

## A new species of *Schwiebea* Oudemans (Acari, Acaridae) parasitizing the trout *Salmo trutta fario* in Spain

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### Summary

*Schwiebea (Jacotietta) estradai* sp. nov., (Acari, Acaridae) is described from de gills, the skin, and the intestine of trouts, *Salmo trutta fario*, from a river and a fish-farm in Spain.

**Key Words:** *Schwiebea (Jacotietta) estradai* sp. nov., *Salmo trutta fario*, Acaridae.

### Resumen

Se describe *Schwiebea (Jacotietta) estradai* sp. nov. (Acari, Acaridae) aislada de las branquias, piel e intestino de truchas *Salmo trutta fario*, recogidas de un río y una piscifactoría en España.

**Palabras clave:** *Schwiebea (Jacotietta) estradai* sp. nov., *Salmo trutta fario*, Acaridae.

### Introduction

Recently it has been recorded that some fishes living in aquariums (*Discus* fish and Siamese Shark) or in feeding tanks (young eels) may become infected by mites belonging to different species, e.g. *Histiostoma piscium* Fain & Lambrechts, 1985, *Histiostoma (Ichtanoetus) anguillarum* Fain & Belpaire, 1985 (Histiostomatidae), *Hydro-notus aquariorum* Fain & Lambrechts, 1987 and *Trimalaconothrus* sp. (Oribatei).

Recently, one of us (M.F.) observed a high mortality in trouts, *Salmo trutta fario*, from a fish-farm. A careful examination of the fishes, revealed the presence of numerous mites attached to the gills and to the skin of them. Many other specimens of this same mite were also found on the gills and in the intestine of trouts collected from a river. The mites recovered from these fishes belong to a new species of *Schwiebea* that we describe herein.

All the measurements are in microns ( $\mu\text{m}$ ).

### Family Acaridae

Genus *Schwiebea* Oudemans, 1916.

Subgenus *Jacotietta* Fain, 1976.

*Schwiebea (Jacotietta) estradai* spec. nov.

This new species is named after prof. Dr. A. Estrada-Peña, University of Zaragoza, the prominent specialist of ticks.

*Female* (holotype) (Figs. 1-4): Length and maximum width of the idiosoma in the holotype 549  $\times$  336; in 5 paratypes these measurements are 534  $\times$  330, 516  $\times$  315, 510  $\times$  310, 480  $\times$  275, 470  $\times$  270 (see Table I for details on measures). All these specimens contain 2 or 3 eggs except for the holotype and the smallest specimen which do not contain eggs. *Dorsum*: Propodotal shield punctate, however this punctation is poorly developed in the posterior third of the shield and it is completely absent in a narrow median area about 50 long and starting at the posterior border of the shield. This shield is 105 long and its maximum width is 75. Posterior part of the dorsum bare. The sejugal furrow is incomplete. Spermatheca and bursa copulatrix not visible; a copulatory

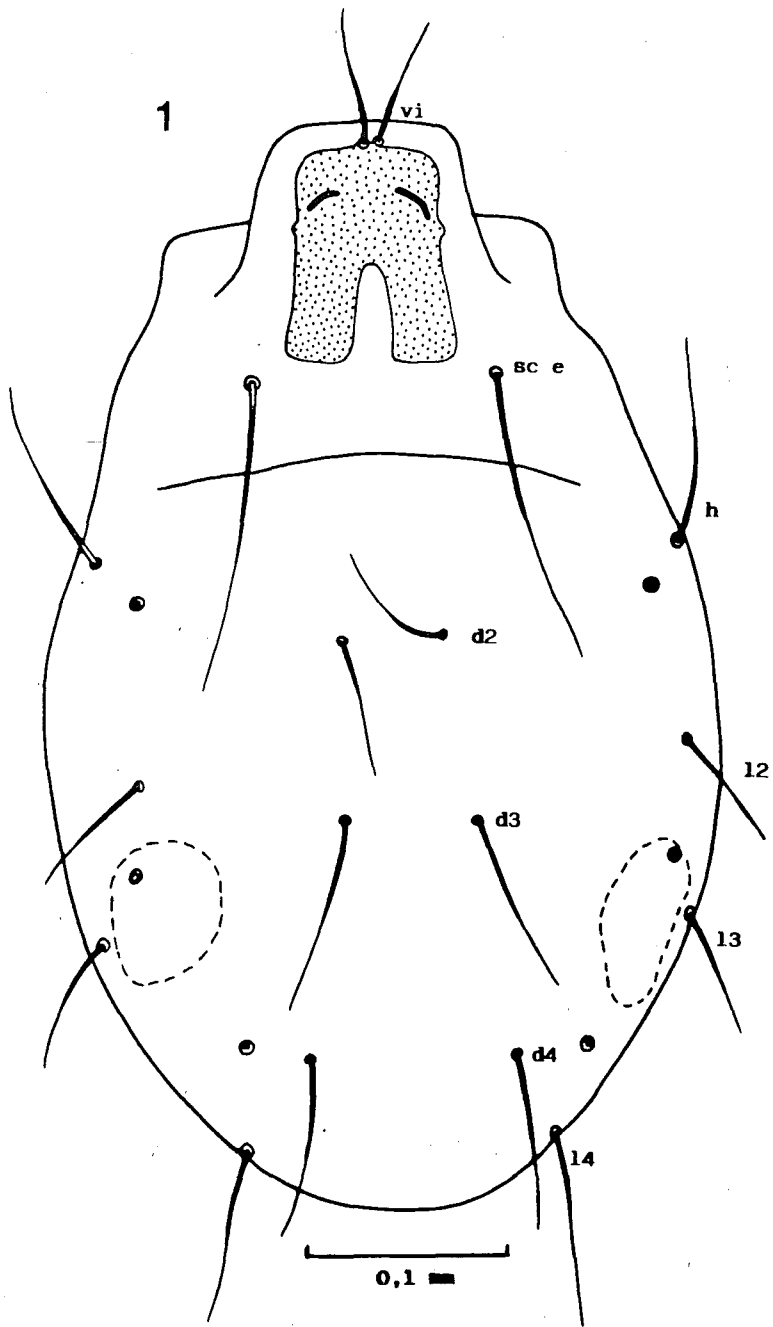
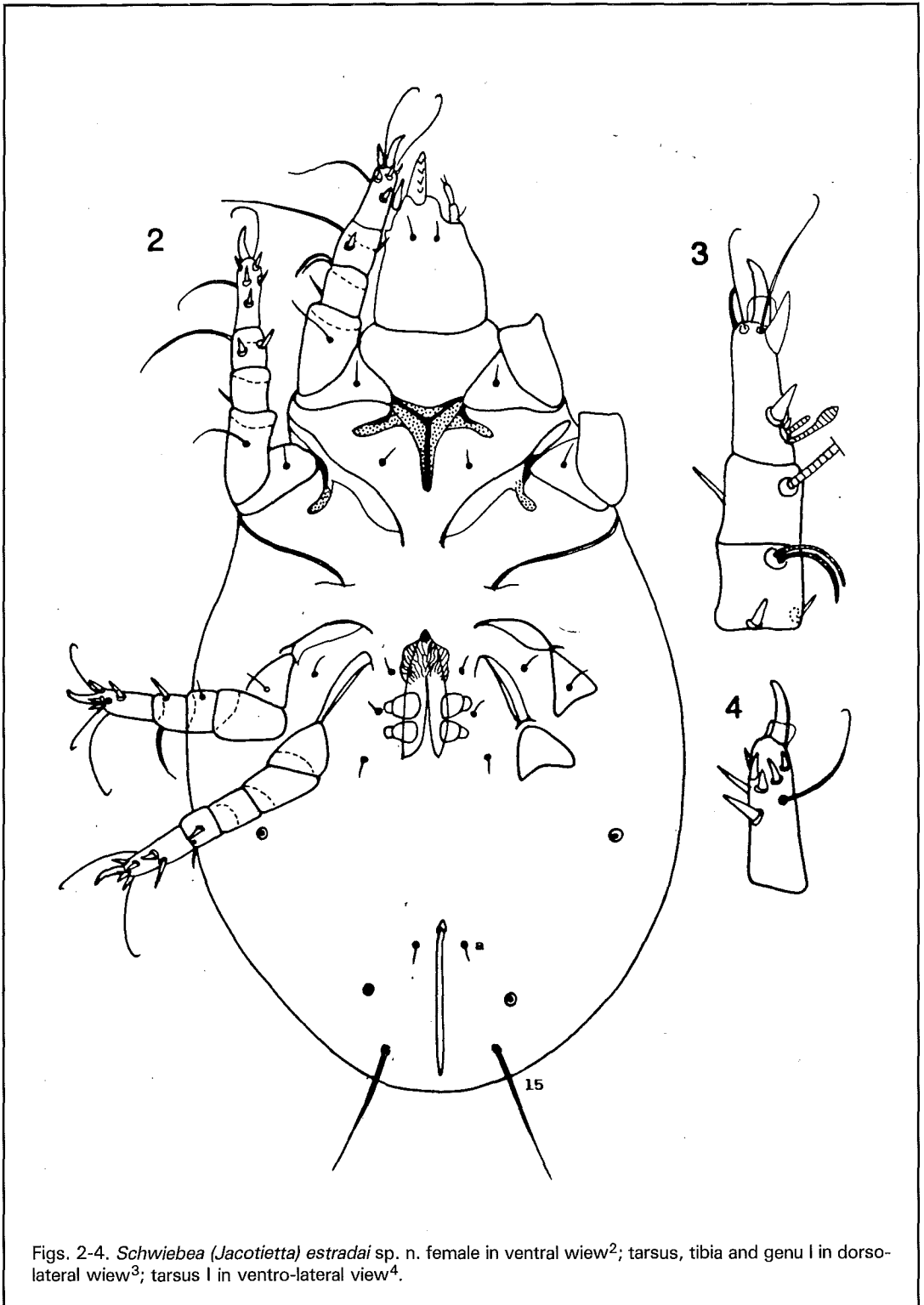


Fig. 1. *Schwiebea (Jacotietta) estradai* sp. n. Female in dorsal view.



Figs. 2-4. *Schwiebea (Jacotietta) estradai* sp. n. female in ventral view<sup>2</sup>; tarsus, tibia and genu I in dorso-lateral view<sup>3</sup>; tarsus I in ventro-lateral view<sup>4</sup>.

Table 1

	Holotype		Paratypes			
		N.º 1	N.º 2	N.º 3	N.º 4	N.º 5
Idiosoma						
Lenght	549	534	516	510	480	470
Width	336	330	315	310	275	270
Dorsal Shield						
Length	105	95	100	95	90	90
Width	75	74	72	75	72	70
Chaetotaxy						
vi	72	80	70	68	60	70
sc e	145	125	135	110	105	126
h	95	100	90	80	70	93
d2	60	60	30	45	30	60
d3	95	90	90	60	48	70
d4	90	—	90	—	65	90
l2	55	50	48	42	30	48
l3	62	60	72	—	50	68
l4	90	90	75	65	60	90
l5	90	80	65	—	65	75
a	8	7	6	7	6	8
Tarsus I						
ba	12	11	—	10	—	12
e	24	22	20	20	—	21
1	19	18	19	—	—	19
2	9.5	8.5	9	—	—	9

Table 1. Variations in some measurements (females of *S. estradai* sp. n.).

papilla has not been observed. These organs are also absent in all the paratypes. Sexual suckers well developed, the anterior pair being distinctly larger than the posterior one. Epimera III not fused with the epimera IV. *Legs*: Lenght of tarsi I-IV (ambulacra not included): 50-52-36-49. *Gnathosoma* 102 long, chelicerae 103 long. Length of claws (in straight line) 26-26-22-21. *Chaetotaxy* (lengths of setae): *vi* 72; *sc e* 145; *h* 95; *d2* 60; *d3* 95; *d4* 90; *l2* 55; *l3* 62; *l4* 90; *l5* 90; *a* 8. Genital, coxal and trochanteral setae short to very short. Tarsi I-II with 9 spines and 3 thin setae. Tarsi III with 7 spines and 3 thin setae. Tarsi IV with 8 spines and 2 thin setae. On tarsi I the setae *e* and *ba* are 24 and

12 long respectively. *Solenidia*: omega 1 is 19 long, its apical third is strongly inflated; omega 2 is 9.5 long. Genu I with 2 solenidia close to each other and slightly unequal, sigma I being shorter (30) than sigma 2 (36).

*Male*: unknown.

*Inmatures*: not observed.

*Habitats and localities*.

Holotype and 5 paratypes female from the gills and the skin of trouts *Salmo trutta fario* collected from the Ara river at Planduviar (72 km. north of Huesca, Spain) (19 July 1989); 5 paratypes female from the gills of the same host but from the fish-farm "Los

Pajares" at Guadalaviar river (Albarracín, Teruel, Spain). The fishes were approximately 1.5 years old.

Holotype in the Institut Royal de Sciences Naturelles de Belgique. Paratypes in the collections of the authors.

*Pathogenicity of the mites for the fish.*

Mites of the genus *Schwiebea* live generally in very damp biotopes where they feed on various decaying vegetals. Some species, however, seem to be completely aquatic in habits and it is still unknown on which material they feed (1,4). The tanks of fishes at the fish-farm were not sampled; continuous water flow from the river is provided for these tanks, and no organic matter were observed in an eye observation.

Until now mites of the genus *Schwiebea* had never been found parasitizing fishes. In our records, the mites were scarcely observed and collected. Only gut, gills, and skin were parasitized, and a mucous reaction was always seen in these organs (with the exception of skin), associated with the presence of the mites, which were "plugged" into the mucus. No blood were appreciated in the lesions. In skin, mites were collected under the scales, embedded with the dermis. All these specimens were collected alive. It must be noted the extreme persistence of mites in the intestine (as long as 30 days) of fishes, maintained in the laboratory with no food intake.

*Remarks on the taxonomic status of Schwiebea (Jacotietta) estradai.*

By the presence of well-developed setae *d2* and a pair of anal setae this new species is close to *Schwiebea (Jacotietta) barbei* Cooreman, 1959, *S.(J.) obesa* Fain & Fauvel, 1988, and *S.(J.) codognoensis* Fain & Pagani, 1989. It differs, however, from these species by the complete absence of a sclerotized spermatheca and bursa, the absence of a copulatory papilla, and the different size and length of some organs (see Fain & Pagani<sup>4</sup>).

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