

**PSEUDOSCORPIONS OF THE FAMILY CHERNETIDAE
NEWLY IDENTIFIED FROM OREGON
(PSEUDOSCORPIONIDA, CHELIFEROIDEA)**

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ABSTRACT

The diagnosis of the genus *Illinichernes* Hoff is revised and a new species, *Illinichernes stephensi*, is described from tree hollows in western Oregon; the first Oregon state records are reported for *Acuminochernes crassopalpus* (Hoff), *Dendrochernes crassus* Hoff, *Dinocheirus sicarius* Chamberlin, *D. validus* (Banks), *Hesperochernes utahensis* Hoff and Clawson, and *Lustrochernes grossus* (Banks), and *Lamprochernes* sp. These are the first published records from Oregon for the chernetid family.

INTRODUCTION

Chernetid pseudoscorpions have not been reported previously from Oregon even though approximately 80 species of the family are known from other parts of the United States. A recent study of Oregon pseudoscorpions (Benedict 1978), based on newly collected specimens and on specimens accumulated in various older collections, indicates that chernetids are fairly common in Oregon habitats.

Some of the specimens were readily identifiable as: *Acuminochernes crassopalpus* (Hoff), *Dendrochernes crassus* Hoff, *Dinocheirus sicarius* Chamberlin, *D. validus* (Banks), *Hesperochernes utahensis* Hoff and Clawson, and *Lustrochernes grossus* (Banks). Following examination of the type series of *Illinichernes distinctus* Hoff, the type species of the genus, Oregon specimens of *Illinichernes* were determined to represent a new species which is described in this paper. However, other specimens were more difficult to identify because many of the genera and species of this family are poorly defined. For example, certain specimens, clearly assignable to the genus *Dinocheirus* Chamberlin, presented complex problems; Muchmore (1974) has begun a comparative study of this genus which, when complete, should permit the identification of the remaining Oregon specimens of this taxon. Further, the single known specimen of the genus *Lamprochernes* Tömösaváry collected in Oregon is not identifiable to species at this time.

Recent contributions of such workers as Muchmore (1974, 1975), Legg (1974a, 1974b, 1975), Weygoldt (1966, 1970), and others, may ultimately provide the basis for a major revision of the family. The need for a broad critical study with modern descriptions of all included genera and species is apparent.

A number of works, in addition to those cited above, contain major contributions to the present, though incomplete, knowledge of the chernetids. Chamberlin (1931) provided numerous illustrations in his comparative morphological monograph of the order; Beier (1932) a brief description with general distributions of the then recognized 190 species of the world together with a descriptive key to many of the species; Beier (1963) a descriptive key to 45 European species; and Hoff (1958) a list of 71 chernetid species from the United States and Canada together with a useful key to genera.

The seven genera identified from Oregon may be distinguished by the following key:

1. Tibia of leg IV with tactile seta; pleural membrane smoothly striate 2
 Tibia of leg IV lacking a tactile seta; pleural membrane not smoothly striate . . . 3
2. Tibia of leg IV with two tactile setae, one distal and one near middle of segment; tactile seta IT of fixed chelal finger at least as close to finger tip as distance between IST and ISB *Lustrochernes grossus*
 Tibia of leg IV with a single tactile seta distal in position; tactile seta IT distinctly farther from finger tip than distance between IST and ISB . . . *Lamprochernes* sp.
3. Tarsus of leg IV with a tactile seta 4
 Tarsus of leg IV without a tactile seta 7
4. Movable chelal finger with tactile seta ST closer to SB than to T
 *Dendrochernes crassus*
 Movable chelal finger with tactile seta ST midway between T and SB or closer to T than to SB 5
5. Cheliceral hand with seta *sb* and *b* acuminate . . . *Acuminochernes crassopalpus*
 Cheliceral hand with seta *sb* denticulate and seta *b* acuminate . . . (*Dinocheirus*) 6
6. Palpal femur of *male* with large protuberance on subdorsal (inner) surface; tactile seta of tarsus IV greater than 70% of the total tarsal length from proximal margin *D. sicarius*
 Palpal femur of *male* without a large protuberance on subdorsal surface; tactile seta of tarsus IV less than 65% of the total tarsal length from proximal margin *D. validus*
7. Setae of palps and tergites bilaterally feathered and leaflike; several extra-long clavate setae near center of outer margin of fixed finger . . . *Illinichernes stephensi*
 Setae of palps not bilaterally feathered; without extra-long clavate setae near center of outer margin of fixed finger *Hesperochernes*

Acuminochernes Hoff

Hoff (1949) erected this genus and designated his species *Hesperochernes crassopalpus* the type species, which he had initially described in great detail from specimens collected in Arkansas (Hoff 1945). In 1949, he provided additional measurements of the palp and illustrations of the palp and chela from specimens collected in Illinois and Kansas. Hoff (1961) distinguished *A. crassopalpus* from a newly described species, *A. tactitus* Hoff, collected in Colorado. Nelson (1975) gave further measurements for *A. crassopalpus* from Michigan specimens. Recently (1981) Muchmore has concluded that *Phoberocheirus* from the southern United States is a junior synonym of *Acuminochernes*.

Acuminochernes crassopalpus (Hoff)

The single known specimen of the genus *Acuminochernes* from Oregon is identifiable as *A. crassopalpus* (Hoff 1949, 1958). Although no specimens of this species have been reported from localities between Oregon and the Great Plains states, it is probable that this disjunct distribution reflects a lack of collections rather than the true situation.

New record.—Oregon: Columbia Co., Sauvies Island, 5 mi N, 2 mi E of Burlington (near sea level), debris of *Spermophilus beecheyi douglasii* (Richardson) in hollow of mature *Quercus garryana* Dougl., 7 October 1972 (E. M. Benedict), 1 male (EMB).

Dendrochernes Beier

The genus *Dendrochernes* Beier was erected in 1932, at which time *Chernes cyrnus* L. Koch from Europe was designated the type species. Hoff (1949, 1956) has characterized the genus in English and included it in his key (1958). The genus is known from the United States only from three species and relatively few localities. *Dendrochernes morosus* (Banks) is reported from only a few Michigan specimens (Banks 1895, Manley 1969, Nelson 1975). *Dendrochernes instabilis* (Chamberlin) from Montana is as poorly known (Chamberlin 1934). *Dendrochernes crassus* Hoff was described in detail from three specimens collected at three localities in New Mexico (Hoff 1956) and further characterized from an additional specimen from Colorado (Hoff 1961).

Dendrochernes crassus Hoff

Twenty-two specimens of this species have been identified from widely scattered localities in Oregon and are listed below. It appears that *D. crassus* typically inhabits the bark of coniferous logs or snags, usually of *Pinus ponderosa* Dougl. ex Loud. (Benedict 1978); unfortunately habitat data were not recorded for all collections.

New records.—Oregon; Baker Co., Dooley Mt., 14 July 1958 (J. Baker), 2 females (WBM); Benton Co., 2 mi N of Corvallis, under bark of burned *Pseudotsuga menziesii* (Mirb.) Franco, 1938 or 1939 (J. D. Vestres), 1 male (JCC); Crook Co., near Prineville, Ochoco National Forest, under bark of *Pinus ponderosa* in association with *Dendroctonus brevipennis* Lec., no date (W. J. Buckhorn), 2 males, 2 females (JCC), Prineville, 27 April 1933 (W. J. Buckhorn), 1 male, 3 females (WBM), near Prineville, Ochoco Ranger Station, 12 March 1939 (collector unknown), 2 males, 1 female (JCC); Douglas Co., 6 mi W of Glide, bark of log of *P. ponderosa*, 1 April 1972 (E. M. Benedict), 1 female (EMB); Linn Co., Cascadia, 9 May 1939 (S. Jewett), 1 female (JCC); Wasco Co., Schoolie Ranger Station, Warm Springs Indian Reservation, bark of *P. ponderosa*, 4 July 1938 (J. C. Chamberlin, R. L. Prentiss, C. Prentiss), 2 males, 2 females (JCC); Washington Co., Timber, bark of dead *Pseudotsuga menziesii*, no date (R. L. Furniss), 2 females (JCC).

Dinocheirus Chamberlin

The genus *Dinocheirus*, which Chamberlin (1929) erected for his new species *Dinocheirus tenoch* Chamberlin from Mexico, was recently re-diagnosed by Muchmore (1974) and clearly distinguished from the genera *Chernes* Menge and *Hesperochernes* Chamberlin. Of the 19 species from the United States then apparently assigned to *Dinocheirus* (see Hoff 1958, Nelson and Manley 1972), Muchmore stated that he was confident, on the basis of either an adequate original description or the re-examination of type specimens, that eight of these species clearly belonged to the genus *Dinocheirus* and

two belonged to another genus. Further, he felt "uncertainty" about eight species not re-examined. Unfortunately, Muchmore made no mention of the fact that one of the species of *Dinocheirus* listed by Hoff in 1958, *D. stercoreus* Turk, had been transferred by Hoff in 1957 to the genus *Tejachernes* Hoff as its type species. The status of this species will remain confused until the validity of the genus *Tejachernes* is determined.

Although Muchmore's study is most helpful, a comparative redescription of all of these species based upon re-examination of the type specimens and large series of additional specimens is needed before the individual *species* can clearly be distinguished. In the meantime, it is possible to assign some of the Oregon specimens of the genus *Dinocheirus* to two of these species: *Dinocheirus sicarius* Chamberlin and *D. validus* (Banks).

Dinocheirus sicarius Chamberlin

Chamberlin (1952) described this species in great detail, complete with excellent illustrations from specimens collected from habitats associated with domestic animal shelters in California. Although Gering (1956) listed the species from the Great Salt Lake Desert of Utah, he provided neither specimen records nor habitat data. The first specimen records for Oregon are now reported from 12 localities in nine western Oregon counties where *D. sicarius* typically occurs in the litter-dung layer of cow, horse, sheep, pig and chicken sheds and barns. Oregon specimens appear as variable in size as those described by Chamberlin from California.

New records.—Oregon: Benton Co., 1.3 mi NW Summit (150 m), litter-dung of cattle-sheep barn, 20 December 1971 (E. M. Benedict), 5 males, 3 females, 10 nymphs (EMB); Columbia Co., 3 mi SE of Clatskanie (100 m), litter-dung of chicken house, 8 January 1972 (E. M. Benedict), 6 males, 3 females, 1 nymph (EMB); Coos Co., 5 mi N, 1 mi E of Langlois (60 m), litter-dung of cattle barn, 27 July 1973 (E. M. Benedict), 4 females with eggs, 10 nymphs (EMB); Jackson Co., 3 mi E of Ashland (610 m), litter-dung of cattle barn, 27 December 1971 (E. M. Benedict), 1 male (EMB); Lane Co., 5 mi N of Elmira (130 m), litter-dung of chicken house, 4 December 1971 (E. M. Benedict), 1 female (EMB), 5 mi N of Elmira (130 m), litter-dung of cattle-sheep-pig barn, 4 December 1971 (E. M. Benedict), 2 females (EMB); Lincoln Co., 1 mi NW of Elk City, (60 m), litter-dung of cattle barn, 20 December 1971 (E. M. Benedict), 8 males, 3 females (EMB); Tillamook Co., 5 mi SE of Blaine (150 m), litter-dung of cattle barn, 15 March 1972 (E. M. Benedict), 5 males, 5 females, 10 nymphs (EMB); Yamhill Co., 0.5 mi S of Yamhill (60 m), litter-dung of horse barn, 1 January 1972 (E. M. Benedict), 2 males, 2 females, 3 nymphs (EMB), 2 mi S of Carlton (60 m), litter-dung of cattle barn, 1 January 1972 (E. M. Benedict), 3 males, 3 females, 3 nymphs (EMB), 6 mi W of Carlton (200 m), litter-dung of cattle barn, 12 May 1973 (E. M. Benedict), 3 males, 4 females with eggs, 10 nymphs (EMB); Washington Co., 6 mi N of Beaverton, rotted wood in cattle barn, 30 September 1964 (D. R. Malcolm), 2 males, 1 female (DRM).

Dinocheirus validus (Banks)

Originally described in 1895 by Banks as *Chelanops validus*, this species was reassigned to the genus *Dinocheirus* by Beier (1932). Hoff (1947, 1956, 1961) subsequently provided an extensive redescription and measurements. More recently, Muchmore confirmed the generic assignment of this species to *Dinocheirus*.

This predominantly bark-inhabiting species has been reported from widely scattered localities in California, Colorado, New Mexico, and Utah (Banks 1895, Hoff 1956, 1961, Knowlton 1972). The first Oregon specimen records are reported below.

New records.—Oregon; Benton Co., Corvallis, no date (George Ferguson), 1 male (JCC), 10 mi N of Corvallis, hollow of mature *Quercus garryana*, 10 January 1958 (J. Lattin), 1 male, 1 female, 1 tritonymph (EMB); Douglas Co., 6.5 mi NE of Idlelyd Park (305 m), hollow of mature *Abies concolor* (Gord. & Glend.) Lindl. ex Hieldebr., 16 August 1973 (E. M. Benedict), 1 tritonymph (EMB), 0.5 mi S of Elkton (60 m), hollow of mature *Abies grandis* (Dougl.) Lindl., 15 September 1973 (E. M. Benedict), 1 male, 1 female (EMB); Lincoln Co., 0.5 mi NW of Elk City (60 m), 20 December 1971 (E. M. Benedict), 1 male (EMB); Washington Co., Forest Grove, on fly in rotary flight trap (upper net 5 ft.), 1 female (JCC); Yamhill Co., 6 mi SW of Carlton (150 m), hollow of mature *Quercus garryana*, 1 January 1972 (E. M. Benedict), 1 female (EMB).

Dinocheirus spp.

Additional specimens of this genus collected in Oregon are currently unassignable to species due to inadequate descriptions of certain species said to belong to this taxon.

Hesperochnes Chamberlin

Chamberlin (1924) established the genus *Hesperochnes*, designating his new species *Hesperochnes laurae* Chamberlin from California as the type species. Through the years, 15 species from the United States were added to the genus, mostly through the work of Hoff and his co-workers (Hoff 1947, 1958, Hoff and Clawson 1952). Muchmore (1974) redefined the characteristics of *Hesperochnes* based upon re-examination of the type series of *H. laurae*. In that paper he confirmed six of the species as belonging to *Hesperochnes* and four as belonging to *Chernes* and expressed uncertainty about the generic assignment of six of the species. He also transferred two additional species to *Hesperochnes*. Comparative redescription of all of these species based on examination of type series and large series of conspecific specimens will facilitate the identification of pseudoscorpions in this group.

Hesperochnes utahensis Hoff and Clawson

Hesperochnes utahensis was described by Hoff and Clawson (1952) and its generic assignment confirmed by Muchmore (1974). The species has been reported previously as an inhabitant in litter of various types in semiarid areas of the Rocky Mountain states. The Oregon specimens, listed below, came from similar habitats; they were recovered from the semiarid western juniper zone of southeastern Oregon.

New records.—Oregon; Harney Co., Diamond Craters, 13 mi S, 6 mi W of Princeton (1280 m), litter of *Juniperus occidentalis* Hook., 14 July 1972 (E. M. Benedict), 6 males, 1 female, 5 nymphs (EMB), 27 mi N, 13 mi W of Frenchglen (1280 m), litter of *Artemisia tridentata* Nutt. and *Grayia spinosa* (Hook.) Moq., 8 September 1976 (E. H. Gruber and E. M. Benedict), 2 males (EMB), Alvord Desert Sand Dunes, T36S, R35E, sec. 8 NW (1325 m), litter of *Sarcobatus vermiculatus* (Hook.) Torr., 14 October 1979 (E. H. Gruber), 1 male (EMB).

Illinichernes Hoff

Illinichernes Hoff 1949:481, 1958:25; Lawson 1968:192; Nelson 1975:290.

Revised diagnosis.—Cheliceral flagellum with four setae: two long and two short; hand with five or six setae (accessory seta absent or present); *sb* and *a* denticulate, *b* acuminate

or denticulate. Palps stout, exhibiting little sexual dimorphism. Setae, especially on palps and dorsum of body, bilaterally feathered, leaflike and stout; setae of sternal scuta chiefly clavate; proximal 2/3 of fixed finger bearing several prominent enlarged, long, leaflike setae. Tactile seta ST of movable chelal finger closer to T than to SB; IST considerably distad of EST on fixed chelal finger; both IB and ISB distad of ESB. Tarsus of leg IV without tactile seta. Paired spermathecae long slender tubules terminating in enlarged bulbous sacs.

Type species.—*Illinichernes distinctus* Hoff.

Remarks.—The genus *Illinichernes* was erected by Hoff (1949) for the single new species, *I. distinctus*, from Illinois. He emphasized the acuminate nature of seta *b* on the cheliceral hand and the distinctive leaflike setae on the body and palps. Subsequent workers (Hoff and Bolsterli 1956, Lawson 1968, Nelson 1975) added descriptive data and records from Indiana, Maryland and Michigan. They also reiterated the nature of *b* and the leaflike setae. During the past decade, pseudoscorpions were collected from tree hollows in Oregon which resembled *Illinichernes* in their leaflike setae, but differed in that seta *b* is denticulate. Further, these specimens possess a denticulate accessory seta on the cheliceral hand, a characteristic not mentioned by previous workers. In an effort to assign the Oregon specimens to a genus, types of *I. distinctus* were examined. The types do, indeed, bear an acuminate seta *b* and lack an accessory seta just as Hoff described them. Interestingly, Hoff and Clawson (1952) had questioned the value of *b* as a diagnostic character for separating chernetid genera; the present authors agree. However, the presence of enlarged leaflike setae on the palps and body appear adequate to discriminate the genus *Illinichernes* from the very closely related genus *Hesperoichernes* without reference to the denticulate or acuminate nature of seta *b*. Although Hoff's diagnosis of *Illinichernes* was generally satisfactory, it has been necessary to make a few changes to reflect the variation of the new species from Oregon. The major changes are that: (1) an accessory seta may be present on the cheliceral hand, and (2) seta *b* may be either denticulate or acuminate. Spermathecae are as illustrated.

Illinichernes stephensi, new species

Figures 1-8

Etymology.—This species is named for Charles L. Stephens, the father of the senior author, who has been instrumental in the collecting of numerous Oregon specimens of pseudoscorpions.

Type records.—Oregon; Douglas Co., 2 mi E of Canyonville (380 m), hollow of mature *Abies concolor*, 6 November 1971 (E. M. Benedict and C. L. Stephens), 2 males (holotype AMNH, 1 paratype EMB), 4 females (allotype AMNH, 3 paratypes EMB), 2 nymphs (paratypes EMB), 13 September 1973, 3 males, 1 nymph (paratypes EMB).

Distribution.—Reported only from western Oregon.

Diagnosis.—Based on adults. Carapace length of male 0.82-0.92 mm, of female 0.88-1.05 mm; palpal femur length of male 0.72-0.81 mm, of female 0.69-0.89 mm; cheliceral hand with a denticulate accessory seta (total of 6) and several elongate setae near the center of the outer margin on the proximal 1/3 of the fixed finger of the chela.

Description.—Measurements in Table 1, morphometric ratios in Table 2. Moderately large, blind epigeal species; derm mostly granular throughout; setae stout, pinnately feathered or leaflike to clavate, except as noted.

MALE. Carapace (Fig. 1): subtriangular, longer than posterior breadth, with two distinct transverse furrows, both broad, well defined, and laterally procurved; eyes or ocular spots absent; approximately 110 stout, leaflike setae, holotype with 7 setae on anterior margin and 17 setae on posterior disc.

Coxal area: subapical seta of maxilla much longer than apical seta.

Abdomen (Fig. 1): ovate; tergites 1-10 and sternites 4-10 divided; pleural membrane hispidously wrinkled, interscutal and intersegmental membranes more or less hispid; setae pinnately feathered, leaflike (Fig. 2) to denticulo-clavate in some degree, except for the acuminate setae on the genital opercula, spiracular plates and lateralmost seta on sternite 5; tergal setae staggered in 1-2 irregular marginal rows and a single lateral discal seta per scutum, holotypic tergal chaetotaxy 17:19:21:23:24:25:23:24:23:20:12:mm; sternal setae in 1-2 irregular rows, generally with a single marginal row plus a single medial discal seta per scutum, holotypic sternal chaetotaxy 41±:(0-0):(1)2-3/20(2):(2)13(3):21:22:22?:22?:20:17:10:mm.

Chelicera (Fig. 3): slightly less than 1/3 as long as carapace; hand with 6 setae (*sb, b*, and accessory setae all denticulate); flagellum with 2 long and 2 short blades, the distal-most blade with approximately 7 denticles along the margin, other blades acuminate; galea with 5-6 small rami; serrula exterior with 17 ligulate teeth; serrula interior with dentate apical process, 3 subapical lobes and an undivided membrane proximally; fixed

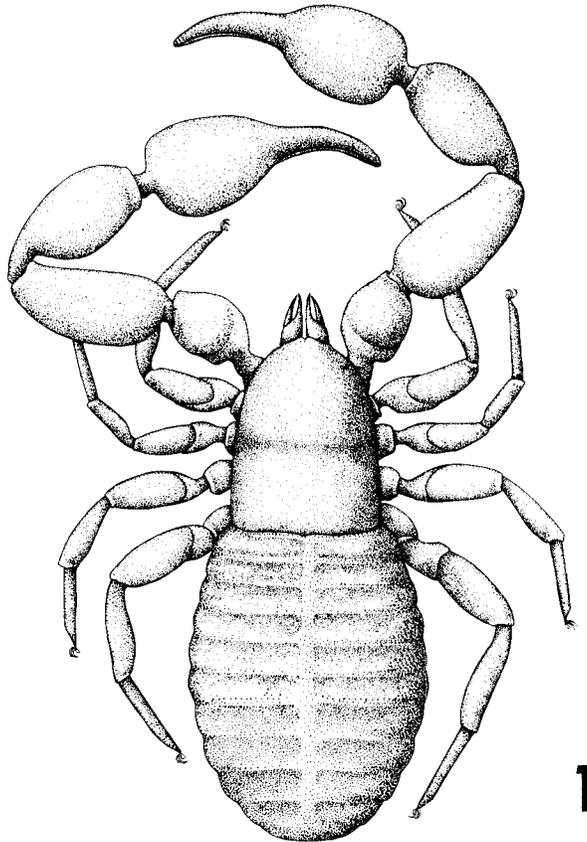


Fig. 1.—*Illinichernes stephensi*, new species: dorsal view.

finger with 3 very tiny denticles on margin of apical tooth and 6 tiny subapical denticles; movable finger with long, slender, apical tooth and 3 subapical lobes or teeth.

Palp (Fig. 1): very stout; chela with dentition, chaetotaxy and venom apparatus as illustrated (Fig. 4); marginal teeth contiguous and numbering approximately 35-36 on each finger; movable finger with 7 external and 2 internal accessory teeth, nodus ramosus of venom duct opposite teeth 19-21 (slightly nearer ST than T); fixed finger with 6 external and 3 internal accessory teeth.

Legs (Fig. 1): derm except for tarsi scalelike to granulate; setae except for a few on distal portion of tarsi multidenticulate and clavate to subclavate; tarsus IV lacking a tactile seta.

FEMALE. Similar to male except as noted. Slightly more robust. Abdomen with acuminate setae on genital opercula, spiracular plates, sternite 4 and medially on sternite 5; allotypic tergal chaetotaxy 18:18:19:24:23:20:22:21:22:19:14:mm; sternal chaetotaxy 17:(1)39(1):(2)12(2):18:21:23:23:21:20:10:mm; spermathecae as illustrated in Fig. 5. Chaetotaxy of chela as in male; fixed finger with 30-35 marginal teeth, 6-8 external teeth and 2-3 internal teeth; movable finger with 34-40 marginal teeth, 3-7 external teeth and 1-3 internal teeth.

TRITONYMPH. Similar to adult except as noted. Slightly smaller and paler; derm slightly less sclerotized, especially the pedicels of the palpal podomers. Chaetotaxy (EB-1408.01004) of carapace 7-12 (74[±]), of tergites 13:13:14:14:13:14:14: 14:15:14:6:mm; of sternites 8:(1)9(1):(2)9(1):12:13:15:14:15:12:6:mm. Chaetotaxy of chela (Fig. 6) typical of species and nymphal stage; fixed finger with 28-29 marginal teeth and 3-4 external accessory teeth, internal accessory teeth not observed; movable finger with 30-33 marginal teeth and 2-3 external accessory teeth, internal accessory teeth not observed.

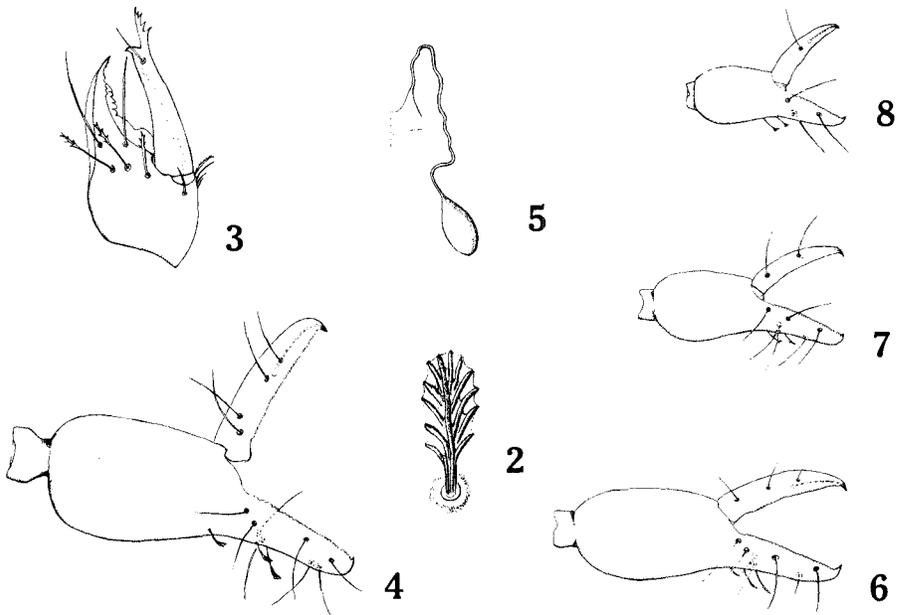


Fig. 2.—*Illinichernes stephensi*, new species: 2, abdominal seta; 3, chelicera; 4, lateral view of chela of male; 5, spermatheca of female (other one obscured); 6, lateral view of chela of tritonymph; 7, lateral view of chela of protonymph; 8, lateral view of chela of deutonymph.

Table 1.—Measurements (in mm) of *Illinichernes stephensi*, new species from western Oregon (abbreviations: B=breadth, L=length, *=length exclusive of pedicel).

	Male (n=14)	Female (n=14)	Tritonymph (n=3)	Deutonymph (n=3)	Protonymph (n=1)
Body L	2.16-2.59	2.38-3.32	1.87-1.97	1.57-1.60	1.39
Abdominal B	1.06-1.24	1.15-1.70	0.80-0.86	0.54-0.59	0.66
Carapace L	0.82-0.92	0.88-1.05	0.69-0.71	0.54-0.59	0.45
Posterior B	0.72-0.79	0.70-0.98	0.62-0.66	0.47-0.52	0.46
Chelicera L	0.24-0.26	0.24-0.28	0.19-0.21	0.17-0.18	?
Chelicera B	0.12-0.14	0.13-0.15	0.10-0.12	0.09-0.10	?
Pedipalps					
Trochanter L	0.43-0.50	0.45-0.52	0.34-0.35	0.27-0.28	0.17
Trochanter B	0.25-0.30	0.25-0.32	0.19-0.20	0.15-0.16	?
Femur L	0.72-0.81	0.69-0.89	0.52-0.56	0.40-0.41	0.28
Femur B	0.29-0.35	0.27-0.33	0.20-0.21	0.15-0.16	?
Tibia L	0.70-0.79	0.66-0.89	0.47-0.52	0.38-0.39	0.22
Tibia B	0.32-0.36	0.28-0.40	0.23-0.24	0.18-0.19	?
*Chela L	1.05-1.11	1.07-1.27	0.82-0.84	0.66-0.67	0.47
Pedicel L	0.10-0.12	0.09-0.13	0.06-0.07	0.05-0.07	0.04
Chela B	0.35-0.45	0.39-0.47	0.29-0.30	0.23-0.24	0.17
Chela D	0.36-0.41	0.35-0.47	0.29-0.30	0.23-0.24	0.17
Movable finger L	0.54-0.63	0.56-0.70	0.43-0.45	0.36-0.37	0.21
*Hand L	0.46-0.56	0.52-0.61	0.40-0.42	0.28-0.29	0.24
Leg I					
Entire femur L	0.46-0.53	0.46-0.55	0.37-0.39	0.27-0.29	?
Entire femur D	0.14-0.18	0.14-0.17	0.11-0.12	0.09-0.10	?
Tibia L	0.32-0.39	0.33-0.41	0.26-0.27	0.19-0.20	?
Tibia D	0.09-0.11	0.09-0.10	0.08	0.07	?
Tarsus L	0.35-0.43	0.39-0.43	0.28-0.31	0.24-0.27	?
Tarsus D	0.06-0.07	0.07-0.09	0.06-0.07	0.05-0.06	?
Leg IV					
Entire femur L	0.65-0.72	0.66-0.76	0.47-0.48	0.38-0.39	0.30
Entire femur D	0.14-0.20	0.16-0.19	0.14-0.15	0.11	0.09
Tibia L	0.51-0.63	0.50-0.63	0.38-0.39	0.28-0.29	0.20
Tibia D	0.10-0.14	0.09-0.13	0.10-0.12	0.08-0.09	0.07
Tarsus L	0.43-0.48	0.42-0.50	0.30-0.31	0.27-0.28	0.26
Tarsus D	0.08-0.09	0.08-0.09	0.07-0.09	0.07	0.06

DEUTONYMPH. Similar to adult except as noted. Smaller and paler; derm much less sclerotized, especially the pedicels of the palpal podomeres. Chaetotaxy (EB-1408.01003) of carapace 6-8(54), of tergites 10:10:10:10:10:11:9:10:10:10:6:mm, of sternites 0:(1)4(1):(2)6(2):10:10:10:10:10:9:6:mm. Cheliceral hand with 5 setae of which both *sb* and *b* are denticulate (accessory seta lacking); galea with 4 very weak rami. Chaetotaxy of chela (Fig. 7) typical of species and nymphal stage; fixed finger with 26 marginal teeth, 1 external accessory tooth and 1 internal accessory tooth; movable finger with 26 marginal teeth and 1 external tooth, internal accessory teeth not observed.

PROTONYMPH. Similar to adult except as noted. Much smaller and paler; derm much less sclerotized. Chaetotaxy (EB-1408.01001) of carapace 6-6(28), of tergites 6:6:6:6:6:6:6:6:6:4:mm, of sternites 0:(0)2(0):(1)4(1):6:6:6:6:6:4:mm. Cheliceral hand with 4 setae of which *b* is acuminate (*sb* and accessory seta lacking); galea with 3

Table 2.—Morphometric ratios of adult *Illinichernes stephensi*, new species from western Oregon (Abbreviations: B=breadth, D=depth, L=length, *=length exclusive of pedicel).

	Male (n=14)	Female (n=14)
Pedipalp		
Femur L/B	2.3-2.5	2.5-2.9
Tibia L/B	2.0-2.3	2.3-2.6
Chela L/D	2.5-2.7	2.6-2.9
*Chela L/D	2.6-2.9	2.8-3.0
Movable finger L/Hand L	1.0-1.3	1.0-1.2
*Hand L/B	1.1-1.3	1.3-1.5
Leg I		
Entire femur L/D	2.9-3.4	2.7-3.2
Tibia L/D	3.4-4.0	3.6-4.1
Tarsus L/D	5.3-5.9	5.2-6.0
Leg IV		
Entire femur L/D	3.8-4.3	3.8-4.1
Tibia L/D	4.3-4.9	4.5-5.1
Tarsus L/D	5.1-5.8	5.1-5.7

very weak rami. Chaetotaxy of chela (Fig. 8) typical of species and nymphal stage; fixed finger with 19 marginal teeth and no accessory teeth; movable finger with 21 marginal teeth and 1 external accessory tooth.

Remarks.—This new species is morphologically very similar in most respects to *I. distinctus* but differs in size and cheliceral chaetotaxy. Most specimens of *I. stephensi* possess an accessory seta on each cheliceral hand in distinction to the regular absence of this seta on *I. distinctus*. However, occasionally one hand of the chelicera of *I. stephensi* may lack this characteristic accessory seta while the other chelicera bears the typical number of 6. Specimens of the described species of *Illinichernes* can be distinguished by the combination of characters in the following couplet:

Hand of chelicera with 5 setae; carapace length of male 0.65-0.72 mm, of female 0.72-0.79 mm; palpal femur length of male 0.59-0.69 mm, of female 0.60-0.78 mm; chela length of male 0.82-0.96 mm, of female 0.82-0.98 mm; from the eastern United States	<i>I. distinctus</i>
Hand of chelicera with 6 setae; carapace length of male 0.82-0.92 mm, of female 0.88-1.05 mm; palpal femur length of male 0.72-0.81 mm, of female 0.69-0.89 mm; chela length of male 1.05-1.11 mm, of female 1.07-1.27 mm; from Oregon	<i>I. stephensi</i>

Habitat.—Found primarily in tree hollows of various species and occasionally in associated leaf litter.

Other specimens examined.—Oregon; Curry Co., 14 mi E of Gold Beach (185 m), hollow of mature *Lithocarpus densiflora* (H. & A.) Rehd., 10 March 1972 (E. M. Benedict), 2 males, 6 nymphs (EMB), 7 mi N, 6 mi E of Brookings (60 m), hollow of mature *L. densiflora*, 24 August 1973 (E. M. Benedict), 1 male (EMB), 7 mi N, 7 mi E of Brookings (90 m), hollow of mature *L. densiflora*, 24 August 1973 (E. M. Benedict), 3 males, 1 female, 5 nymphs (EMB); Coos Co., 19 mi N, 1 mi E of Agness (90 m), hollow of mature *Acer macrophyllum* Pursh, 19 February 1972 (E. M. Benedict), 13 males, 12 females, 10 nymphs (EMB); 19 mi N, 1 mi E of Agness (90 m), hollow of mature *Umbellularia californica* (H. and A.) Nutt., 19 February 1972 (E. M. Benedict), 2 males, 3 females, 16 nymphs

(EMB), 19 mi N, 1 mi E of Agness (90 m), hollow of mature *U. californica*, 19 February 1972 (E. M. Benedict), 1 male, 7 females, 47 nymphs (EMB); *Douglas Co.*, 0.7 mi W of Scottsburg (90 m), hollow of mature *U. californica*, 11 October 1971 (E. M. Benedict), 1 female, 1 nymph (EMB), 2 mi N of Melrose (121 m), hollow of *Arbutus menziesii* snag, 7 February 1972 (E. M. Benedict), 3 females, 17 nymphs (EMB), 2 mi N of Melrose (121 m), hollow of mature *Acer macrophyllum*, 7 February 1972 (E. M. Benedict), 11 males, 5 females, 21 nymphs (EMB), 3 mi N, 3 mi W of Umpqua (100 m), hollow of mature *Abies grandis*, 7 February 1972 (E. M. Benedict), 4 males, 18 females, 81 nymphs (EMB), 6.5 mi NE of Idleyld Park (305 m), hollow of mature *Acer macrophyllum*, 1 April 1972 (E. M. Benedict), 12 males, 10 females, 46 nymphs (EMB), 6.5 mi NE of Idleyld Park (305 m), hollow of mature *Abies concolor*, 16 August 1973 (E. M. Benedict), 1 female (EMB), 6.5 mi NE of Idleyld Park (305 m), hollow of mature *Acer macrophyllum*, 16 August 1973 (E. M. Benedict), 5 males, 7 females, 19 nymphs (EMB), 1/2 mi S of Elkton (60 m), hollow of mature *Abies grandis*, 15 September 1973 (E. M. Benedict), 1 male, 19 nymphs (EMB); *Jackson Co.*, 8 mi S, 13 mi E of Ashland (1650 m), leaf litter of *Quercus garryana*, 15 October 1972 (E. M. Benedict), 1 female (EMB); *Lane Co.*, 14 mi S of Oakridge (550 m), hollow of mature *Acer macrophyllum*, 4 March 1972 (E. M. Benedict), 2 males, 2 females, 9 nymphs (EMB), 24 mi E of Florence (90 m), hollow of mature *A. macrophyllum*, 6 May 1972 (E. M. Benedict), 1 female, 11 nymphs (EMB), 6 mi W, 1 mi N of Lorane (245 m), hollow of mature *A. macrophyllum*, 21 July 1973 (E. M. Benedict), 2 females (1 with ? number of eggs) (EMB), 13 mi W, 2 mi N of Lorane, hollow of mature *A. macrophyllum*, 21 July 1973 (E. M. Benedict), 3 males, 3 females, 2 nymphs (EMB), 3 mi N, 8 mi E of Lowell (335 m), hollow of mature *Alnus rubra* Bong., 30 August 1973 (E. M. Benedict), 1 male, 1 female, 15 nymphs (EMB); *Lincoln Co.*, 25 mi E. of Waldport (120 m), hollow of mature *Acer macrophyllum*, 5 May 1973 (E. M. Benedict), 3 males, 7 females (EMB); *Polk Co.*, 2.2 mi W of Falls City (245 m), hollow of mature *A. macrophyllum*, 11 June 1973 (E. M. Benedict), 3 males, 4 females (with approximately 20 larvae, 1 with 13 eggs), 2 nymphs (EMB); *Washington Co.*, 3 mi SW of Tualatin, leaf litter of *Arbutus menziesii*, 1 January 1972 (E. M. Benedict), 1 female (EMB); *Yamhill Co.*, 6 mi SW of Carlton (150 m), hollow of mature *Quercus garryana* 1 January 1972 (E. M. Benedict), 1 female (EMB), 2 mi S of Carlton (60 m), hollow of mature *Q. garryana*, 1 January 1972 (E. M. Benedict), 3 males, 3 females, 5 nymphs (EMB).

Lamprochernes Tömösváry

At present, the genus *Lamprochernes* is in need of revision to clearly define its limits. Recently, Muchmore (1975:19) recognized that *Pycnochernes* Beier is a synonym of *Lamprochernes* "unless further work can demonstrate that *Chelifer (Chernes) godfreyi* Kew is not congeneric with *Chelifer nodosus* Schrank, the type species of *Lamprochernes*." Shortly thereafter, Muchmore (1976:152) transferred four of the five American species which had earlier been assigned to *Lamprochernes* (Beier 1932, Hoff 1944, 1949, Hoff and Bolsteri 1956, Muchmore 1971) to the new genus *Americhernes*. He also provided a key by which "*Americhernes* could be distinguished from *Lamprochernes* and allied American genera." By Muchmore's criteria, it appears that *Lamprochernes* is presently represented in the United States by three species: *Lamprochernes minor* Hoff from the midwestern states, *Pycnochernes linsdalei* Chamberlin from California and *Pycnochernes foxi* Chamberlin from Idaho. The latter two species had been described in 1952. The single known Oregon specimen of *Lamprochernes* is not identifiable to species at this time.

Material examined.—Oregon; *Douglas Co.*, Dixonville, phoretic on housefly, 29 September 1973 (collector unknown), 1 female (WBM).

Lustrochernes Beier

At present, two species of *Lustrochernes* are recognized from the United States: *L. pennsylvanicus* (Ellingsen) in the southeast and *L. grossus* (Banks) in the west.

Lustrochernes grossus (Banks)

Banks (1893) described this species as *Chelanops grossus* from specimens collected in Colorado. Hoff (1947) redescribed the species from the types and transferred it to the genus *Lamprochernes*. Subsequently, upon examination of numerous specimens from New Mexico, he reassigned the species to the genus *Lustrochernes* (Hoff 1956). It has also been reported from Arizona.

New records.—Oregon; no data, under elytra of cerambycid beetle (W. J. Chamberlin), 2 females (JCC); Benton Co., Corvallis, stump of *Pseudotsuga menziesii*, 26 April 1936 (J. C. Chamberlin), 1 male, 1 female (JCC), Corvallis, from cerambycid beetles, *Ergates spiculatus spiculatus* Lec., 4 August 1977 (E. Vogel), 5 females (EMB); Douglas Co., 2.5 mi E of Coos Co. line on Roseburg-Coquille Rd., rotting log of *P. menziesii*, 28 April 1936 (J. C. Chamberlin), 1 male (JCC); Crook Co., Prineville, 12 March 1939 (collector unknown), 1 female (JCC); Josephine Co., 15.7 mi N of Medford on Crater Lake Rd, bark of *Pinus* stump, 1937 (J. C. Chamberlin), 1 male, 1 female (JCC).

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LITERATURE CITED

- Banks, N. 1893. New Chernetidae from the United States. *Canadian Entomol.*, 25:64-67.
 Banks, N. 1895. Notes on the Pseudoscorpionida. *J. New York Entomol. Soc.*, 3:1-13.
 Beier, M. 1932. Pseudoscorpionidae. II Subord. Cheliferinea. *Das Tierreich*, 58:1-294.
 Beier, M. 1963. Ordnung Pseudoscorpionidae. *Bestimmungsb. Bodenfauna Europas*, 1:1-313.
 Benedict, E. M. 1978. A biogeographical study of currently identified Oregon pseudoscorpions with an emphasis on western Oregon forms. Ph.D. Dissertation. Portland State University, 123 pp.
 Chamberlin, J. C. 1924. *Hesperochernes laurae*, a new species of false scorpion from California inhabiting the nest of *Vespa*. *Pan-Pacific Entomol.*, 1:89-92.
 Chamberlin, J. C. 1929. *Dinocheirus tenoch*, an hitherto undescribed genus and species of false scorpion from Mexico (Arachnida, Chelonethida). *Pan-Pacific Entomol.*, 5:171-173.
 Chamberlin, J. C. 1931. The arachnid order Chelonethida. *Stanford Univ. Publ., Univ. Ser., Biol. Sci.*, 7:1-284.
 Chamberlin, J. C. 1934. On two species of false scorpions collected by birds in Montana, with notes on the genus *Dinocheirus* (Arachnida-Chelonethida). *Pan-Pacific Entomol.*, 10:125-132.
 Chamberlin, J. C. 1952. New and little-known false scorpions (Arachnida, Chelonethida) from Monterey County, California. *Bull. Amer. Mus. Nat. Hist.*, 99:259-312.
 Gering, R. L. 1956. Arachnids: spiders, pseudoscorpions, scorpions, solpugids. Pp. 49-50 in A. M. Woodbury, ed. *Ecological check lists. The Great Salt Lake Desert Series. Univ. of Utah, Dugway.*
 Hoff, C. C. 1944. New pseudoscorpions of the subfamily Lamprochernetinae. *Amer. Mus. Novitates*, 1271:1-12.
 Hoff, C. C. 1945. New species and records of pseudoscorpions from Arkansas. *Trans. Amer. Micros. Soc.*, 64:34-57.
 Hoff, C. C. 1947. The species of the pseudoscorpion genus *Chelanops* described by Banks. *Bull. Mus. Comp. Zool.*, 98:473-550.
 Hoff, C. C. 1949. The pseudoscorpions of Illinois. *Bull. Illinois Nat. Hist. Survey*, 24:407-498.

- Hoff, C. C. 1956. Pseudoscorpions of the family Chernetidae from New Mexico. Amer. Mus. Novitates, 1800:1-66.
- Hoff, C. C. 1957. *Tejachernes* (Arachnida-Chelonethida, Chernetidae-Chernetinae), a new genus of pseudoscorpion based on *Dinocheirus stercoreus*. Southwestern Nat. 2:83-88.
- Hoff, C. C. 1958. List of pseudoscorpions of North America north of Mexico. Amer. Mus. Novitates, 1875:1-50.
- Hoff, C. C. 1961. Pseudoscorpions from Colorado. Bull. Amer. Mus. Nat. Hist., 122:409-464.
- Hoff, C. C. and J. E. Bolsteri. 1956. Pseudoscorpions of the Mississippi River drainage basin area. Trans. Amer. Micros. Soc., 75:155-179.
- Hoff, C. C. and D. L. Clawson. 1952. Pseudoscorpions from rodent nests. Amer. Mus. Novitates, 1585:1-38.
- Knowlton, G. F. 1972. Some terrestrial arthropods of Curlew Valley. Utah State University Ecology Center, Terrestrial Arthropod Ser., 4:1-7.
- Lawson, J. E. 1968. Systematic studies of some pseudoscorpions (Arachnida: Pseudoscorpionida) from the southeastern United States. Ph.D. Dissertation. Virginia Polytechnic Institute. 297 pp.
- Legg, G. 1974a. A generalized account of the female genitalia and associated glands of pseudoscorpions (Arachnida). Bull. British Arachnol. Soc., 3:42-48.
- Legg, G. 1974b. A generalized account of the male genitalia and associated glands of pseudoscorpions (Arachnida). Bull. British Arachnol. Soc., 3:66-74.
- Legg, G. 1975. Spermatophore formation in pseudoscorpions. Proc. 6th Int. Arachnol. Congr., pp. 141-144.
- Manley, G. V. 1969. A pictorial key and annotated list of Michigan pseudoscorpions (Arachnida: Pseudoscorpionida). Michigan Entomol., 2:2-13.
- Muchmore, W. B. 1971. A new *Lamprochernes* from Utah (Pseudoscorpionida, Chernetidae). Entomol. News., 82:327-329.
- Muchmore, W. B. 1974. Clarification of the genera *Hesperochernes* and *Dinocheirus* (Pseudoscorpionida, Chernetidae). J. Arachnol., 2:25-36.
- Muchmore, W. B. 1975. Use of the spermathecae in the taxonomy of chernetid pseudoscorpions. Proc. 6th Int. Arachnol. Congr., pp. 17-20.
- Muchmore, W. B. 1976. Pseudoscorpions from Florida and the Caribbean area. 5. *Americhernes*, a new genus based upon *Chelififer oblongus* Say (Chernetidae). Florida Entomol. 59:151-163.
- Muchmore, W. B. 1981. New pseudoscorpion synonymies (Pseudoscorpionida, Chernetidae and Cheliferidae). J. Arachnol., 9:258-260.
- Nelson, S. O., Jr., 1975. A systematic study of Michigan Pseudoscorpionida (Arachnida). Amer. Midl. Nat., 93:257-301.
- Nelson, S. O., Jr. and G. V. Manley. 1972. *Dinocheirus horricus* n. sp., a new species of pseudoscorpion (Arachnida, Pseudoscorpionida, Chernetidae) from Michigan. Trans. Amer. Micros. Soc., 91:217-221.
- Weygoldt, P. 1966. Mating behavior and spermatophore morphology in the pseudoscorpion *Dinocheirus tumidus* (Banks). Biol. Bull. 120:462-467.
- Weygoldt, P. 1970. Vergleichende Untersuchungen zur Fortpflanzungsbiologie der Pseudoscorpione II. Zeit. Zool. Syst. Evol. 8:214-259.

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