

AN UNDESCRIBED SPECIES OF MEXECHELES  
(ACARINA : CHEYLETIDAE) FROM A SCOTTISH FARM

BY

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INTRODUCTION.

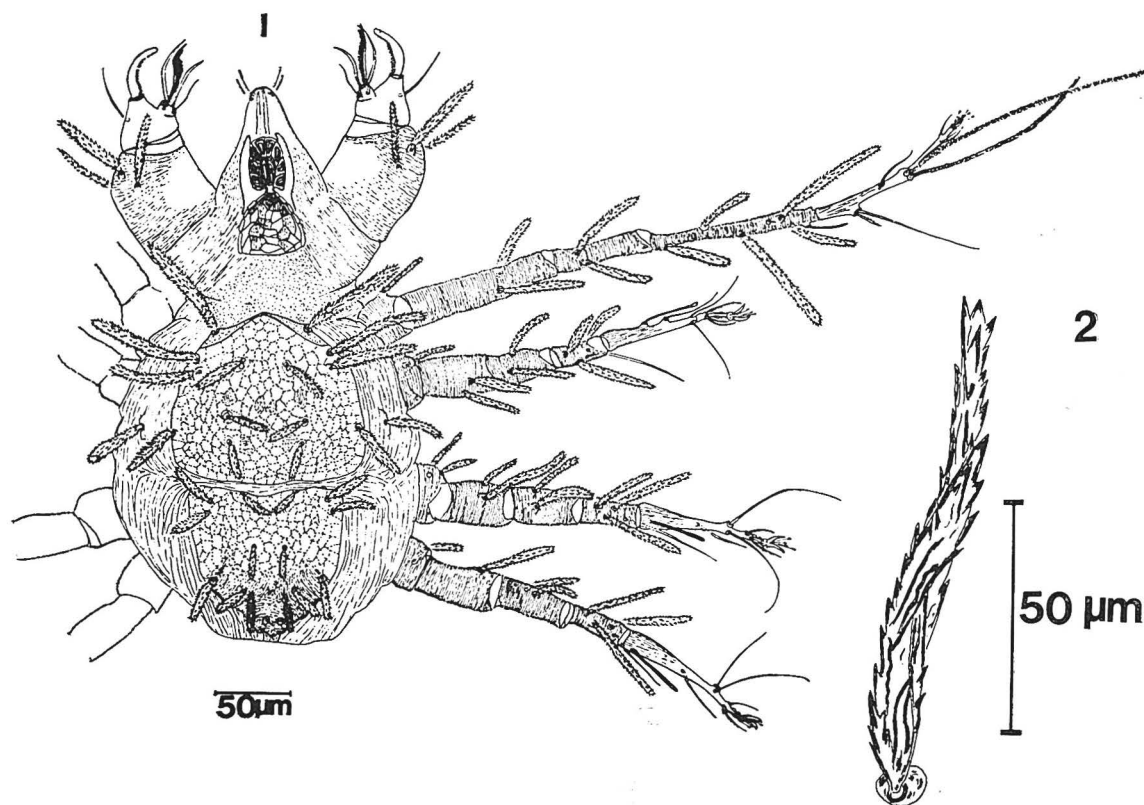
A recent survey of the mite fauna on Scottish farms revealed two apparently undescribed cheyletids. One species in the genus *Hemicheyletia*, Volgin, consisted of males and females, and another species or genus was represented by a single male specimen which did not agree with any generic description in the most recent and comprehensive work on the Cheyletidae, SUMMERS and PRICE (1970).

A problem of cheyletid taxonomy is the scarcity of male specimens even in common genera such as *Cheyletus*, consequently most keys are forced to rely on female characters. BAKER (1948) and HUGHES (1961), attempted to use male characters to aid identification but the situation is confused by heteromorphism, resulting in curious changes in the structure of the gnathosoma, particularly the palpi. The dorsal setae of heteromorphic males may also be atypical bearing no resemblance to those of females of the same species, for example the dorsolateral setae of the heteromorphic male of *Cheyletus eruditus* (Schrank) closely resemble those of the female *C. trouessarti* Oudemans. EDWARDS (in HUGHES, 1961) states that interspecific hybridisation occurs in dense population of mixed species, further complicating the task of the taxonomist. Being aware of the dangers of erecting a monotypic genus which may subsequently be proved incorrect it has been decided to place this mite within the genus *Mexecheles* De Leon as it more closely resembles this genus than any other presently described. As few male specimens of *Mexecheles* are known it may possibly be a male of an already described species. Though the described species of *Mexecheles* have "eyes", SUMMERS (personal communication) states that at least two genera of Cheyletidae contain both eyed and eyeless specimens. The name *Mexecheles votandinii* is proposed, *votandinii* referring to the area of Scotland where the specimen was collected.

DESCRIPTION.

Palp claw with 15 teeth. Outer comb with 24 teeth, inner comb absent. Stylophore ; conical from level of anterior end of peritremes as slightly elevated protegmen, and ornamented with 8 peripheral and 2 central cells containing unbroken striae. Tegmen with 9 small cells

longitudinally striated with unbroken striae and with about 16 pentagonal or hexagonal cells with broken striae, some striae thickened with oval microtubercles. Rostrum conical, profile continuous with stylophore. Peritreme with 5 links per side in horseshoe-shaped pattern. Eyes absent. Propodosomal and hysterosomal plates cover most of propodosoma and hysterosoma, densely decorated with a reticulate pattern formed by roughly polygonal cells. Cells bounded by broken striae randomly interspersed with cells containing interrupted striae dotted with ovoid microtubercles similar to cells of tegmen. Dorsal setal bases also bounded by striae, but less broken. Dorsal body setae; long straplike, forked at tip and with 4 to 6 sharply serrate branching ribs.



FIGS. 1-2 : *Mexecheles votandinii*. 1) Dorsal view of male ; 2) Dorsolateral setae h d l II showing spiral arrangement of structure.

*Dorsolateral setae* : propodosoma, p d l I = 76  $\mu$ , p d l II = 87  $\mu$ , p d l III = 64  $\mu$ , p d l IV = 51  $\mu$  ; hysterosoma, h d l I = 37  $\mu$ , h d l II = 32  $\mu$ , h d l III = 35  $\mu$ , h d l IV = 32  $\mu$ . *Dorsomedian setae* : propodosoma, p d m I = 39  $\mu$ , p. d m II = 32  $\mu$ , p d m III = 32  $\mu$  ; hysterosoma, h d m I = 32  $\mu$ , h d m II = 23  $\mu$ , h d m III = 23  $\mu$ . Humeral setae similar to d m and d l but ca. 46  $\mu$ .

All legs with claws and rayed empodium, claws on tarsus I two thirds length of claws on tarsi ii to iv. Leg I ; total length 489  $\mu$ , tarsus 144  $\mu$ , tibia 133  $\mu$ , genu 81  $\mu$ , femur 131  $\mu$ . II ; tarsus 104  $\mu$ , tibia 44  $\mu$ , genu 53  $\mu$ , femur 64  $\mu$ , total 265  $\mu$ . III ; tarsus 104  $\mu$ , tibia 46  $\mu$ , genu 58  $\mu$ , femur 58  $\mu$ , total 266  $\mu$ . IV ; tarsus 97  $\mu$ , tibia 48  $\mu$ , genu 64  $\mu$ , femur 58  $\mu$ , total 267.

*Tarsus I* : with solenidion  $\omega$  I long  $98\ \mu$  with feathery guard seta  $13\ \mu$ , addorsals roughened. Length of idiosoma measured from base of stylophore to posterior extremity  $253\ \mu$ , length of gnathosoma  $175\ \mu$ , total body length  $428\ \mu$ . Length ratio : leg I to idiosoma = 1.1.

#### HOLOTYPE.

The name *votandinii* refers to a male from the floor of a stock rearing barn near heap of potatoes (*Solanum tuberosum* L.) collected by I. G. JEFFREY 30 May 1971. The holotype is mounted on a slide and deposited in the British Museum (Natural History) reg. no. 1975.4.25.1

#### ACKNOWLEDGEMENTS

The author is very grateful to Mr D. MACFARLANE of the British Museum (Natural History) for examining the specimen, Dr D. C. GRAHAM for interest shown, and Miss Joan B. CAMPBELL for some of the drawings. Thanks are due to Professor Francis M. SUMMERS, University of California, Davis, for examining photographs of this mite and giving invaluable taxonomic advice.

#### SUMMARY

A single male specimen of a new mite in the family Cheyletidae was found on a Scottish farm. Though not completely fitting the genus *Mexeches* De Leon it more closely resembles this than any known genus.

#### RÉSUMÉ

On a trouvé dans une ferme écossaise un unique spécimen mâle d'un acarien nouveau de la famille des Cheyletidae. Quoiqu'il ne corresponde pas exactement au genre *Mexeches* De Leon il lui ressemble plus fortement qu'à n'importe quel genre connu.

#### REFERENCES

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*Paru en Mai 1976*