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New Hesperiidae from North Vietnam, with the description of a new genus

(Lepidoptera, Rhopalocera)

by

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Summary: Several new taxa of Hesperiidae are described from North Vietnam on the base of material collected in 1991–1995: *Capila pauripunetata tamdaoensis* subspec. nov., *Sovia eminens* spec. nov., *Thoressa monastyrskyi* spec. nov., *T. submacula rubella* subspec. nov. A new genus, *Parasovia* gen. nov., is established for *Onryza perbella* (HERING, 1918).

The rich material of Hesperiidae collected in North Vietnam in 1991–1995 by different collectors (mainly by A. L. MONASTYRSKY) contains several hitherto unknown taxa, the descriptions of which are given below.

In terminology of wing venation and genitalia I mainly follow EVANS (1949), for the purpose of easier comparison with known taxa.

All the type-specimens are deposited in the collection of the Department of Entomology of Moscow State University, unless otherwise stated.

Capila pauripunetata ***tamdaoensis*** **subspec. nov.**

(colour plate X, figs. 1, 2)

Holotype ♂: North Vietnam, Prov. Vinh Phu, Tamdao, 3.–4.V. 1991 (leg. A. MONASTYRSKY).
Paratypes: 2 ♂♂, 6 ♀♀, the same labels as the holotype except dates: 2 ♀♀, 28.V.1994; 1 ♀, 12.VI.1994; 1 ♀, 3.VII.1994; 1 ♂, 27.V.1995; 1 ♂, 2 ♀♀, 3.VI.1995 (all A. MONASTYRSKY leg.).

Description

♂ (colour plate X, fig. 1). Forewing: length 25–26 mm (holotype 25 mm). Costal fold present. Upperside: groundcolour plain brown with darker veins and a slight yellowish tinge at base and along dorsum; a single rectangular white spot, rather variable in size, near the end of cell; an S-shaped row of 5 subequal white subapical spots in spaces 4 to 8 (that in space 7 being the smallest); 3 white discal spots in spaces 1b to 3, arranged in a vertical line, the spot in space 2 being narrow and oblique, two times longer than others; an additional dot (absent in the holotype) may be present in space 1b under the discal spot; all white markings hyaline. Underside: uniformly dull yellowish brown, slightly paler along dorsum, with all the hyaline spots present. Hindwing: upperside brown with darker veins; yellowish hairs and scaling in basal and discal areas; a row of 7 rather sharply defined dark postdiscal spots in spaces 1c to 6 (two in space 1c); a suffused dark spot also in space 7 and sometimes at the upper end of cell. Underside: groundcolour the same as of forewing, with darker veins; all the dark spots equally defined (including the spot at the end of cell). Cilia brown, paler on hindwing.

♀ (colour plate X, fig. 2). Forewing: length 26–28 mm. Upperside groundcolour darker brown than in male, due to more densely packed scales; all hyaline spots (including the additional dot in space 1b) present, subapical spots being the same as in male; discal spots in spaces 1b and 3 subequal and elongate along veins; the cell spot and the discal spot in space 2 greatly expanded, quadrangular, equal-sized and drawn close together. Hindwing and underside the same as in male. End of abdomen densely covered with grey hairs. General appearance of female resembles that of *C. omeia* LEECH, from which it differs in broader, less pointed wings and in greater number of subapical spots.
♂-genitalia (fig. 1, A–C). Tegumen broad, expanded laterally in the distal part (seen ventrally); uncus bifid, its branches of equal width throughout, slightly curved in the median part, rounded and gently striped at ends. Gnathos well developed, its branches joint ventrally, expanded in the basal part, projected and tapered distally. Valvae broad; costa with a long process, curved inwards-ventrally and slightly serrate at the end; cuiller bifid; the dorsal process of cuiller long, its distal end slightly expanded, curved inwards and covered with small teeth; the ventral process short and triangular. Aedeagus shorter than valva, broad, its proximal end gently curved.

Discussion
C. pauripunetata CHOU & GU, 1994 was described after a single male specimen from Hainan (CHOU et al., 1994). Although the original description is very poor and no drawing of genitalia is given, there seems to be little doubt in its conspecificity with the new taxon due to peculiar wing pattern, very different from all other species of the genus. At the same time, judging from the original paper, the Vietnamese form seems to differ from the nominate subspecies in larger size, paler groundcolour and number of subapical spots on forewing and dark spots on hindwing (4 and 6 in the nominate subspecies, respectively). However, more material from Hainan (especially females) and study of genitalia of the nominate form will be necessary to make the final conclusion about the relations of both taxa in question. This species clearly belongs to the *C. lidderdali* (ELWES, 1888)-*omeia* (LEECH, 1894)-group of the genus, being intermediate in some respects of external features. Male genitalia are most similar to *C. lidderdali* ELWES.

***Parasovia* gen. nov.**

Type: *Halpe perbella* HERING, 1918, Mitt. Zool. Mus. Berlin **9**(1): 56, Figs. 7, 7a.

Diagnosis
External characters (colour plate X, figs. 3, 4; fig. 11D).
Antennae slightly longer than 1/2 costa. Palpi more or less porrect; 2nd segment broad and flattened. Forewing: costa straight; dorsum slightly longer than termen; termen straight from vein 1 to vein 4, then convex to apex. Cell about 2/3 length of costa, its upper end produced; vein 5 straight. Hindwing: relatively broad, costa slightly shorter than dorsum; outer margin evenly rounded from base to vein 4, obtusely angled between veins 4 and 3, then slightly concave to tornus. Cell about 1/2 wing; origin of vein 2 nearer to the base than to the end of cell.

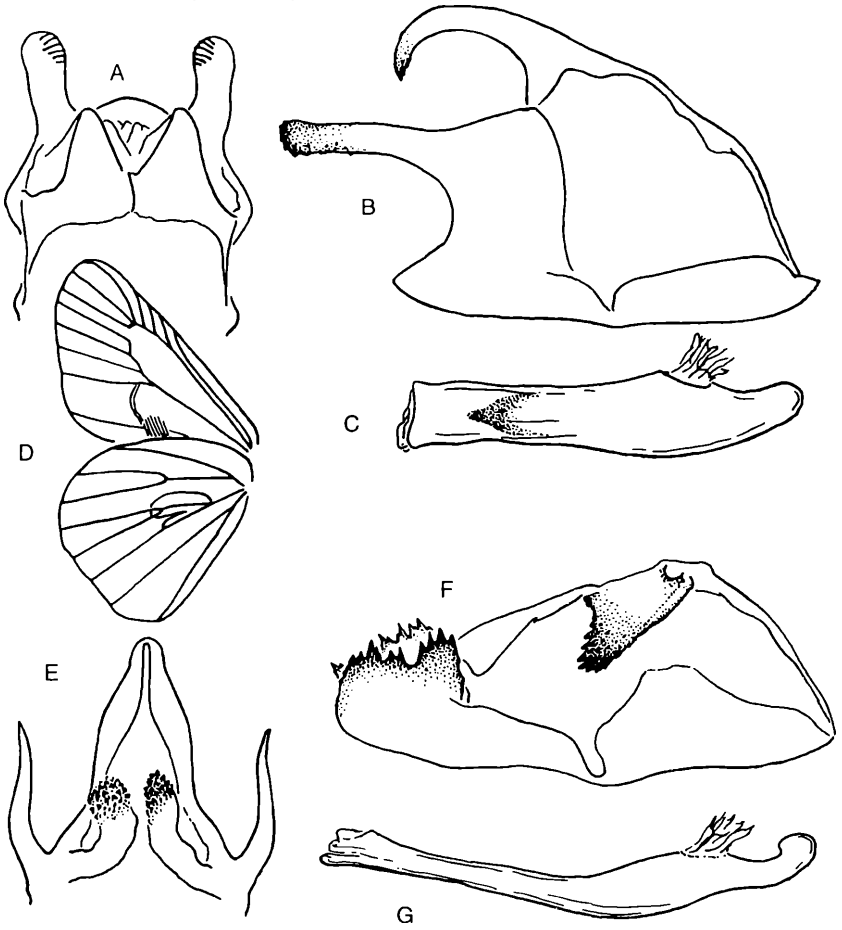

Fig. 1: Male genitalia and wing venation
A–C: *Capila pauripunetata tamdaoensis* subspec. nov., male genitalia. A – uncus and gnathos (ventral view); B – left clasp (from inside); C – aedeagus.
D: *Parasovia perbella* (HERING, 1918), wing venation.
E–G: *P. perbella*, male genitalia. E – uncus and gnathos (ventral view); F – left clasp (from inside); G – aedeagus.

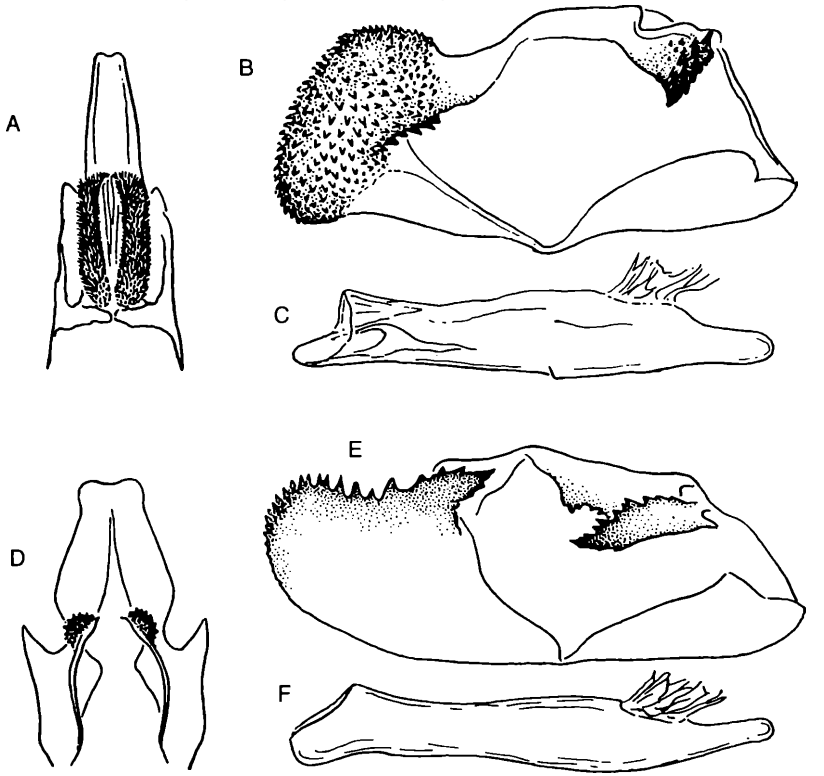

Fig. 2: male genitalia
A–C: *Sovia eminens* spec. nov., male genitalia. A – uncus and gnathos (ventral view); B – left clasp (from inside); C – aedeagus.
D–F: *Thoressa monastyrskyi* spec. nov., male genitalia. D – uncus and gnathos (ventral view); E – left clasp (from inside); F – aedeagus.

Secondary sexual characters
Forewing: a thin and oblique *Halpe*-type stigma from base of vein 2 to the median part of vein 1, placed however nearer to termen than to base of the wing; a hair-tuft at mid-dorsum on the underside. Hindwing: a patch of densely packed androconial scales in the lower part of the cell, covering also bases of spaces 3 and 2 and deeply divided in the latter.

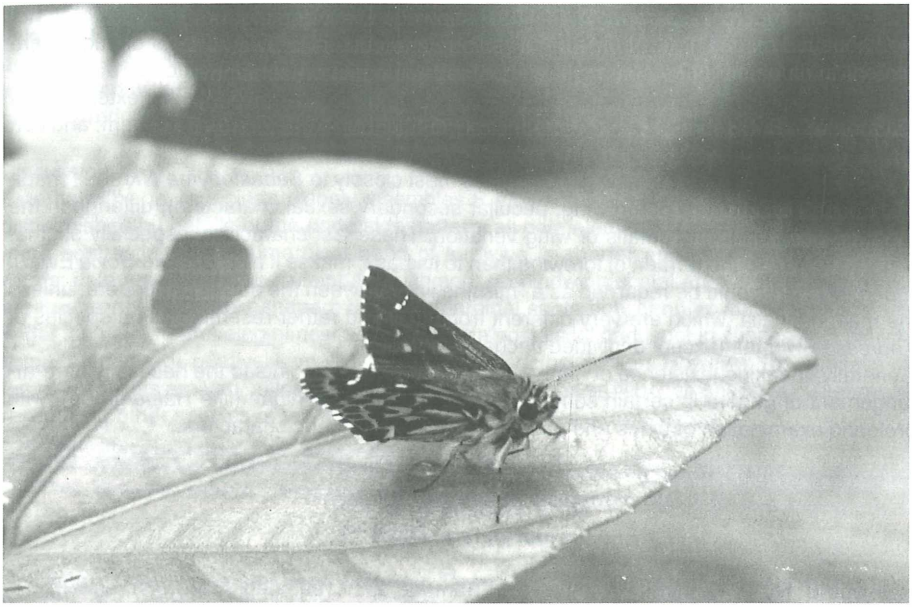

Fig. 3: *Parasovia perbella* (HERING, 1918) in the Che Ba Ling Nature Reserve (Guangdong Province, China, 2.VI.1996. GEORGE WALTHEW fot.

♂ genitalia (fig. 1, E–G): tegumen broad, with long and slender side processes; uncus undivided, tapered from the middle to the rounded end; gnathos with two separate branches, slightly expanded at ends and covered with fine teeth; valva with a well developed dentate footstalk.
Includes the single species *P. perbella* HERING, **comb. nov.**

Material examined
1 ♂, N. Vietnam, Prov. Vinh Phu, Tamdao, 15.V.1994 (leg. A. MONASTYRSKY).
Apart from the type-specimen, this is the only specimen known to me, but quite recently I received photographs of this species in nature (fig. 3) from Mr. GEORGE WALTHEW (University of Hong Kong), who encountered an unfamiliar skipper in Che Ba Ling Nature reserve (Guangdong province, China) and kindly informed me that it was not uncommon in the forested hills of the area (WALTHEW, personal communication).

Discussion
P. perbella was described from a single male specimen from S. China (Tsha-jiu-san, May 1911) (HERING, 1918) and was later placed by EVANS (1949), who had never seen it, in the genus *Onryza*, obviously due to seeming similarity of wing pattern and secondary sexual

characters to the representatives of this genus. The presence of stigma on forewing was not reflected in the original description (otherwise very detailed); however, signs of stigma are clearly seen in the photographs accompanying the original text. Examination of a real specimen of this species shows that its morphology does not correspond to a full extent to any of the known genera of *Halpe*-group, combining characters of at least three of them, and can be described best by establishing a new genus.

By external morphology the new genus stands most closely to *Sebastonyma* WATSON (shape of wings, straight vein 5 of forewing, peculiar secondary sexual characters), differing in the presence of stigma and details of wing venation. These last characters, especially stigma, situated nearer to the termen of forewing than to its base, makes it also allied to *Sovia* EVANS. *P. perbella* HER. could be regarded as a "missing link" between the above two genera, unless the male genitalia, which are very different from both and rather resemble some species of *Thoressa* SWINHOE (except undivided uncus).

Generally speaking, existence of "intermediate" taxa like this points to the necessity of re-arrangement of genera in certain complicated groups of Hesperiidae (like *Halpe*-group), with profound examination of types and precise definition of generic characters.

Sovia ***eminens*** **spec. nov.**
(colour plate X, figs. 5, 6)

Holotype ♂: North Vietnam, Prov. Vinh Phu, Tamdao, 27.V.1995 (leg. A. MONASTYRSKY).

Description

Forewing: length 15 mm. Upperside: groundcolour dark brown; three minute white subapical spots in spaces 6 to 8, that in space 6 being the largest and slightly displaced towards termen; two cell spots, the lower being slightly larger than the upper one; two spots of subequal size in spaces 2 and 3 (all spots hyaline); traces of pale colour (marked by few scales) also in spaces 4 and 5. Stigma broad and dark, placed slightly nearer termen than base of wing. Cilia brown (chequered paler brown). Underside: groundcolour the same as of the upperside but slightly paler; all hyaline spots present; a row of pale spots forming a submarginal band outside the discal hyaline spots from costa to space 3, this band being strongly elbowed towards termen in space 5 and connected by whitened veins with whitish marginal line; a diffuse pale area in space 1b under the discal spot in space 2. Cilia basally brown, outwardly chequered by whitish.

Hindwing: upperside groundcolour the same as of forewing; unmarked except for slightly paler discal patches along veins in the basal part of spaces 3 to 6. Cilia chequered dark and pale brown. Underside: groundcolour as dark as on the upperside; costal area (space 8) plain brown with few pale scales; basal area of the wing chequered with whitish stripes and spots between veins; in the discal area small white spots in spaces 2, 3, 6, 7, a white dot in space 1c and a large spot of groundcolour in spaces 4–5 instead; a row of whitish submarginal spots in spaces 1c–7 forming a narrow band which is roughly parallel to the outer edge of the wing; veins whitened in the outer half, conjoined with submarginal spots and connected with whitish marginal line. Cilia brown, outwardly chequered by whitish.

♂ genitalia (fig. 2, A–C). Tegumen relatively narrow, its latero-distal sides (seen ventrally) produced forming angled shoulders; uncus twice narrower than tegumen, slightly tapered

towards the distal end which is bluntly cut and slightly excavate apically. Gnathos well developed, with two elongate branches covered with small spines. Valvae broad, slightly tapered after the middle, with a spined footstalk; cuiller expanded, rounded dorsally and ventrally and covered with small teeth throughout. Aedeagus shorter than valva, broad, its ventro-distal end produced.

Discussion
Externally the new species strikingly resembles *S. albipectus* (DE NICEVILLE, 1891) but can be distinguished by details of the underside pattern: all pale elements are of whiter colour and more contrasting; the submarginal band of forewing is shorter and strongly elbowed outwards; pale area in space 1b faint and diffused; on hindwing costal area is dark and basal area pattern less sharply shaped; dark submarginal spots between the whitened veins are larger, some of them being almost as large as the postdiscal dark spot in spaces 4–5 (which is, on the contrary, relatively smaller than in *S. albipectus* DE NIC.). However, the genitalia of the new species are very different from that of *S. albipectus* DE NIC., the shape of cuiller more resembling other species of the genus.

Thoressa ***monastyrskyi*** **spec. nov.**
(colour plate X, figs. 7, 8)

Holotype ♂: North Vietnam, Prov. Vinh Phu, Tamdao, 12.VI.1994 (leg. A. MONASTYRSKY).
Paratypes: 12 ♂♂, 1 ♀: 2 ♂♂, the same labels and dates as the holotype; 2 ♂♂, id., 18.VI. 1994; 1 ♂, id., 28.V.1995; 1 ♂, id., 2.VI.1995; 1 ♂, id., 4.VI.1995; 2 ♂♂, 1 ♀, id., 24.VI.1995; 1 ♂, id., 1.VII.1995 (all A. MONASTYRSKY leg); 2 ♂♂, N. Vietnam, Prov. Nghe An, Bu Huong, 1995 (collected by the Frontier organization).

Description
Forewing: length 17–19 mm, 17 mm (holotype 19 mm). Upperside: groundcolour dark brown with greenish-yellow superscaling along costa, dorsum and between veins in the basal part of the wing (fresh specimens); two sub-equal pale subapical spots in spaces 6 and 7, in 6 male specimens also a small dot in space 8; a single 8–shaped spot across cell; two discal spots in spaces 2 and 3, the lower being produced basad; all spots hyaline, yellowish in fresh individuals. In 4 male and 1 female specimens there is also a faint yellow non-hyaline spot in the lower part of space 1b. Underside: groundcolour the same as of the upperside; costa and apical third of the wing broadly ochreous yellow, the area of this colour not reaching tornus; marginal line dark; all hyaline spots the same as on the upperside, yelowish and outwardly followed by spots of groundcolour; two faint dots of groundcolour also in spaces 4 and 5; a diffuse pale yellow area in the outer half of space 1b. Cilia brown.
Hindwing: upperside groundcolour the same as of forewing, with greenish-yellow hairs in the basal part; a rather large and sharply defined yellow discal patch outside cell in spaces 4–5 and a smaller one in space 2; in some specimens traces of yellow also at base of space 3. Underside: groundcolour ochreous yellow, slightly paler in the discal area, with obscure traces of brownish colour in spaces 1b, 1c and 8 and also between veins in the submarginal area; a row of very dark and sharply defined small postdiscal spots in spaces 1c to 7; a dark dot also at base of space 7; marginal line dark brown. Hindwing underside may be much

darker and more patchy in worn specimens due to reduction of ochreous yellow superscaling. Cilia pale yellow.
The single female differs from males in having forewing hyaline spots pure white on both sides, the spot in space 8 better developed and the hindwing yellow discal spots smaller and diffused.

♂ genitalia (fig. 2, D–F). Tegumen broad, its lateral sides (seen ventrally) obtusely angled in the proximal part, in the distal part produced and sharply pointed; uncus almost twice narrower at base than tegumen, expanded rather strongly in the basal half and then tapered evenly to a broad, slightly expanded and slightly excavate end. Gnathos small, much narrower than uncus (seen ventrally), its distal ends spoon-like expanded and finely spined. Valvae elongate (the left and right ones symmetrical), with a heavily sclerotized serrate footstalk; cuiller elongate, outwardly rounded and finely dentate, dorsally slightly concave and covered with larger teeth, the dorso-proximal end of cuiller forming the largest tooth directed basad. Aedeagus slightly shorter than valva, broad, its proximal end curved dorsally; distal end expanded, its ventral side produced and slightly curved ventrally.

Discussion
The new species belongs to the *decorata* (MOORE, 1881)-*honorei* (DE NICEVILLE, 1887)-*masoni* (MOORE, 1878)-group being most similar to the latter species. It can be distinguished, however, by the following external features: larger size (forewing length of *T. masoni* MOORE 15–16 mm); darker brown groundcolour of the upperside; absence of two small but sharply defined yellow spots in space 1b which are characteristic of *T. masoni* MOORE and to which correspond a broad and sharp in shape pale area on the underside. In the male genitalia the main distinguishing features of the new species are uncus, tapered distally, and more elongate cuiller, dorsally concave.

Thoressa submacula ***rubella*** **subspec. nov.**
(Colour plate X, figs. 9, 10)

Holotype ♂: N. Vietnam, 20° 50' N, 104° 50' E, 40 km SE. Moc-Chau, 1400 m, 7.–15.IV.1995, Urwald (leg. SINJAEV & einh. Sammler [and local collector]), in the collection of Dr. V. K. TUZOV, Moscow.

Description
Forewing: length 18 mm. Upperside like in the nominate subspecies but differs in lacking subapical white dot in space 8. Underside: groundcolour almost uniformly ochreous brown, except dark basal area; all usual hyaline spots present; a pale non-hyaline subapical dot in space 8 and a sharply defined pale longitudinal triangular spot at the middle of space 1b; traces of pale colour in the submarginal area.
Hindwing: upperside differs from the nominate subspecies in lacking the white discal spot in space 6. Underside: groundcolour like that of forewing, uniformly ochreous brown, unmarked except two small hyaline discal spots in spaces 2 and 3, two white non-hyaline spots in spaces 6 and 7 and a small white triangular spot at base of space 7; diffused traces of paler colour in basal and submarginal areas.

♂ genitalia. These seem to be exactly as in the nominate subspecies.

Discussion

The main difference of the new subspecies from typical *T. submacula* (LEECH, 1890) is the reduction of whitish and yellow superscaling and white basal and submarginal pattern of the underside, making it look entirely like a different species.

Describing a new taxon on the base of a single specimen, one can never be sure that he is not dealing with individual or seasonal variation, or an aberration. Though the specimen does not seem aberrant, further material will be needed to clear up the status of this remarkable form, as typical submacula is known from Tonkin and adjacent areas of China.

Acknowledgements

I wish to express my deepest gratitude to all the persons and organizations who placed this valuable material at my disposal: Dr. A. L. MONASTYRSKY (Russian-Vietnam Tropical Centre, Hanoi), Frontier organization (London) (especially to Ms. C. MUIR, for giving me all the Hesperiidae collected in Vietnam by Frontier volunteers for identification), Dr. V. K. TUZOV (Moscow). My special thanks are to Mr. P. R. ACKERY (Natural History Museum, London) for giving me the opportunity of studying the collections of the British Museum and for loan of specimens for comparison.

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Explanation of colour plate X (p. 685):

1	2
3	4
5	6
7	8
9	10

Fig. 1: *Capila pauripunetata tamdaoensis* subspec. nov., holotype.
N. Vietnam, Tamdao Mts., 3.–4.V.1991, A. MONASTYRSKY leg., upperside.
Fig. 2: *Capila pauripunetata tamdaoensis* subspec. nov., paratype.
N. Vietnam, Tamdao Mts., 28.V.1994., A. MONASTYRSKY leg., upperside.
Fig. 3: *Parasovia perbella* (HERING, 1918).
N. Vietnam, Tamdao Mts., 15.V.1994. A. MONASTYRSKY leg., upperside.
Fig. 4: id., underside.
Fig. 5: *Sovia eminens* spec. nov., holotype.
N. Vietnam, Tamdao Mts., 27.V.1995, A. MONASTYRSKY leg., upperside.
Fig. 6: id., underside.
Fig. 7: *Thoressa monastyrskyi* spec. nov., paratype.
N. Vietnam, Tamdao Mts., 28.V.1995, A. MONASTYRSKY leg., upperside.
Fig. 8: id., underside.
Fig. 9: *Thoressa submacula rubella* subspec. nov., holotype.
N. Vietnam, 40 km SE. Moc-Chau, 1400 m, 7.–15.IV.1995, leg. SINJAEV & einh. Sammler [and local collector], upperside.
Fig. 10: id., underside.

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Colour plate X

DEVYATKIN, A. L.: New Hesperiidae from North Vietnam, with the description of a new genus (Lepidoptera, Rhopalocera). – Atalanta **27**: 595–604.

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N. Vietnam, Tamdao Mts., 3.–4.V.1991, A. MONASTYRSKY leg., upperside.
Fig. 2: *Capila pauripunetata tamdaoensis* subspec. nov., paratype.
N. Vietnam, Tamdao Mts., 28.V.1994., A. MONASTYRSKY leg., upperside.
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Fig. 10: id., underside.

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Colour plate X