rd length of metatarsus.

ABDOMEN. Length, 6.11 mm; breadth, 4.89 mm. Epigyne shows an intermediate pattern between *I. martius* and *I. charybdis*. Cribellum divided, very small and raised. Spinning areas widely separated and kidney-shaped.

This species is subspecifically distinct from *I. rubrioides* from Auckland and Campbell Islands. It differs in the arrangement of spines and also in the epigyne. The epigynal structure is an intermediate stage between the pattern of *I. martius* and the form shown by *I. charybdis*.

#### SPECIES GROUP III—*I. angustiae*, *I. nuntius*, *I. vallus*.

This grouping is made on size, tooth formula, epigyne structure and general appearance. All have a blunt obtuse sternal spine, a large well chitinised epigyne with a lower lip (divided in *I. vallus*), and all are very small. The group is related to the first species group and through *I. vallus* to the second species group. The open appearance of the upper parts of the epigyne of *angustiae* and *nuntius* bears some resemblance to the patterns shown in species Group IV. Little can be said about the relationship to named species as nothing similar appears to have been described. No detailed notes are needed on the separate species apart from saying that *I. vallus* appears to be less closely related than the other two and perhaps the difference is sufficient to raise it to the species group level.

*Ixeuticus angustiae* n.sp. Text-fig. II; fig. 10.

DISTRIBUTION. One record from beech forest near Arthur's Pass. Collecting was done by hand with investigation of rotting beech trees and also by sieving. One other record from Goose Bay is doubtfully put in here.

#### FEMALE

Length, 4.11 mm.

COLOURATION. Cephalothorax yellow with a sooty stain around the thoracic groove and on the lateral faces of the cephalic portion. Eyes in black areas. Abdomen grey. Little pattern. There is a suggestion of a St. Andrew's cross mid-dorsally and dark markings laterally and posteriorly. Ventrally grey. Sternum yellow, almost white medially but with grey margins. Legs yellow-white with cuticularised portions pale orange and with grey rings. Maxillary lobes and lip pale orange-brown. Chelicerae tawny.

CARAPACE. Length, 1.50 mm; breadth, 1.22 mm. Broad and high. Cephalic portion very large in proportion to the thoracic portion. Cephalic notch deep and sharp. Definite cephalic groove. Thoracic groove short. Entirely in posterior triangle. Posterior triangle very wide. Thoracic margin circular. Posterior margin straight. Spines run from the thoracic groove to the eyes in three bands. Few hairs.

EYES. 8, in two rows. From above, anterior row slightly recurved, posterior row procurved. From in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 76:137:136:132. Breadth of ocular area: 0.63 mm. Distances apart: AM-AM, 122; AM-AL, 85; AL-PL, 45; PL-PM, 149; PM-PM, 139; AM-PM, 155. Width, clypeus, 112. Eye group large.

CHELICERAE. Knead at base. Rectangular. Medial margins run parallel for the proximal third, diverge in the middle third, and again run parallel in the distal third. Fang groove short and not steeply sloping. Prolateral margin with three teeth of which the middle one is the largest, then the ventral. Retrolateral margin with two teeth, of which the ventral is the larger, opposite the third prolateral tooth. The second retrolateral tooth is the same size as the third prolateral tooth but closer to the fang base. Fang short.

MAXILLARY LOBES. Rectangular with angular tip. Slightly overhanging the lip. Scopula dense, file clear.

LIP. As broad as long or a little broader. Tip not notched, base indented.

STERNUM. Length, 0.89 mm; breadth, 0.77 mm. Very broad. Convex, heart-shaped. Anterior margin smoothly concave. Lateral margins smooth. Posterior spine very short and very blunt. More obtuse than equilateral. Sternum with few black hairs.

LEGS.	1	4	2	3	Palp			Total
	2.7	2.5	2.3	2.1	0.9			
			Femur	Pat. & Tibia	Metatarsus	Tarsus		
I	.....		1.22	1.28	0.94	0.67		4.11
II	.....		1.06	1.00	0.78	0.56		3.40
III	.....		1.00	1.00	0.67	0.44		3.11
IV	.....		1.17	1.28	0.89	0.44		3.78
Palp	.....		0.44	0.44	—	0.50		1.38

Tibial Index: I, 7.0; IV, 7.6.

CALAMISTRUM.  $\frac{1}{3}$  length of metatarsus. Occupies the middle third.

ABDOMEN. Length, 2.78 mm; breadth, 2.00 mm. Large and bulky. Overhangs carapace. Epigyne large and with a lip. Cribellum divided.

*Ixeuticus nuntius* n.sp. Text-fig. II, fig. 13.

DISTRIBUTION. Three specimens only. The description is based on an adult female from Mount Davie. Another specimen, doubtfully placed with this one, comes from Vinegar Hill, and is also an adult female, but is damaged. The third record is from Arthur's Pass.

FEMALE

Length, 3.83 mm.

COLOURATION. Carapace yellow, darkening to sooty orange round the eyes. Eyes surrounded by black ovals which join round the anterior median and lateral eyes. Thoracic groove and margins orange. Abdomen with complex grey pattern on a pale ground. Pattern units close together so the effect is generally grey. Mid-dorsally a pale grey. Laterally grey. Sternum and legs yellow, with a grey speckle. Cicularised edges on legs orange. Maxillary lobes and lip yellow-orange. Chelicerae orange.

CARAPACE. Length, 1.72 mm; breadth, 1.28 mm. High, elongated. Cephalic portion long, especially in the part anterior to the cephalic notch. Notch distinct. Cephalic grooves indistinct. Thoracic groove long and in apex of posterior triangle. Posterior margin smoothly indented to a deep concavity. Spines lost but appear to have been in five rows, of which the median alone is well developed.

EYES. 8, in two rows. From above, anterior row recurved, posterior row straight. From in front, anterior row straight, posterior row procurved. Eye group compact. Ratio of eyes: AM:AL:PL:PM = 80:137:148:132. Breadth of ocular area: 0.60 mm. Distances apart: AM-AM, 85; AM-AL, 74; AL-PL, 54; PL-PM, 140; PM-PM, 85; A.M.-PM, 173. Width clypeus, 96.

CHELICERAE. Very slightly kneed at base. Strong at base but tapering and slender at the tip. Anterior face with sparse bristles and a row of bristles anterior to the fang groove. Prolateral margin of fang groove with three teeth of which the middle is the largest, then the ventral tooth. Retrolateral margin with two teeth, of which the ventral is the longer. This tooth is opposite the second prolateral tooth and is of the same size. The second retrolateral tooth is the same size as the first (ventral) prolateral tooth, is closer to the fang origin than the third prolateral tooth, and is slightly inclined towards the fang. Fang long and slender.

MAXILLARY LOBES. Rectangular but slightly broader at the tip. Scopula strong. File present.

LIP. Broader than long. Smoothly indented at base. Tip definitely notched.

STERNUM. Length, 0.95 mm; breadth, 0.78 mm. Broad, heart-shaped; convex. Anterior margin smoothly concave. Margin smooth, not notched for coxae. Posterior blunt equilateral spine.

LEGS.	1	4	2	3	Palp			Total
	2.8	2.8	2.6	2.3	1.0			
			Femur	Pat. & Tibia	Metatarsus	Tarsus		
I	.....		1.39	1.61	1.11	0.70		4.81
II	.....		1.28	1.50	1.00	0.61		4.39
III	.....		1.22	1.35	0.94	0.50		4.01
IV	.....		1.40	1.61	1.11	0.67		4.79
Palp	.....		0.61	0.63	—	0.55		1.79

Tibial Index: I, 8.9; IV, 8.9.

CALAMISTRUM.  $\frac{2}{7}$ ths length of metatarsus.

ABDOMEN. Length, 1.90 mm; breadth, 1.44 mm. Cribellum: Divided. Epigyne: Very large and rectangular.

*Ixeuticus vallis* n.sp. Text-fig. II, figs. 4 and 6.

DISTRIBUTION. Five records, all from the North Westland-Nelson district.

#### FEMALE

Length, 5.06 mm.

COLOURATION. Carapace orange-red and evenly coloured. Thoracic groove dark red, almost black. Eyes edged with narrow black bands. Abdomen even reddish-grey. No pattern is now visible on the selected specimen, but some of the immature forms show a white St. Andrew's cross figure mid-dorsally. Ventral surface of abdomen grey, with a suggestion of four parallel longitudinal lines of darker grey. Sternum orange with a faint grey speckle. Legs orange-yellow with cuticularised edges red. Maxillary lobes and lip orange. Maxillary lobes with white tips. Chelicerae orange-red.

CARAPACE. Length, 2.28 mm; breadth, 1.67 mm. Very high. Thoracic portion round, cephalic portion long. Cephalic notch shallow. Cephalic grooves clear laterally but disappear medially. Cephalic portion rounded in elevation. Thoracic portion angular. Thoracic groove of medium length and almost completely inside the apex of the posterior triangle. Posterior triangle distinct but not emphasised. Posterior margin of carapace straight.

EYES. 8, in two rows. From above, anterior row recurved, posterior row straight. From in front, anterior row straight, posterior row procurved. Eyes compact. Ratio of eyes: AM:AL:PL:PM = 99:165:150:130. Breadth of ocular area: 0.70 mm. Distances apart: AM-AM, 81; AM-AL, 61; AL-PL, 57; PL-PM, 143; PM-PM, 134; AM-PM, 164. Width of clypeus, 206.

CHELICERAE. Only slightly kneed. Tapering to the tip. Slender. Fang groove steeply inclined. Proteral margin bears three teeth, of which the middle tooth is the largest, then the ventral tooth. Retrolateral margin with two teeth of which the first is the larger and is only a little smaller than the largest proteral tooth. The second retrolateral tooth is closer to the fang base and smaller than the third proteral tooth.

MAXILLARY LOBES. Slightly broader at the tip. Tip rounded. Scopula small but dense. File present.

LIP. Broader than long. Indented at base. Slightly notched at tip.

STERNUM. Length, 1.17 mm; breadth, 1.06 mm. Broad, convex. Heart-shaped. Anterior margin smoothly concave. Lateral margins not smooth but undulating. Spine blunt and more obtuse than equilateral.

LEGS.	4	1	2	3	Palp			
	3.0	3.0	2.6	2.4	1.2			
				Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I				1.94	2.33	1.50	1.13	6.90
II				1.78	2.00	1.28	0.89	5.95
III				1.61	1.89	1.33	0.67	5.50
IV				2.00	2.44	1.72	0.78	6.94
Palp				0.89	0.89	—	1.06	2.84

Tibial Index: I, 8.4; IV, 9.4.

CALAMISTRUM. 3/10ths length of metatarsus.

ABDOMEN. Length, 2.94 mm; breadth, 2.06 mm. Oval, cribellum divided and small. Epigyne large, with a central spine.

#### MALE

Length, 4.89 mm (appears to have moulted a short time prior to capture).

COLOURATION. Carapace, sternum, mouthparts and legs yellow. Abdomen grey. Pattern more distinct with the St. Andrew's Cross clear, followed by two white chevrons with the apex forward.

CARAPACE. Length, 2.61 mm; breadth, 1.67 mm. Specimen shrunken and distorted even round the eyes.

EYES. 8, in two rows. From above, anterior row recurved, posterior row straight. From in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 102:141:117:125. Breadth of ocular area: 0.67 mm. Distances apart: AM-AM, 84; AM-AL, 54; AL-PL, 81; PL-PM, 128; PM-PM, 164; AM-PM, 152. Width of clypeus, 233.

MOUTH PARTS. As in female.

STERNUM. As in female. Length, 1.28 mm; breadth, 1.06 mm.

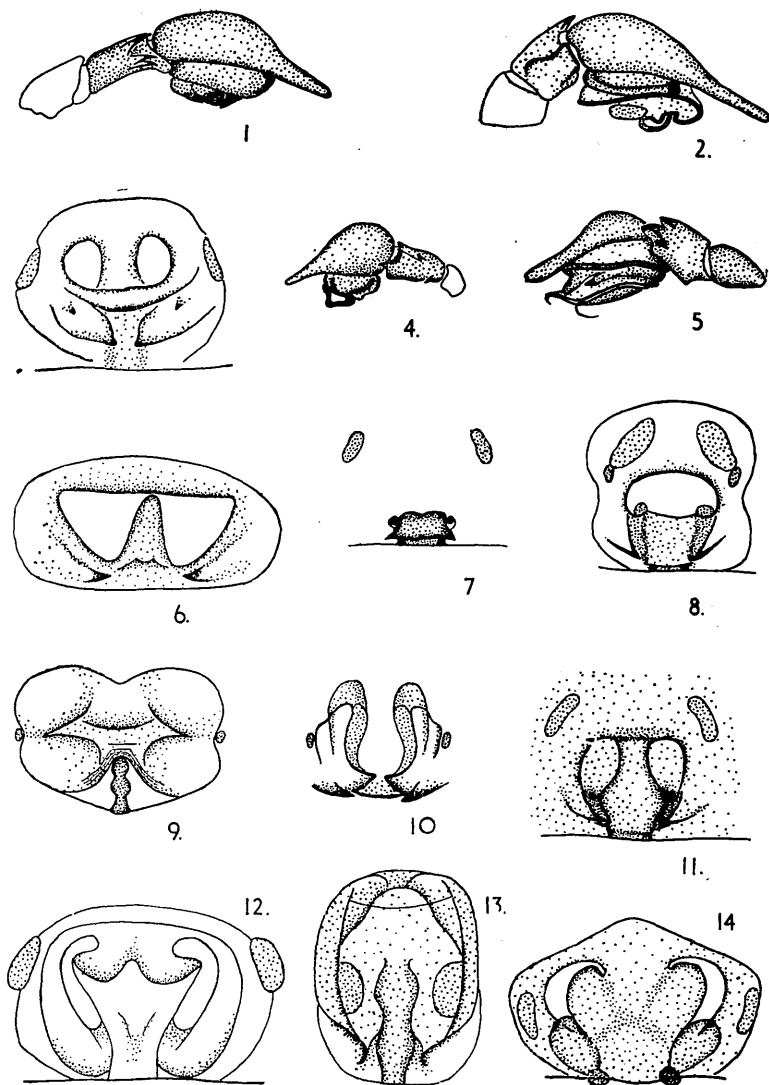


FIG. II.—1—*Ixeuticus charybdis*. Male palp. 2—*Ixeuticus calypso*. Male palp. 3—*Ixeuticus martius*. Epigyne. 4—*Ixeuticus vallus*. Male palp. 5—*Ixeuticus martius*. Male palp. 6—*Ixeuticus vallus*. Epigyne. 7—*Ixeuticus charybdis*. Epigyne. 8—*Ixeuticus rubrioides mckerrowi*. Epigyne. 9—*Ixeuticus calypso*. Epigyne. 10—*Ixeuticus angustiae*. Epigyne. 11—*Ixeuticus chathamensis occidentalis*. Epigyne. 12—*Ixeuticus dalmasi*. Epigyne. 13—*Ixeuticus nuntius*. Epigyne. 14—*Ixeuticus janus*. Epigyne.

LEGS.	4	1	2	3	Palp					
	3.3	3.2	2.7	2.5	1.1	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		2.06			2.83		2.00	1.56	8.45
II	.....		2.00			2.39		1.67	1.06	7.12
III	.....		2.06			1.78		1.72	0.94	6.50
IV	.....		2.39			2.89		2.44	1.00	8.72
Palp	.....		0.89			0.83		—	1.22	2.94

Tibial Index: I, 10.2; IV, 10.4.

PALP. Retrolateral face of tibia concave and smooth. Two apophyses proximally, and two flaps distally. Calamistrum very feebly developed.

ABDOMEN. Length, 2.56 mm; breadth, 1.89 mm. Cribellum: Divided and very narrow, but appears to be functional.

SPECIES GROUP IV.—*I. calypso*, *I. dalmasi*, *I. janus*.

This group is defined on the shape of the epigyne, which is open and rather different in pattern. All are of medium size and have 3 prolateral and 2 retrolateral teeth.

*I. dalmasi* and *I. janus* are very closely related, differing only in minor details of the epigyne, in the eye ratios and in the shape of the lip.

*Ixeuticus calypso* n.sp. Text-fig. II, figs. 2 and 9.

DISTRIBUTION. Five records, two from North Canterbury, two from Central Otago, and one from Otago Peninsula.

HABITAT. One record has the note "collected on pine trunks" attached. Those from the Otago Peninsula were on Ngaio trunks, which were dry but shaded, as were similar trunks at Duntroon. Web fairly large and without much structure, but with a tendency towards a ladder construction.

FEMALE

Length, 5.56 mm.

COLOURATION. Cephalothorax sooty-red darkening to brown around the eyes. Eyes edged in black. Brown lines run out towards the legs. Thoracic groove black. Abdomen dark grey with a St. Andrew's cross marking mid-dorsally, followed by two indistinct transverse lines. Ventrally grey with four parallel longitudinal rows of white spots. Lateral faces with many white spots irregularly arranged. Sternum orange-grey. Maxillary lobes tawny with white tips; lip dark brown. Chelicerae red-brown.

CARAPACE. Length, 2.83 mm; breadth, 1.94 mm. Elongated; high. Thoracic portion narrow, but with steep sides. Cephalic notch distinct but shallow. Cephalic grooves present. Thoracic groove long, half in posterior triangle. Posterior triangle depressed. Posterior margin of carapace smoothly concave, nearly straight.

EYES. 8, in two rows. From above, anterior row straight, posterior row slightly procurved. From in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 143:173:178:144. Breadth of ocular area: 0.94 mm. Distances apart: AM-AM, 154; AM-AL, 117; AL-PL, 73; PL-PM, 363; PM-PM, 225; AM-PM, 266. Width of clypeus, 178.

CHELICERAE. Knead at the base. Strong and stout. Fang groove fairly steeply sloping. Prolateral margin of fang groove with three teeth of which the middle tooth is the largest, then the ventral. Retrolateral margin with two teeth of which the first is the larger, equal in size to the middle prolateral tooth and opposite to it. The other tooth is smaller than the third prolateral tooth and closer to the fang base. Fang short and stout.

MAXILLARY LOBES. Broader at the tip than at the base. Angular. Not overhanging the lip. Scapula thick, file present.

LIP. Broader than long, notched at the tip. Indented at the base.

STERNUM. Length, 1.50 mm; breadth, 1.06 mm. Elongated shield-shape. Convex. Anterior margin smoothly convex. Lateral margins slightly undulating but without any sharp angles. Spine sharp, more acute than equilateral.

LEGS.	1	4	2	3	Palp					
	2.4	2.3	2.1	1.9	0.9	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		1.89			2.39		1.56	0.89	6.73
II	.....		1.78			2.11		1.33	0.72	5.94
III	.....		1.56			1.83		1.28	0.61	5.28
IV	.....		1.83			2.33		1.44	0.78	6.38
Palp	.....		0.78			0.83		—	0.83	2.44

Tibial Index: I, 7.2; IV, 7.0.

CALAMISTRUM.  $\frac{2}{3}$ ths length of metatarsus.

ABDOMEN. Length, 3.33 mm; breadth, 2.61 mm. Broad elliptical, overhanging carapace. Epigyne very large chitinised plate with little structure except minor sculpturing. Cribellum: Small, divided.

#### MALE

Length, 5.0 mm.

COLOURATION. The only specimen is much paler in colouring, but this may be due to a recent moult. It was caught in late May.

CARAPACE. Length, 2.44 mm; breadth, 1.78 mm. Similar in structure to the female.

EYES. 8, arranged as in female and of similar proportions. Ratio of eyes: AM:AL:PL:PM = 165:187:190:164. Breadth of ocular area: 0.89 mm. Distances apart: AM-AM, 113; AM-AL, 90; AL-PL, 61; PL-PM, 228; PM-PM, 202; AM-PM, 227. Width of clypeus, 144.

CHELICERAE. Not as strong as in the female.

MAXILLARY LOBES. As in the female.

LIP. Not notched at the tip nor as deeply indented at the base.

STERNUM. Length, 1.39 mm; breadth, 1.03 mm.

LEGS.	1	4	2	3	Palp				
	2.9	2.8	2.7	2.3	1.0				
			Femur		Pat. & Tibia	Metatarsus	Tarsus	Total	
I	.....		1.78	2.50	1.78	1.00	7.06		
II	.....		1.78	2.33	1.56	0.94	6.61		
III	.....		1.61	1.94	1.44	0.67	5.66		
IV	.....		1.94	2.33	1.72	0.78	6.77		
Palp	.....		0.83	0.56	—	1.17	2.56		

Tibial Index: I, 9.0; IV, 9.2.

CALAMISTRUM. Not functional, replaced by a line of hairs.

ABDOMEN. Length, 2.22 mm; breadth, 1.72 mm. Cribellum not functional.

*I. calypso* is rather different in appearance and more closely resembles the spiders of Species Group II, but the epigyne is without much relief and resembles to an extent the epigyne of *Maniho tigris*.

*Ixeuticus dalmasi*. Text-fig. II, fig. 12.

DISTRIBUTION. 5 individuals from two localities in the Rotorua-Taupo district.

HABITAT. Recorded from bush at 2,640ft on the Taupo-Napier road.

#### FEMALE

Length, 7.89 mm.

COLOURATION. Carapace yellow, with a tendency to orange anteriorly and round the edges. A diffuse sooty area on the lateral faces of the cephalic region and also covering the leg ridges. Eyes surrounded by individual black areas. Abdomen, anterior half pale with three pairs of large dark marks alongside the central broad pale streak; posterior half grey; ventrally pale with a dark central beaded line. A transverse dark bar lies anterior to the epigyne. Spinnerets dark. Sternum and legs yellow with orange edges, but the whole surface speckled with small grey spots especially round the border of the sternum. Legs yellow, with faint grey rings.

MAXILLARY LOBES and LIP. Orange, lip darker than maxillae. Chelicerae orange.

CARAPACE. Length, 3.00 mm; breadth, 2.33 mm. Thoracic groove extends forward of the posterior triangle face. Many small spines on the dorsal surface and numerous white hairs cover the surface. Tall thin spines run in three bands towards the eyes, which are surrounded by spines and hairs. These are numerous but not thick. Cephalic portion indistinct behind the cephalic notch. General impression, rounded and flattish.

EYES. 8, in two rows. From above; anterior row recurved, posterior row procurved. From in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 184:217:236:190. Breadth of ocular area: 0.95 mm. Distances apart: AM-AM, 139; AM-AL, 120; AL-PL, 68; PL-PM, 200; PM-PM, 210; AM-PM, 309. Width of clypeus, 180. Lateral eyes on a low tubercle and bulging.

CHELICERAE. Lightly but strongly built. Knead at the base, with prominent smooth boss. Covered in spines prolaterally and several postlaterally. Three prolateral teeth the middle one being the largest. Two on the retrolateral margin of the groove of which the ventral one is the larger but is smaller than the largest prolateral tooth and lies closer to the origin of the fang. A hardened fold runs along the ventral face of each chelicera. Fang short and divided.

MAXILLARY LOBES. Rectangular, with a sparse scopula. Anterior and lateral margin bearing a narrow and low file.

**LIP.** Broader than long. Notched at the tip with a few long hairs on the tips. Indented at base.

**STERNUM.** Length, 1.61 mm; breadth, 1.33 mm. Convex. Not notched for the coxae. Anterior edge concave in a smooth curve. A blunt projection separates the fourth pair of coxae.

LEGS.	1	2	4	3	Palp					
	4.1	3.6	3.5	3.5	1.1	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		3.50			4.33		2.89	1.56	12.28
II	.....		3.22			3.83		2.50	1.28	10.83
III	.....		3.28			3.72		2.39	1.17	10.56
IV	.....		3.06			3.50		2.61	1.44	10.61
Palp	.....		1.06			1.11		—	1.06	3.23

Tibial Index: I, 11.1; IV, 10.5.

**CALAMISTRUM.**  $\frac{3}{4}$ ths length of metatarsus.

**ABDOMEN.** Length, 4.72 mm; breadth, 3.06 mm.

**Ixeuticus janus** Bryant (1935). Text-fig. II, fig. 14.

**DISTRIBUTION.** Recorded from two localities in Canterbury and also from Stewart Island.

**HABITAT.** The habitat of this species was only studied in one locality, Hanging Rock, in central Canterbury. There the spiders were very common on two limestone cliffs. One of these bordered a stream which had eroded a steep overhang which was damp, shady and with patches of moss. The other cliff also had a deep overhang which was partially enclosed by a road embankment so that, though drier than the first cliff, it was sheltered, shady and damp. A few webs were noticed on a clay bank overhung by vegetation. Other records mention stream beds.

**WEB.** The web is a mushroom-shaped structure similar to that of *Amarara fera* with a smaller retreat below a large flat sheet. The upper sheet is continuous and much thicker and denser. The retreat ceiling is a small sheet guyed to the substrate. A major contrast is shown in the position of the spider which sits on the lower sheet, head down, rather than on the cliff face and of the cocoons, which are incorporated into the tangle which fills in the space between the two sheets. The upper large sheet is continuous and guyed at the scalloped margins by short guy threads. The retreat sheet is supported from the main web by a funnel-shaped depression which is completely closed over by secondary layers. These secondary layers appear to be added as the web requires to grow larger and give the upper sheet its continuous appearance.

The average diameter of 20 webs is 53 mm with a range from 13 mm to 110 mm and have an average of 14 guy threads around the sheet with a range from 10 to 19.

**COCOONS.** The cocoon is about 1 cm in diameter and is biconvex to planoconvex in shape. It is made of a thin white silk covering containing some debris, and is suspended below or affixed to the upper sheet.

#### FEMALE

Length, 7.11 mm.

**COLOURATION.** Carapace yellow, slightly orange dorsally and anteriorly with paler ridges. Thoracic groove orange. Slight sooty markings laterally. Eyes in black patches, separate except for the lateral eyes. Abdomen pale with two prominent dark marks outlining a St. Andrew's cross marking followed by two pairs of dark spots. Ventrally irregular grey longitudinal bands run from the epigyne region to the spinnerets. Spinnerets yellow with black hairs. Sternum yellow with a sooty speckle. Legs yellow with orange thickenings. No rings. Maxillary lobes and lip orange yellow with lip greyer. Chelicerae orange.

**CARAPACE.** Length, 2.67 mm; breadth, 2.06 mm. Round with distinct cephalic region. Cephalic notch sharp. Posterior margin smoothly indented. Posterior triangle clear. Thoracic groove mainly in posterior triangle and long. Black hairs run in a band up the sides of the posterior triangle. A few spines in five lines run towards the eyes and more around the eyes.

**EYES.** 8, in two rows. From above, anterior row slightly recurved, posterior row procurved. From in front, anterior row straight, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 142:209:211:186. Breadth of ocular area: 0.94 mm. Distances apart: AM-AM, 121; AM-AL, 112; AL-PL, 65; PL-PM, 241; PM-PM, 200; AM-PM, 250. Width of clypeus, 160. Lateral eyes on a slight tubercle.

**CHELICERAE.** Tapering towards the tip, slightly kneed. Spines on anterior face slender and two rows of hairs next to the cheliceral groove have granules at the base. Prolateral margin of the groove bears three teeth, of which the middle one is the larger and the ventral

smallest. This latter tooth is continuous with the ventral ridge. Retrolateral margin with two equal teeth the first opposite the third prolateral tooth and the second closer to the fang origin. No flap at the base of fang. Fang divided, distal part long and slender. Fang groove steeply inclined.

**MAXILLARY LOBES.** Rectangular with very little truncation for the scopula. Scopula sparse and divided clearly into two parts, the more distal being composed of longer hairs. File very marked with deep serrations.

**LIP.** As wide as long or sometimes a little wider. Indented at base but not notched.

**STERNUM.** Length, 1.44 mm; breadth, 1.08 mm. Heart-shaped, not indented for the coxae. Anterior margin smoothly concave. Equilateral blunt spike posteriorly widely separates IV coxae. Margins lower than centre but the centre area is flat. Black hairs are irregularly distributed over the sternum.

	1	4	2	3	Palp
LEGS.	3.7	3.4	3.3	3.0	1.1

Short, with many black hairs.

	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	2.78	3.50	2.44	1.22	9.94
II	2.67	3.06	1.94	1.06	8.73
III	2.50	2.67	1.89	0.94	8.00
IV	2.72	2.89	2.50	1.00	9.11
Palp	1.00	1.06	—	0.94	3.00

Tibial Index: I, 10.5; IV, 9.5.

**CALAMISTRUM.** 4/9ths length of metatarsus.

**ABDOMEN.** Length, 4.28 mm; breadth, 3.39 mm. Rounded but not overhanging the carapace. Epigyne sunken plate with hardened sheer walls. Cribellum divided with spinning areas widely separated. Width, 0.47 mm. No mature males were captured. Immature males are very similar to the female.

The description by Bryant of *I. janus* differs in the cheliceral teeth but this may have been in error.

#### Genus *MANIHO* nov. gen.

This genus is separated from *Ixeuticus* by cheliceral tooth pattern epigyne shape and general leg proportions.

**CHARACTERS.** Medium to large size. Cribellum divided. Legs long. Cheliceral teeth: prolaterally four teeth of large size but characteristically with a short row of small teeth or a single tooth retrolateral to the lateral margin of the large prolateral tooth second from the ventral end of the fang groove. Retrolateral margin of the fang groove bearing two or four teeth. Fang groove steeply inclined. Sternum with undulating but concave anterior margin. Epigyne angular with much sculpturing. Southern in distribution.

**AFFINITIES.** The genus is related to *Syrorisa* in eye proportions and tooth arrangement though the details differ. It is more distantly related to *Ixeuticus* and *Aphyctoschaema*.

The name is derived from the Maori, meaning "extra teeth".

Type species, *Maniho tigris*.

***Maniho tigris* n.sp.** Text-fig. I, fig. 5. Text-fig. III, figs. 1 and 5.

**DISTRIBUTION.** Found throughout the South Island and in the southern part of the North Island.

**HABITAT.** The specimens collected in person were all in native forests, mainly beech or open forest.

**WEB.** The web is an inconspicuous irregular sheet on moss on the trunks of trees usually with a short central tunnel. The spider sits in the moss just below the web.

#### FEMALE

Length, 8.86 mm.

**COLOURATION.** Carapace light yellow-brown at the edges and darker anteriorly. Thoracic groove dark brown with sooty black streaks running towards the legs and broad sooty marks on the edge of the raised cephalic region. Eyes individually surrounded with black, the areas round the anterior median eyes meeting. Chelicerae chestnut. Legs yellow with prominent sooty rings, especially on legs III and IV. Coxae yellow with sooty rings, but chitinised edges chestnut. Labium and maxillary lobes pale chestnut, maxillae with white tips. Sternum pale chestnut with a grey streak running forward from the posterior spike to about the centre

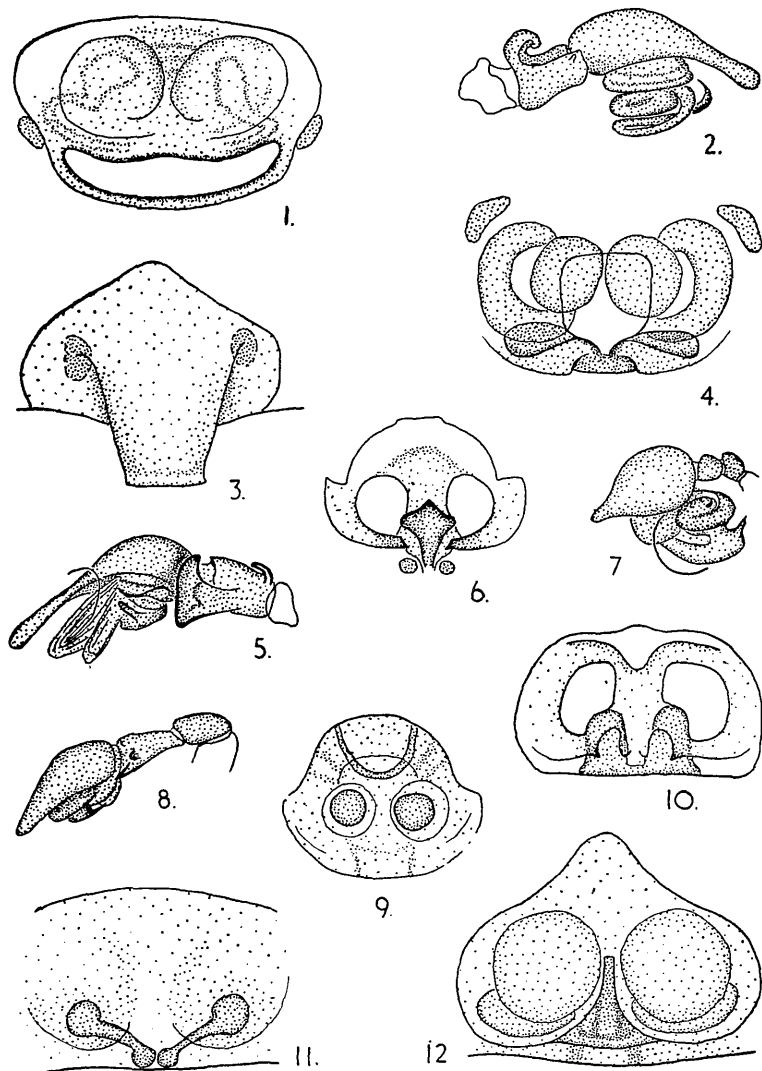


FIG. III.—1—*Maniho tigris*. Epigyne. 2—*Ihurakius forsteri*. Male palp. 3—*Ihurakius forsteri*. Epigyne. 4—*Syrorisa aucklandensis*. Epigyne. 5—*Maniho tigris*. Male palp. 6—*Maniho arboris*. Epigyne. 7—*Dictyna cornigera*. Male palp. 8—*Amarara fera*. Male palp. 9—*Dictyna decolor*. Epigyne. 10—*Maniho gracilis*. Epigyne. 11—*Dictyna cornigera*. Epigyne. 12.—*Amarara fera*. Epigyne.

of the sternum. Abdomen grey with many white spots laterally. Dorsally a central white streak with a cross piece followed by four white chevrons. Ventrally, grey with four longitudinal rows of white spots. Spinnerets grey with white tips. The specimens from the southern part of the range tend to be darker and smaller with the leg rings almost black.

CARAPACE. Length, 3.56 mm; breadth, 2.28 mm. Carapace, especially the cephalic region, high; rear face triangular; thoracic groove at apex, longitudinal and sloping to the rear. A constriction where the cephalic region meets the edge. Posterior border indented. A median row of thin spines runs into eye area. More thin spines protect the eyes.

EYES. 8, in two rows. From above; anterior row recurved, posterior row straight, or a little procurved. From in front: anterior row recurved, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 175:200:191:190. Breadth of eye group: 1.06 mm. Ratio of distances apart: AM-AM, 125; AM-AL, 145; AL-PL, 115; PL-PM, 290; PM-PM, 225; AM-PM, 260. Width of clypeus, 185. Eyes all set into the surface—that is, no ocular knobs or protuberances.

CHELICERAE. Slender but strong, kneed at base with a prominent smooth boss. Anterior face with many fine hairs. Three or four thin spines and a row of hairs forming a scopula. A tooth-like ridge ventrally. Chelicerae more swollen proximally. 4 large teeth on prolateral margin, 2 on retrolateral margin of the fang groove. Also 3 small teeth to the side of prolateral tooth 3, and ventral to it. Order of size 2 4 3 1 and 1 2 with teeth numbered from the ventral end of the fang groove. Fang stout at base but longer than the width of chelicera. Groove slopes inwards.

MAXILLAE. Straight sides, with scopula.

LIP. As long as broad with base indented and tip notched.

STERNUM. Length, 1.94 mm; breadth, 1.50 mm. Broad and convex with indentations for the bases of the coxae. A narrow spine lies between the coxae of IV legs.

LEGS.	1	4	2	3					
	3.5	3.5	2.9	2.7	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....	.....	.....	.....	3.17	4.28	2.78	1.89	12.12
II	.....	.....	.....	.....	2.78	3.22	2.11	1.39	9.50
III	.....	.....	.....	.....	2.72	3.00	2.11	1.06	8.89
IV	.....	.....	.....	.....	3.22	3.78	2.89	1.33	11.22
Palp	.....	.....	.....	.....	1.22	1.22	—	1.22	3.66

Tibial Index: I, 7.1; IV, 6.5.

CALAMISTRUM.  $\frac{3}{7}$ ths of metatarsus.

ABDOMEN. Length, 4.98 mm; breadth, 3.86 mm. Epigyne: Width, 1.22 mm; length, 0.72 mm. Cribellum: Width, 0.50 mm.

### MALE

Length, 7.39 mm.

COLOURATION. As for female but in selected specimen the white marks on the abdomen are more obvious.

CARAPACE. Length, 3.94 mm; breadth, 2.33 mm.

EYES. From above, anterior row recurved, posterior row straight. From in front, anterior row recurved, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 144:228:214:191. Ratio of distances apart: AM-AM, 130; AM-AL, 125; AL-PL, 107; PL-PM, 262; PM-PM, 218; AM-PM, 243. Width of clypeus, 257. Breadth of eye area: 1.06 mm.

MOUTH PARTS. As in female, fang longer and more slender. The scopula of the chelicerae, or rather the row of hairs more distinct but not thick.

STERNUM. Length, 2.00 mm; breadth, 1.44 mm.

PALP. The proximal end of the tibia bears a blunt strap-like apophysis, while the distal end is prolonged prolaterally as a broad flap. Filament and conductor long and coiled.

LEGS.	1	4	2	3					
	1.7	1.7	1.4	1.3	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....	.....	.....	.....	3.11	4.06	3.00	2.11	12.28
II	.....	.....	.....	.....	2.94	3.33	2.39	1.61	10.27
III	.....	.....	.....	.....	2.67	3.17	2.56	1.28	9.68
IV	.....	.....	.....	.....	3.44	4.33	3.00	1.50	12.27
Palp	.....	.....	.....	.....	1.33	1.22	—	1.89	4.44

Tibial Index: I, 10.4; IV, 9.5.

CALAMISTRUM. Does not appear to be functional.

ABDOMEN. Length, 3.22 mm; breadth, 2.11 mm. Cribellum: Breadth, .5 mm (smoothed over).

**Maniho gracilis** n.sp. Text-fig. III, fig. 10.

**DISTRIBUTION.** Three records all from West Otago; two from the west Wakatipu region and one from Tuatapere.

**HABITAT.** The spiders from Tuatapere were living in the hollow ends of rotted beech twigs in dark and damp bush. The web was very small. Some individuals were found on tearing the outer layer off rotting stumps.

**FEMALE**

Length, 9.39 mm.

**COLOURATION.** Carapace yellow-orange with yellow posterior triangle. Darker round eyes and along the edge of the clypeus. Thoracic groove dark. Abdomen grey with paler markings. Markings are a St. Andrew's cross with oval mid-dorsally, followed by two chevrons each of which has a white dot situated laterally to each arm. Posteriorly there are many transverse thin white lines. Ventrally pale grey with a definite margin where the darker lateral faces begin. Sternum light orange with darker orange margins. Legs yellow, with cuticularised edges orange. Maxillary lobes and lip orange with white tips. Chelicerae orange-red.

**CARAPAGE.** Length, 4.72 mm; breadth, 2.89 mm. Elongated. High with a broad top; lateral faces very steep. Cephalic portion elongated with distinct cephalic notch but no cephalic grooves. Thoracic groove not in posterior triangle but just anterior to it. Posterior triangle distinct but not well developed. Posterior margin straight or slightly convex. Edges of posterior triangle and the cephalic region bear many short and long black hairs. Spines very thin.

**EYES.** 8, in two rows. From above, anterior row recurved; posterior row straight. From in front, anterior row slightly recurved, posterior row straight. Ratio of eyes: AM:AL:PL:PM = 142:204:224:152. Breadth of ocular area: 1.25 mm. Distances apart: AM-AM, 286; AM-AL, 158; AL-PL, 107; PL-PM, 322; PM-PM, 371; AM-PM, 303. Width of clypeus, 384. Eye group compact and raised on a dome.

**CHELICERAE.** Strongly kneed. Strong at base but tapering to tip. Fang groove steeply inclined. Anterior face with many hairs, especially prolaterally to the fang groove. Prolateral margin of the fang groove bears four large teeth on the right chelicera (L chelicera has an extra large tooth of which the second from the ventral end of the fang groove is the largest and the others are of the same size. Just retrolateral to the end of the second tooth is a short row of four very small teeth increasing in size to the fourth. Retrolateral margin of the groove bears four teeth, of which the first is largest, being equal in size to the second prolateral tooth. The others decrease in size towards the fang base and are of similar size to the last prolateral tooth. The first is opposite the space between the second and third prolateral teeth. The other three are well separated and closer to the fang base than any of the prolateral teeth. Fang slender.

**MAXILLARY LOBES.** Slightly broader at tip. Tip rounded; medial margins lightly concave. Scapula thin. File present, serrations very fine.

**LIP.** Longer than broad. Basal part deeply indented. Tip deeply notched.

**STERNUM.** Length 2.44 mm; breadth, 1.83 mm. Broad, convex, with long black hairs and spines. Anterior margin concave but not smooth. Lateral margins irregular with projections towards each coxa. Posterior margin transverse with acute spine sides almost parallel. Spine long and sharp.

LEGS.	4	1	2	3	Palp
	3.2	3.1	2.6	2.5	1.0

	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	4.00	4.94	3.50	2.00	14.44
II	3.44	4.33	2.89	1.56	12.22
III	3.28	3.89	3.06	1.50	11.73
IV	4.11	5.17	3.89	1.83	15.00
Palp	1.61	1.56	—	1.56	4.73

Tibial Index: I, 9.4; IV, 9.3.

**SPINES.** Very long and stout.

**CALAMISTRUM.**  $\frac{3}{4}$ ths length of metatarsus.

**ABDOMEN.** Length, 4.67 mm; breadth, 3.11 mm. Cribellum divided. Epigyne width, 0.83 mm; elliptical with a central bar.

**Maniho arboris** n.sp. Text-fig. III, fig. 6.

**DISTRIBUTION.** This species is recorded from four localities, three in North Canterbury, Westland and one from Tuatapere, in Southland. Clearly it must occur or have once occurred in between these parts.

**HABITAT.** The specimens from Tuatapere were living below the bark of large totara trees. The web was small and similar to *I. charybdis*. Also living on the same trees were *I. martius*. The trees were growing in a grassy clearing and were somewhat exposed to sunlight, but were not liable to get very hot.

#### FEMALE

Length, 12.67 mm.

**COLOURATION.** Carapace yellow, darkening to sooty orange round the eyes. Thoracic groove and carapace margin orange. Sooty markings cover the cephalic region. Markings are honeycomb in pattern with oval yellow areas separated by diffuse sooty bands mainly running longitudinally.

**ABDOMEN.** A distinct broad dark stripe runs mid-dorsally right back. The stripe is narrow anteriorly but mid-dorsally it constricts and then swells out as a drop-shaped mark. The background is yellow. Laterally grey with yellow spots. Ventrally pale. Sternum and legs yellow with cuticularised portions orange. Lateral edges of the sternum orange. Maxillary lobes orange-red; lip darker red-grey. Chelicerae red.

**CARAPACE.** Length, 5.67 mm; breadth, 4.00 mm. Elongated with thoracic portion oval. Projection of cephalic portion anterior to cephalic notch short. Cephalic notch very shallow. Thoracic groove anterior to posterior triangle. Cephalic grooves not marked. Posterior margin of carapace smooth, indented. Many short black hairs cover the cephalic portion and the lateral faces of the thoracic portion. Spines run in 5 rows from the thoracic groove to the eyes, but only the median row is well developed apart from round the eyes.

**EYES.** 8, in two rows. From above, anterior row straight, posterior row procurved. From in front, anterior row straight, posterior row slightly procurved. Ratio of eyes: AM:AL:PL:PM = 229:288:264:232. Breadth of ocular area: 1.89 mm. Distances apart: AM-AM, 302; AM-AL, 616; AL-PL, 187; PL-PM, 715; PM-PM, 567; AM-PM, 464. Width of clypeus, 253. Lateral eyes on a tubercle: others widely separated.

**CHELICERAE.** Knead at base. Strong, large and tapering. Anterior face with many spines and long hairs. Posterior face with few hairs. Fang groove much inclined. Fang long and thin with long basal portion. Prolateral margin of the groove with five teeth of which the second is the largest, the first, fourth and fifth from the ventral end of the fang groove being the same size and large. The third tooth is very small and lies retrolateral to the base of the second tooth. Retrolateral margin with two teeth of which the one nearest the fang origin is larger, being larger than the largest prolateral tooth and inclined towards the fang base. It is nearer the fang base than the fifth prolateral tooth. The smaller retrolateral tooth is opposite the fourth prolateral tooth and is of the same size.

**MAXILLAE.** Broader at the tip than at the base but parallel sided proximally. Not overhanging the lip. File present, scapula large.

**LIP.** Longer than wide. Indented slightly at base. Tip not notched. Tip only just narrower than base but sides inclined.

**STERNUM.** Length, 3.06 mm; breadth, 2.17 mm. Elongated shield-shaped. Margin not smooth but with slight convexities for the coxae, and lip. Anterior corners prolonged towards maxillary lobes. Spine equilateral. Hairs more common laterally than medially.

	1	2	4	3	Palp
LEGS.	4.4	3.8	3.3	2.9	1.3

Long and very hairy.

	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	6.67	9.56	6.39	2.56	25.18
II	5.89	8.44	5.33	1.89	21.55
III	4.83	5.94	4.22	1.39	16.68
IV	5.11	6.78	4.78	1.94	18.61
Palp	2.61	2.50	—	2.33	7.44

Tibial Index: I, 13.3; IV, 11.1.

**CALAMISTRUM.**  $\frac{1}{3}$ ths length of metatarsus.

**ABDOMEN.** Length, 7.00 mm; breadth, 4.44 mm. Oval, just overhangs carapace. Epigyne: Small. Cribellum: Divided.

*Syroris aucklandensis* n.sp. Text-fig. III, fig. 4.

**DISTRIBUTION.** Auckland city.

#### FEMALE

Length, 6.61 mm.

**COLOURATION.** Carapace yellow with a blunt dark grey crescent anterior to the thoracic groove with the horns directed anteriorly. More indistinct sooty marks are at the leg bases and in the ocular area. Eyes in black patches. Abdomen grey with white marks. Mid-

dorsally grey stripe with two pairs of white marks forming a Y-shaped pattern followed by three pairs of dark chevrons and alternately three white chevrons. Laterally grey with white spots and blotches. Ventral surface grey with a white line bordering each side. Spinnerets grey. Sternum and legs yellow. Sternum darker than legs and with an even sooty speckle slightly denser marginally. Legs strongly ringed with grey. Maxillary lobes and lip yellow, with a slight sooty speckle. Chelicerae orange.

**CARAPACE.** Length, 3.06 mm; breadth, 2.06 mm. Elongated. Thoracic groove almost clear of the posterior triangle which is indistinct. Thoracic portion elliptical with a straight posterior margin having only the slightest abdominal indentation. Cephalic portion distinct and elongated. Cephalic notch marked.

**EYES.** 8, in two rows. From above; anterior row recurved, posterior row procurved. From in front, anterior row straight, posterior recurved. Breadth ocular area: 0.94 mm. Ratio of eyes: AM:AL:PL:PM = 137:190:185:162. Width clypeus, 221. Distances apart: AM-AM, 110; AM-AL, 135; AL-PL, 101; PL-PM, 229; PM-PM, 209; AM-PM, 214. Eyes nearly flat on the surface. No marked tubercle for the lateral eyes.

**CHELICERAE.** Slender and rounded, bearing an even covering of hairs prolaterally and a thin scopula along the prolateral margin of the fang groove. A few hairs cover the retrolateral face. 7 prolateral teeth, all the same size except the first and the third from the ventral end of the groove which are small. 2 retrolateral, neither as large as the larger prolateral teeth but the second larger than the first. The first retrolateral tooth is opposite the 3rd prolateral tooth and the second is nearer the fang base than the nearest prolateral tooth. A flange is also present. The medial face of each bears a chitinised and serrated ridge bearing short spines. Cheliceral groove of great slope, 60°. Fang long and thin, distal portion serrated.

**MAXILLARY LOBES.** Rectangular but rounded at the tip. Scopula medium thickness. File obvious.

**LIP.** Broader than long. Notched distally and with a deep indentation at the base.

**STERNUM.** Length, 1.61 mm; breadth, 1.17 mm. Slightly convex. Shield-shaped. Spine short but narrow. Anterior edge undulating with convexities facing the bases of the mouth parts and also legs I and II. Legs III and IV have straight edges behind them.

LEGS.	3.0	2.9	2.5	2.2	1.1
	1	4	2	3	Palp

	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....	2.61	3.22	2.03	9.25
II	.....	2.28	2.61	1.72	7.72
III	.....	2.00	2.20	1.61	6.81
IV	.....	2.56	3.06	2.22	8.90
Palp	.....	1.17	1.11	—	3.50

Tibial Index: I, 9.5; IV, 8.5.

**CALAMISTRUM.**  $\frac{2}{3}$ ths length of metatarsus.

**ABDOMEN.** Length, 3.56 mm; breadth, 2.56 mm. Cribellum: Divided. Breadth, 0.28 mm. Epigyne. Length, 0.33 mm; breadth, 0.5 mm.

This species can be placed in the genus *Syroris* and keys out to this genus using Berland's (1924) key to the Pacific genera. The tooth pattern is distinctive. The epigyne shows some resemblance to the *Ixeuticus* pattern.

#### Genus AMARARA nov. gen.

**CHARACTERS.** Medium size. Cribellum divided. Carapace broad and flat. Legs long. Cheliceral teeth: three prolateral, two retrolateral. Sternum heart-shaped. Epigyne with suggestion of a lip and with well chitinised deep structures. Web tent-like.

**AFFINITIES.** This genus bears some resemblances to *Epimacinus* and *Syroris* of Australia and the Pacific, but the relationship is not very close. The web superficially resembles that of *Ixeuticus janus*, but the details differ markedly.

Very similar spiders have been seen in Australia, but I can find no description of them. The name of the genus is the Maori word for umbrella in reference to the web.

**TYPE SPECIES.** *Amarara fera* (monotypic).

*Amarara fera* n.sp. Text-fig. I, fig. 6. Text-fig. III, figs. 8 and 12.

**DISTRIBUTION.** Recorded on four occasions from the Auckland City neighbourhood and also from the Hokianga district of North Auckland.

**HABITAT.** The web of the spider was seen on clay banks, on trees and cliffs and under a bridge in several damp and shaded localities around Auckland city.

**WEB.** The web takes the form of a dome-like sheet with scalloped edges, from the points of which supporting threads run to the substrate. Its position is usually under an overhang but often a vertical face is used. Below, there is a cylindrical retreat in which the spider hides, sitting on the substrate. The cocoon is placed on the ceiling to the retreat, which is parallel to the upper sheet but below it. The silk is fine and does not appear cribellate to the naked eye.

A more detailed investigation of the webs spun in the laboratory showed that the retreat and its ceiling are continuous with the outer part of the main sheet, which is pulled down into a funnel with three hollow "pillars" forming the walls of the retreat. The hollow in the web is filled by a separate sheet, which is guyed onto the larger one by very many threads and, since the web is somewhat open, this is not always distinguishable. The retreat has three circular openings laterally beneath the web but is closed above.

#### FEMALE

Length, 6.00 mm.

**COLOURATION.** The living animal appears a dark brown, with the abdominal markings and the ringing of the legs obvious. Carapace white or orange anteriorly, liberally marked with dark grey smudges continuous around the thoracic groove. There is a single spot of white hairs anterior to the thoracic groove. Abdomen dark brown. Pattern indistinct in preserved animals. Living animal has an orange brown streak mid-dorsally continued as a pale grey streak posteriorly and flanked by five pairs of spots of white hairs of which the first pair diverge anteriorly and the second posteriorly. Ventrally, two longitudinal black bands separated by a speckled area run from the epigyne region to the spinnerets. Spinnerets dark. Sternum and legs pale yellow, with the margin of the sternum distinctly sooty posteriorly. Legs clearly ringed with grey. Maxillary palps and lip sooty brown. Chelicerae darker brown.

**CARAPACE.** Length, 2.89 mm; breadth, 2.22 mm. Broad and flat. Posterior triangle small. Thoracic groove anterior to the apex of the triangle. Posterior margin not indented. Cephalic notch deep, but the grooves are not large. Cephalic region very square anteriorly and high.

**EYES.** 8, in two rows. From above, both rows strongly recurved. From in front anterior row slightly recurved, posterior row straight. Clypeus wide. Ratio of eyes: AM:AL:PL:PM = 172:183:178:152. Breadth of eye group: 1.00 mm. Distances apart: AM-AM, 183; AM-AL, 126; AL-PL, 149; PL-PM, 244; PM-PM, 170; AM-PM, 227. Width clypeus, 230. Lateral eyes raised above the surface. Eyes large and protuberant. Anterior margin of clypeus concave.

**CHELICERAE.** Rectangular and strong but slender. Knead at base. Fang short. Fang groove only slightly inclined. Three prolateral teeth, of which the middle one is largest, then the ventral tooth, which is prolonged down the ventral aspect of the chelicera as a hardened ridge. Two retrolateral teeth of similar size with the first opposite the third prolateral tooth and the second closer to the fang base. Basal flap well developed.

**MAXILLARY LOBES.** Rectangular, with very dense sculpula. File well developed.

**LIP.** As broad as long, notched at the tip, indented at the base. Narrowing slightly towards the tip.

**STERNUM.** Length, 1.61 mm; breadth, 1.33 mm. Broad and flat. Heart-shaped. Anterior margin smoothly concave. Spike equilateral and sharp. Notching for coxae not deep but distinct.

	1	4	2	3	Palp
Legs.	5.6	4.9	4.5	4.1	1.3

	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	4.72	5.50	3.89	2.00	16.11
II	3.83	4.39	3.28	1.50	13.00
III	3.39	3.78	3.17	1.39	11.73
IV	4.17	4.39	4.00	1.72	14.29
Palp	1.28	1.22	—	1.22	3.72

Tibial Index: I, 12.0; IV, 13.3.

Legs long and thin. Palpal claw small.

**CALAMISTRUM.** Short, 2/9ths length of metatarsus and about 1/3 down from the proximal end.

**ABDOMEN.** Length, 4.00 mm; breadth, 2.50 mm. Narrow. Epigyne: Mainly covered over. Surface feature is mainly a medium acute triangle of thick smooth chitin pointing forwards. Cribellum: Divided with the two halves well separated; width, 0.48 mm.

**COCOONS.** The cocoon is planoconvex, with the flat sides directed towards the substrate and is about 1 cm in diameter. It is constructed of white compacted silk covered with minute bits of green moss and debris. The eggs within are enveloped in a thin white silk covering. Two cocoons were opened and contained 202 and 154 eggs respectively. The average diameter of the eggs was 0.86 mm.

## MALE

Length, 6.39 mm.

COLOURATION. As in female.

ABDOMEN. More slender, long legs.

CARAPACE. Length, 3.06 mm; breadth, 2.28 mm.

EYES. 8, distribution as in female, though group is more compact. Ratio of eyes: AM:AL:PL:PM = 251:196:222:175. Breadth ocular area: 0.83 mm. Distances apart: AM-AM, 143; AM-AL, 93; AL-PL, 125; PL-PM, 166; PM-PM, 218; AM-PM, 160. Width clypeus, 294.

MOUTH PARTS as in female.

Legs.	1	4	2	3	Palp					
	6.0	4.9	4.5	4.0	1.0	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		5.78			6.94	6.06	2.56	21.34	
II	.....		4.61			5.11	4.56	1.83	16.11	
III	.....		4.17			4.39	4.00	1.67	14.23	
IV	.....		4.39			5.22	5.33	1.89	17.33	
Palp	.....		1.44			1.11	—	1.11	3.66	

Tibial Index: I, 15.6; IV, 13.3.

Claws with few deep pectinations.

CALAMISTRUM. Not present.

PALP. Cymbium broad. Tibia with a single apophysis set a little behind the retrolateral distal margin and a slight ridge running towards the ventral margin.

ABDOMEN. Length, 3.44 mm; breadth, 2.0 mm. Cribellum: Not functional.

This species is also northern in distribution and, though its eye ratios differ considerably from those given by Berland and its tooth formula is different, its long legs and round carapace make *Epimecinus* the most similar to *Syrorisa aucklandensis*, but in other characters the spider differs too much from it to be placed in the same genus.

The web is also characteristic.

**Dictyna cornigera** Dalmas (1918). Text-fig. III, figs. 7 and 11.

DISTRIBUTION. My records are all from Canterbury, but other workers record it as widespread in both islands.

HABITAT. This species lives among the gravel and rocks on the flood bed of the Canterbury rivers. The spiders are found close to the water's edge and almost in the water. The rocks around the web are about 10 cms in diameter and usually there is a basement of sand and gravel. The spiders have retreats underneath the large pebbles. This habitat appears to be the only place where this form lives and perhaps its special adaptations are a result of the conditions under which it lives. Dalmas described the species from the banks of the Temuka River but gives no indication of its ecological habitat and much time was spent searching for this species before its habitat was discovered. Where it occurs it is common and, once one knows where to look, easy to find.

WEB. The web is large relative to the size of the spider and shows a definite ladder construction with the ladders transverse to a line from the retreat to the margin of the web. The general pattern is similar to *I. martius*, but the upper and lower sheets appear to diverge more often and the retreat is not so obviously a centre of construction. It is interesting to note that *Matachia*, placed in the *Psechridae*, also has a similar web but lives in galls on *Muehlenbeckia* and other bush climbing plants.

COCOON. Small circular cocoons fixed to the rock surfaces. Fourteen cocoons were opened and the contents examined. The average number of individuals showing no signs of non-development was 38.8 per cocoon with 1.4 undeveloping eggs. The greatest count was 54 eggs, and the least count was 22 spiderlings in the first instar. One moult is carried out in the cocoon.

## FEMALE

Length, 4.44 mm.

COLOURATION. Carapace sooty brown, darker to the front, almost black. Five rows of white hairs running parallel on the cephalic portion meeting among the eyes. These are very obvious in the living animal. Thoracic portion bears grey stripes running to each leg, especially the last three pairs. Thoracic groove also grey. Abdomen, general effect grey.

Six or seven chevrons pointing forward. The odd numbered ones from the front connect with dark patches laterally the even numbered ones being surrounded by pale areas. Ventrally grey with black hairs. Spinnerets dark. Sternum and legs, smoky yellow with black hairs and chitinised portions orange. The sternum bears recumbent white hairs around its margin. Maxillary lobes and lip, smoky and tawny with the lip darker than the maxillary lobes. Chelicerae, smoky brown, almost black.

**CARAPACE.** Length, 1.61 mm; breadth, 1.25 mm. Rounded. Thoracic portion very flattened and undulating. Thoracic groove and posterior triangle not marked. Cephalic portion high and arched. Anterior end rounded. Cephalic notch marked. Posterior margin strongly indented. Junction of cephalic and thoracic portions distinct but not grooved.

**EYES.** 8. From in front, anterior row straight, posterior row procurved. From above, anterior row recurved, posterior row straight. Breadth ocular area: 0.496 mm. Ratio of eyes: AM:AL:PL:PM = 102:94:117:101. Distances apart: AM-AM, 98; AM-AL, 46; AL-PL, 30; PL-PM, 121; PM-PM, 128; AM-PM, 108. Width clypeus, 136. Eyes follow curve of carapace such that the lateral eyes are facing laterally, anteriors forward and posterior medians upwards.

**CHELICERAE.** Subrectangular, with a divergence half-way down and a convergence distally and proximally at the ventral edge. Boss longitudinal and very marked. Anterior proximal margin flat, otherwise cylindrical and transversely ridged. Few hairs prolaterally with one distinct row near fang groove. The prolateral margin of the fang groove bears three teeth in two lines. The prolateral line is composed of one small and simple tooth ventrally and one large and complex tooth. This tooth bears three or four serrations on its lateral slope and none on the steeper medial slope. A small simple tooth lies posterior to this tooth. The retrolateral margin is non-existent and thus the fang groove is virtual.

**MAXILLARY LOBES.** Sub-rectangular with rounded tips, inclined over the lip. Tips bear a sparse scopula. File present.

**LIP.** Broader than long. Narrows distally with notched tip. Not indented at base.

**STERNUM.** Length, 0.94 mm; breadth, 0.50 mm. Convex, but centre region flat. Broad shield shape with a smooth perimeter not notched for the legs. Anterior margin concave, posteriorly pointed but without a spine. Coxae of IV legs widely separated.

LEGS.	1	4	2	3	Palp					
	3.0	2.7	2.5	2.3	1.0	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		1.56			1.56		0.97	0.67	4.76
II	.....		1.28			1.33		0.89	0.56	4.06
III	.....		1.22			1.11		0.89	0.50	3.72
IV	.....		1.22			1.50		1.00	0.56	4.28
Palp	.....		0.56			0.56		—	0.47	1.59

Tibial Index: I, 9.3; IV, 9.0.

**CALAMISTRUM.** Long, nearly  $\frac{2}{3}$  length of metatarsus.

**ABDOMEN.** Length, 2.83 mm; breadth, 2.06 mm. Cribellum: Large, undivided. Breadth, 0.4 mm. Epigyne: Diffuse.

#### MALE

Length, 3.61 mm.

**COLOURATION.** As in female though a little darker.

**CARAPACE.** Length, 1.72 mm; breadth, 1.22 mm. Thoracic portion narrower and more arched than in female but still flattened.

**EYES.** 8, as in female. Breadth of ocular area: 0.52 mm. Ratio of eyes: AM:AL:PL:PM = 81:115:104:105. Distances apart: AM-AM, 88; AM-AL, 60; AL-PL, 45; PL-PM, 133; PM-PM, 99; AM-PM, 88. Width clypeus, 156 mm. Arrangement as in female.

**CHELICERAE.** Complex shape. Boss prolonged into a sharp pointed projection or horn from which the species is named. Teeth similar to female but the fang groove is more nearly horizontal. Fang short.

**MAXILLARY LOBES, LIP AND STERNUM.** As in female.

LEGS.	1	2	4	3	Palp					
	2.9	2.8	2.5	2.1	0.97	Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		1.44			1.44	1.83	1.06	0.67	5.00
II	.....		1.44			1.67		1.00	0.63	4.74
III	.....		1.17			1.00		0.89	0.50	3.56
IV	.....		1.22			1.44		1.11	0.55	4.32
Palp	.....		0.61			0.33		—	0.72	1.66

Tibial Index: I, 10.0; IV, 9.0.

SPINES. Not present.

PALP. Cymbium broad. Tibia bears a single small bifurcated blunt apophysis dorsally.

CALAMISTRUM. Wanting. A row of long hairs replaces it.

ABDOMEN. Length, 1.83 mm; breadth, 1.22 mm. Much narrower than in female. Cribellum: Not functional.

This species is readily distinguished in the male by the cheliceral horn.

*Dictyna decolor* (Urquhart) 1893. Text-fig. III, fig. 9.

*Linyphia decolor* Urquhart, 1893

*Dictyna nigella* Dalmas, 1918

*Dictyna decolor* Bryant, 1933

DISTRIBUTION. Two localities only. One mature female from Lake McKerrow, and two records which seem to be of the same species from Stewart Island.

#### FEMALE

Length, 3.78 mm.

COLOURATION. Cephalothorax even orange, slightly darker round the eyes. Thoracic groove red. Two dark grey stripes mark the cephalic grooves. Abdomen pale, almost white, with a median beaded dark grey stripe and some grey spots alongside. Ventrally grey. Spiniferets dark. Lateral faces of abdomen grey. This pattern is very indistinct on the specimen obtained and a better preserved specimen might show more colour patterning on the abdomen. Sternum and legs yellow. Legs with faint grey rings. Maxillary lobes and lip yellow orange. Chelicerae orange.

CARAPACE. Length, 2.00 mm; breadth, 1.39 mm. Oval. Cephalic notch very shallow. Cephalic grooves not present as grooves. Carapace high, thoracic groove short, anterior to posterior triangle. Posterior margin straight. Carapace covered with recumbent white and black hairs. Spines run from the thoracic groove to the eyes medially, six other short parallel rows of spines run into the ocular area.

EYES. 8, in two rows. From above, anterior row slightly recurved, posterior row procurved. From in front, anterior row slightly procurved, posterior row procurved. Ratio of eyes: AM:AL:PL:PM = 98:132:127:114. Breadth ocular area: 0.72 mm. Distances apart: AM-AM, 97; AL-AM, 127; AL-PL, 55; PL-PM, 212; PM-PM, 203; AM-PM, 175. Width clypeus, 104.

CHELICERAE. Slightly kneed at base. Pear-shaped with strong base but tapering to fang bases. Fang groove steeply inclined. Fang long and slender. Anterior face with many bristles over the face and over the fang groove. Pro-lateral margin of fang groove with three teeth of which the middle one is the largest, then the ventral tooth. Retrolateral margin with two teeth, of which the larger is the ventral one opposite the third pro-lateral tooth. The second retrolateral tooth is closer to the fang base than the pro-lateral teeth.

MAXILLARY LOBES. Slightly broader at the tip. File present. Scopula sparse.

LIP. As broad as long. Notched at the tip, indented at the base, slightly overhung by maxillary lobes.

STERNUM. Length, 1.00 mm; breadth, 0.78 mm. Broad, heart-shaped. Anterior margin smoothly concave. Margin smooth. Posterior spine equilateral, slightly convex.

LEGS.	1 2 4 3				Palp	Pat. & Tibia	Metatarsus	Tarsus	Total
	3.0	2.7	2.3	2.1					
I	.....	.....	1.67	.....	2.22	1.44	0.72	6.05	
II	.....	.....	1.56	.....	2.00	1.22	0.67	5.45	
III	.....	.....	1.30	.....	1.39	1.03	0.50	4.22	
IV	.....	.....	1.50	.....	1.56	1.06	0.50	4.62	
Palp	.....	.....	0.67	.....	0.67	—	0.67	2.01	

Tibial Index: I, 8.9; IV, 7.0.

SPINES. Many dorsal spines on tibia and tarsus.

CALAMISTRUM.  $\frac{1}{3}$  length of metatarsus.

ABDOMEN. Length, 2.44 mm; breadth, 1.78 mm. Overhangs cephalothorax. Elliptical. Epigyne: Well developed. Cribellum: Undivided.

This species corresponds to the description of *D. nigella* Dalmas. However, Bryant synonymises this with *Linyphia decolor* Urquhart even though the eye ratios as given by Urquhart and Dalmas are contradictory. A larger series is necessary to determine the systematic position of this species. In many characters it resembles *Ixeuticus* Species Group III, but has an undivided cribellum and a high carapace with large cephalic portion.

*IHURAKIUS* nov. gen.

CHARACTERS. Large size. Cribellum not divided. Cheliceral teeth: one only prolateral. Carapace broad. Sternum triangular with marked notches. Spine arrangement atypical. Epigyne with a large horn of normal surface appearance covering the openings. Male palp with proximal projection.

AFFINITIES: The tooth arrangement is similar to *Dictyna cornigera*, as is the large undivided cribellum. The male palp displays similarities with *Phryganoporus* and *Maniho*.

The name is derived from the Maori, meaning large nose, with reference to the epigyne structure.

TYPE SPECIES. *Ihurakius forsteri*.

*Ihurakius forsteri* n. sp. Text-fig. I, fig. 4. Text-fig. III, figs. 2 and 3.

DISTRIBUTION. Recorded from the central parts of New Zealand ranging from Auckland to Cascade Point in northern Fiordland. Though collecting has been intense, no specimens have yet been found south of the line from Cascade Point to Christchurch. Most records are from Wellington district.

HABITAT. The animal is very slow-moving. Most often found under logs or among decaying vegetation. The web is small.

## FEMALE

Length, 11.33 mm.

COLOURATION. Carapace yellow, darkening to orange around the edges and along the cephalic grooves. Two oval yellow spots lie on each side of the mid-line in the cephalic region. The edge of the carapace, especially in the thoracic part, is sooty-grey and a sooty-grey band runs from the thoracic groove area towards the eyes, but it widens and spreads laterally and becomes irregular. Eyes surrounded by black individually through the marks are run together in the case of the lateral eyes. Abdomen grey with yellow marks. A very vague leaf-like pattern is visible with the first pair of dark marks much more obvious than the rest. Ventrally grey yellow. Sternum and legs orange, darkened by many short black hairs. Legs with distinct grey rings. Maxillary lobes and lip dark orange with white tips. Chelicerae orange.

CARAPACE. Length, 4.61 mm; breadth, 3.94 mm. General shape triangular with blunted corners. Thoracic groove deep and triangular with apex pointing posteriorly. Posterior triangle depressed. Thoracic portion of the same height as cephalic portion along the upper edges of the posterior triangle. Cephalic notch and grooves almost non-existent. Eyes on tubercles except the posterior medians and fill the full width of the cephalic portion. Posterior margin deeply indented.

EYES. 8, in two rows. From above, anterior row slightly recurved, posterior row straight. From in front, anterior row recurved, posterior row slightly procurved. Clypeus very wide and vertical. Ratio of eyes: AM:AL:PL:PM = 214:328:278:298. Breadth ocular area: 1.44 mm. Distances apart: AM-AM, 223; AM-AL, 318; AL-PL, 91; PM-PM, 215; AM-PM, 369. Width clypeus, 800. Anterior median eyes circular. The others are oval in shape.

CHELICERA. Knead at base. Tapering towards fang. Fang short. A single simple tooth on the prolateral margin of fang groove. No posterior margin to fang groove so that the groove is virtual.

MAXILLARY LOBES. Much broader at the tip than at the base, nearly meeting in front of the lip. Scopula on median aspect not as high as in the other forms. File present.

LIP. Triangular. Not notched at the tip, basal indentation deep but not high.

STERNUM. Triangular. Flat. Anterior margin concave for lip and maxillary lobes. The lateral edges, each with concavities for each leg, meet in a blunt spine between the IV coxae.

LEGS.	Palp					Tarsus	Total
	1	4	2	3	1.1		
	4.0	3.5	3.1	2.5	1.1		
			Femur	Pat. & Tibia	Metatarsus	Tarsus	Total
I	.....		5.28	6.44	4.06	2.50	18.28
II	.....		4.11	5.06	3.28	1.89	14.34
III	.....		3.61	3.83	2.67	1.39	11.50
IV	.....		5.00	5.56	3.78	1.89	16.23
Palp	.....		1.78	1.61	—	1.67	5.06

Tibial Index: I, 9.3; IV, 7.7.

Palp bears a single large pectinated claw.

SPINES. Short and very differently arranged.

CALAMISTRUM. Half length metatarsus, commencing very close to proximal end.

ABDOMEN. Length, 7.26 mm; breadth, 5.20 mm. Large and thick, overhanging carapace to beyond the thoracic groove. Epigyne: No sculptured plate. A tongue-like bar of normal surface appearance runs posteriorly. Cribellum: Undivided, very large, width 0.83 mm.

#### MALE

Length, 9.52 mm.

COLOURATION. As in female.

CARAPACE. Length, 4.17 mm; breadth, 3.56 mm.

EYES. 8, distributed as in female. Ratio of eyes: AM:AL:PL:PM = 235:302:306:264. Breadth ocular area: 1.56 mm. Distances apart: AM-AM, 212; AM-AL, 320; AL-PL, 100; PL-PM, 471; PM-PM, 218; AM-PM, 328. Width clypeus, 893.

MOUTHPARTS. As in female.

LEGS.	1	4	2	3	Palp			Total
	4.3	3.8	3.4	2.7	1.1			
			Femur	Pat. & Tibia	Metatarsus	Tarsus		
I	.....		5.23	6.33	4.11	2.44	18.16	
II	.....		4.17	4.94	3.28	1.83	14.22	
III	.....		3.56	4.06	2.56	1.22	11.40	
IV	.....		4.61	5.33	3.67	1.78	15.39	
Palp	.....		1.78	1.17	—	1.67	4.62	

Tibial Index: I, 9.9; IV, 8.7.

CALAMISTRUM.  $\frac{3}{5}$ ths of metatarsus. Appears functional.

PALP. Cymbium broad and flat. Tibia concave dorsally and squared in cross section. A large thick apophysis arises from the proximal edge of the tibia spiralling outwards. There is also a flange prolaterally.

ABDOMEN. Length, 5.50 mm; breadth, 3.83 mm. Cribellum: Width, 0.67 mm. Narrower than in female but looks functional.

#### DISTRIBUTION (Text-fig. I)

The results of some 300 collections of dictynid spiders were plotted on maps of New Zealand marked in rectangles. Each rectangle corresponds to four sheets of the 1:63360 map series and thus has boundaries of 100 by 60.5 miles. As shown in Figure I, collections were made in 53 out of possible 90 squares, 17 out of 41 in the North Island and 36 out of 49 in the South Island.

Only four species can be regarded as common enough in the collections to give an adequate idea of their distribution. Figures for their abundance were obtained by expressing the number of map squares in which they were recorded as a percentage of the number of squares in which collections were made.

	No. of Records.	No. of Squares.	N.Z.	Abundance N.I.	S.I.
<i>Ixeuticus martius</i>	109	37	70	65	72
<i>Ixeuticus charybdis</i>	93	26	49	6	69
<i>Ihurakius forsteri</i>	44	17	32	53	22
<i>Maniho tigris</i>	40	18	34	23	39

*I. martius* is abundant throughout both islands. A large proportion of the records are from man-made structures which appear to provide very suitable supports for its web, and it tends to avoid very dark and damp places. This species is very closely related to *I. robustus* of Tasmania, and it occurs also in Australia. *I. charybdis* is the second most abundant species in the South Island, where it is widespread, but there is only one record from the North Island. Because of its small web and its tendency to live in places from which it is very difficult to extract it, it may be more common in the North Island than is here recorded, but it is obviously a southern form. *Ihurakius forsteri* is predominantly a northern form, being widespread in the North Island, but occurring also in the northern half of

the South Island. Of the smaller species *Maniho tigris* lives in the moss in dark wet bush, and is less easily found. It is recorded from many parts of the South Island, but in the North Island only as far north as Fielding.

The remaining species have not been collected frequently enough to make discussion of their distribution worthwhile. Of the three known only from the North Island, *Syrorisa aucklandensis* and *Amarama fera* may represent a northern element in the fauna.

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