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The Chinese *Pseudocoladenia* skippers

(Lepidoptera, Hesperiidae)

by

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Abstract: All taxa of the genus *Pseudocoladenia* from the Chinese continent are reviewed. Three new stati are given: *Pseudocoladenia dea* (stat. nov.), *P. festa* (stat. nov.) and *P. fatua* (stat. nov.), and *decora* is transferred from *P. dan* to *P. dea*.

Introduction

As discussed in its original description (Shirozu & Saigusa, 1962: 27), the genus *Pseudocoladenia* (type species: *Coladenia dan fabia* Evans, 1949) shows remarkable difference in male genital structures at generic level from the genus *Coladenia* Moore, 1881.

Evans (1949) placed all the previously known taxa of *Pseudocoladenia* into a single species, *P. dan* (Fabricius, 1787) and all the later students followed this statement. After Evans' work only one new taxon was added by Shimonoya & Murayama (1976) as *P. nankoshana* from Taiwan, which however, according to its external features and male genitalia, is actually a species of *Coladenia* and allied to *Coladenia hoenei* Evans, 1939 from Zhejiang, not a member of *Pseudocoladenia*. The rather similarity in male genitalia between these taxa of *Pseudocoladenia* seems to support Evans' statement, but some of the differences in genitalia structures can not be simply explained by individual or geographical variation within a single species. More suspicion was raised from the collecting data of *festa, fatua, fabia* and *dea* in B.M. (N.H.) listed by Evans (1949), which clearly show the sympatric facts of *festa, fatua* and *fabia* in Sikkim, Bhutan, Assam and Burma, and of *festa* and *dea* in Sichuan. It should be noted that Evans (1949) clearly pointed out the difference in the clasp of male genitalia between *festa, fatua, fatih* and *dan*, though such difference is slight. Further more, I observed both *decora* and *fabia* flying together in Jiuhuashan, Anhui, which however showed constant remarkable difference from each other not only in external features but also in both male and female genitalia. Thus at least *decora* is not conspecific with *P. dan* in the case that *fabia* should be treated as a good subspecies of *P. dan*. In male genitalia *decora* is only similar to *dea* in having the clasp oblong in shape with a well-defined posterior angle and a longer apical spine. Although there is remarkable difference in wing-pattern and other external features between *decora* and *dea*, an examination of female genitalia strongly suggests them to be conspecific. Therefore *dea* should be regarded as an independent species and *decora* as its subspecies, viz. *P. dea* (Leech, 1894 – TL: Pu Tsu Fong, Sichuan) **stat. nov.** and *P. dea decora* (Evans, 1939 – TL: Chejiang).

It is a pity that the female specimens of other taxa are not available to me at present, however a comparison of male genitalia (as shown in the table below) clearly shows the parallel differences between *P. dan fabia, P. dea* (including *decora*), *P. festa* (**stat. nov.**) and *P. fatua* (**stat. nov.**). Because both *festa* and *fatua* have considerable genital difference from *fatih* and all the true subspecies of *dan*, and because *festa, fatua* and *P. dan fabia* are sympatric in nature, I conclude that both *festa* and *fatua* deserve full species rank, viz. *P. festa* (Evans, 1949 – TL: Naga Hills, Assam) and *P. fatua* (Evans, 1949 – TL: Sikkim), and strongly suspect that *P. "dan" fatih* (Kollar, 1844) deserves full species rank as well, leaving the remaining SE. Asian taxa (including *dan, fabia, dhyana, sumatrana, fulvescens* and *eacus*) and *fabia* as good subspecies of *P. dan* temporarily. The relationships between *fatih, fabia* and all SE. Asian taxa of *dan* need further study in future.

The very little known *sadakoe* (Sonan & Miltono, 1936), originally described from one specimen from Taiwan as a species of *Coladenia* and thereafter suspected or treated as a synonym of *Coladenia agni igna* Semper, 1892 by Evans (1949) and Shirozu (1960), was recently reconsidered as a good subspecies of *Pseudocoladenia dan* by Shimonoya & Murayama (1976) and later authors (Chiba, Hsu &

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SHIROZU, 1992). This taxon is not treated in this paper due to the lack of material. However, judging from the information in literature, this taxon is closely related to *fabia* and probably a good subspecies of *P. dan*.

Secondary sexual characters within the genus

Only the ♀♀ of *dea, decora* and *fabia* are available to me and examined. However, all the species of *Pseudocoladenia* most probably have the similar secondary sexual characters: the ♀♀ have no recumbent hair pencil on hind-tibiae, and have both forewing and hindwing remarkably broader than in ♂♂, forewing pale spots more whitish and more separated and underside hindwing yellowish markings smaller and less than in ♂♂. For *fabia*, the outer ciliae on both sides of wings are much more clearly chequered with whitish and brown in ♀♀ than in ♂♂. But for both *decora* and *dea*, the outer ciliae of ♀♀ are clearly chequered in same degree as in ♂♂.

Female genitalia

A comparison of female genitalia between *P. dea* (4 ♀♀ of ssp. *decora* (fig. 8) from Anhui and Fujian and 3 ♀♀ of ssp. *dea* (fig. 9) from Sichuan dissected and no constant difference found between the two subspecies) and *P. dan fabia* (3 ♀♀ from Yunnan and Hainan (IZAS) dissected) (fig. 7) is presented here to show the specific difference in female genitalia within the genus. In both *P. dan fabia* and *P. dea*, the apophysis posterioris is almost twice as long as the 8th tergum; the 8th tergum is simple, without apophysis anterioris and distinctly separated from the 8th sternum by a membranous region, the 8th sternum is specialized into a ventral genital plate and a pair of free lateral plates expanding dorsally, the genital plate has the ostium very near at its anterior margin and its posterior margin is protruded, the lamella anterioris is not developed thus the genital plate can be called as lamella postvaginalis, the 7th sternum is specialized into a somewhat ellipsoidal lamella (can be called as lodix) ventrally covering the lamella postvaginalis and posteriorly connected to it by the narrow intersegmental membrane, the ductus seminalis is attached dorsally to the ductus bursae and very near the ostium, the caudal portion of the ductus bursae between ostium and the attachment point of ductus seminalis, which can be called as the antrum, is sclerotized and very short, the corpus bursae is somewhat guttiform, without signum. The difference between *P. dan fabia* and *P. dea* is mainly in the entrance of the ostium, which is only slightly narrower than the lamella postvaginalis in *P. dan fabia* but much narrower than the lamella postvaginalis in *P. dea*, and in the size of the lamella postvaginalis, which is larger and wider in *P. dea* than in *P. dan fabia*.

Systematic accounts of Chinese taxa

A study of both external features and male genitalia proves that the useful specific diagnostic characters are confined to 1) relative length of the costal spot in space 11 to cell-spot on the upperside of the forewing, 2) lateral processes of tegumen in male genitalia, 3) shape of clasp and apical process of cuiller, and 4) tip of dorsal wall of aedeagus. The ground colour of wings, the degree of connection between forewing spot in space 3 and those in 2 and cell, the ciliae and the definition of blackish spots on the ground are not constant diagnostic characters for specific classification, however can be used for subspecific classification.
The following taxa on the Chinese territory have been recognized.

1) *Pseudocoladenia dan fabia* (col. pl. XIII, figs. 1, 2, 8)
Coladenia dan fabia EVANS, 1949 (type locality: Margherita, Assam)

Material examined: 5 ♂♂, 1 ♀, Hekou, SE Yunnan; 2 ♂♂, 2 ♀♀, Xi-shuang-ban-na, S. Yunnan; 3 ♂♂, 2 ♀♀ (IZAS), Hainan; 2 ♂♂, Jiu-hua-shan, Anhui.

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Specific characters: forewing costal spot in space 11 shorter than half the length of the widest portion of cell spot; lateral process of tegumen smaller and gently curved upwards; clasp oblique without posterior angle, with the apical process of cuiller very short; tip of dorsal wall of aedeagus a little beyond lateral walls.
Subspecific characters: different from sspp. *sumatrana, fulvescens* and *eacus* in having forewing spot in space 2 not extending before the origin of vein 3, forewing spot in 3 only just touching spot in 2, not reaching base of space 3 and well separated from cell-spot; different from ssp. *dan* in having cell spot larger, less excavate and wings broader; different from ssp. *dhyana* in larger size and larger cell spot.

Distribution: NE. India (Assam), Sikkim, Bhutan, Burma, Thailand, Indo-China, S. China (Anhui, Fujian, Guangdong, Guangxi, Hainan, Yunnan).

2) *Pseudocoladenia dea dea* (**stat. nov.**) (col. pl. XIII, figs. 3, 9)
Coladenia dan var. *dea* Leech, 1894 (type locality: Pu Tsu Fong, Sichuan)

Material examined: 1 ♂, Qing-cheng-shan, Sichuan; 4 ♂♂, 3 ♀♀ (IZAS), O-mei-shan, Sichuan.

Specific characters: forewing costal spot in space 11 longer than or at least equal to half the length of the widest portion of cell spot; lateral process of tegumen larger and gently curved upwards; clasp oblong, with good posterior angle, and with the apical process of cuiller very long; tip of dorsal wall of aedeagus extending beyond lateral walls for a longer distance.
Subspecific characters: different from ssp. *decora* in larger size, ground colour more reddish and less yellowish, outer ciliae of both wings less clearly chequered, central spots on forewing completely conjoined, clasp with posterior angle more angled, and tip of dorsal wall of aedeagus shorter.

Distribution: SW. China (Sichuan only).

3) *Pseudocoladenia dea decora* (col. pl. XIII, figs. 4, 10)
Coladenia dan decora Evans, 1939 (type locality: Zhejiang)

Material examined: 6 ♂♂, 3 ♀♀, Jiu-hua-shan and Gu-niu-jiang, Anhui; 1 ♀, Hubei.

Specific characters: forewing costal spot in space 11 longer than or at least equal to half the length of the widest portion of cell spot; lateral process of tegumen larger and gently curved upwards; clasp oblong, with good posterior angle, and with the apical process of cuiller very long; tip of dorsal wall of aedeagus extending beyond lateral walls for a longer distance.
Subspecific characters: different from ssp. *dea* in smaller size, ground colour more yellowish and less reddish, outer ciliae of both wings more clearly chequered, central spots on forewing separated, clasp with posterior angle more rounded, and tip of dorsal wall of aedeagus longer.

Distribution: S. China (Zhejiang, Anhui, Hubei).

4) *Pseudocoladenia festa* (**stat. nov.**) (col. pl. XIII, fig. 7, 11, 12)
Coladenia dan festa Evans, 1949 (type locality: Kirbari, Naga Hills, Assam)

Material examined: holotype ♂ (BMNH), Kirbari, Assam; 1 ♂, Nujiang valley, NW. Yunnan.

Specific characters: forewing costal spot in space 11 longer than or at least equal to half the length of the widest portion of cell spot; lateral process of tegumen larger and abruptly curved upwards; clasp oblique, without posterior angle, and with the apical process of cuiller rather long; tip of dorsal wall of aedeagus extending well beyond lateral walls.
Remarks: The holotype of this taxon has been examined through the photos of specimens and genitalia, the genitalia are kept in dry condition as pieces on one of the labels and only the clasp is recogniz-

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able. The specimen from Yunnan examined agrees exactly with the holotype in both wing features and male clasp, thus has been identified as a true *festa*.

Distribution: Assam, Sikkim, Bhutan, Burma, SW. China (Yunnan, Sichuan).

5) *Pseudocoladenia fatua* (**stat. nov.**) (col. pl. XIII, figs. 5, 6, 13, 14)
Coladenia dan fatua EVANS, 1949 (type locality: Gangtok, Sikkim)

Material examined: holotype ♂ (BMNH), Sikkim; 3 ♂♂, Metok, SE. Tibet.

Specific characters: no white dots in space 1b on upperside of forewing; forewing costal spot in space 11 shorter than half the length of the widest portion of cell spot; lateral process of tegumen smaller and gently curved upwards; clasp oblique, without posterior angle, and with the apical process of cuiller rather short; tip of dorsal wall of aedeagus hardly extending beyond lateral walls.
Remarks: The holotype of this taxon has been examined through the photos of specimens and genitalia, the genitalia are kept in dry condition as pieces on one of the labels and only the clasp is recognizable. The specimens from SE. Tibet examined agree with the holotype in most of wing features and exactly in male clasp, thus have been identified as true *fatua*. The only difference between holotype and specimens from Tibet is the definition of blackish spots on the ground of wings, however such difference is often found in the individual variation of other taxa of *Pseudocoladenia*, such as in *P. dea dea* and *P. dan fabia*.

Distribution: Sikkim, Bhutan, Assam, Burma, SE. Tibet (Metok).

Comparative description of males of Chinese taxa

The following specimens of *Pseudocoladenia* taxa have been carefully examined: 1 ♂ of *P. festa* from Nujiang valley, NW. Yunnan, 5 ♂♂ from Hekou, SE. Yunnan, 2 ♂♂ from Xi-shuang-ban-na, S. Yunnan, 3 ♂♂ (IZAS) from Hainan and 2 ♂♂ from Jiu-hua-shan, Anhui of *P. dan fabia*; 6 ♂♂ of *P. dea decora* from Jiu-hua-shan and Gu-niu-jiang, Anhui; 1 ♂ from Qing-cheng-shan, Sichuan and 4 ♂♂ (IZAS) from O-mei-shan, Sichuan of *P. dea dea*; 3 ♂♂ (IZAS) of *P. fatua* from Metok, SE. Tibet.
It should be noted that most of the morphological differences shown below have no taxonomic value in specific classification, some of which may be used for subspecific separation. The useful characters in specific separation mainly exist in male and female genitalia.
The length of forewing as shown in the table below. Length of antennae (from base to the bending point of the club) nearly half as long as forewing in all these taxa. The following description of antennae is applicable to all these taxa: club gradually marked from shaft in thickness, bent to apiculus beyond its thickest part which is at least 3 times as thick as shaft, club and shaft densely clad with scales except nudum, club black above, below with basal half more yellowish and anterior half more blackish. Shaft above extensively blackish in *fatua, festa* and *dea*, narrowly black in *fabia*, mostly blackish but mixed sparsely with yellow scales in *decora*. Shaft below nearly all blackish, only sparsely and irregularly with yellow scales in *fatua, festa, dea* and *fabia*, but black at basal ⅓ and mostly yellowish at anterior ⅔ in *decora*. Shaft in inner lateral view, with basal ¼ yellow and anterior ¾ blackish mixed sparsely with yellow in *festa*, entirely yellow in *dea* and *fabia*, basically blackish and sparsely with yellow in *decora* and *fatua*. Nudum partly clad with black scales above and with yellow scales below in all taxa, 12 and brownish in *festa*, 13 and blackish in *dea*, 12–13 and brownish in *fabia*, 12 and brownish in *decora*, 12–13 and brownish or blackish in *fatua*. Eyes smooth and surrounded by festucine scales in all taxa, more extensively and densely in *festa, fatua, dea* and *decora*, narrowly and sparsely in *fabia*, size of eye apparently smaller in *fabia, fatua* and *decora* than in *dea* and *festa*. In all taxa, frons twice as wide as eye, clad with fuliginous-brown scales sometimes mixed with some yellow at vertex, and with two transverse tufts of tawny and black hairs, the posterior one connecting the bases of antennae, the anterior one just behind base of palpi. In all taxa, 2nd segment of palpus porrect, chiefly clad with black scales above and with festucine scales below; 3rd segment of palpus bent a little down

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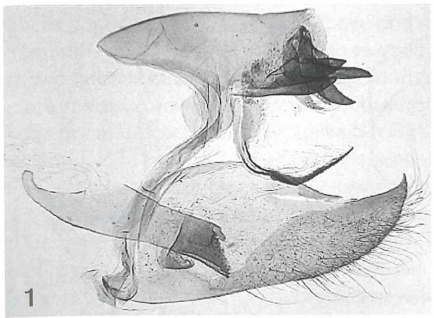

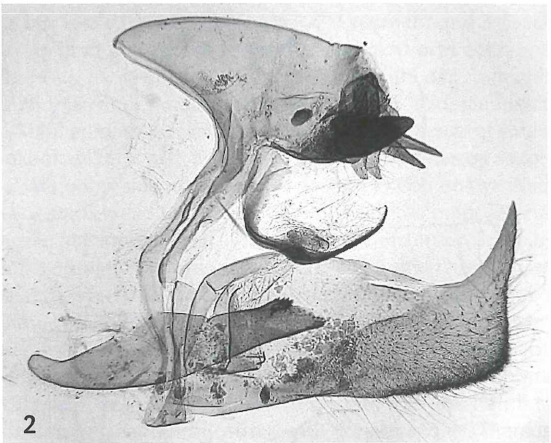

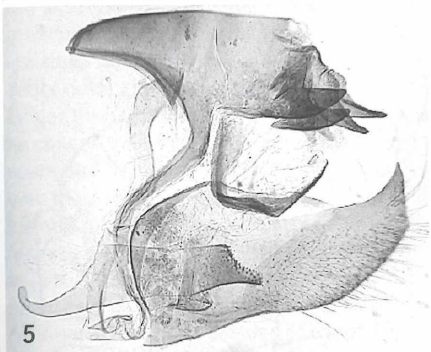

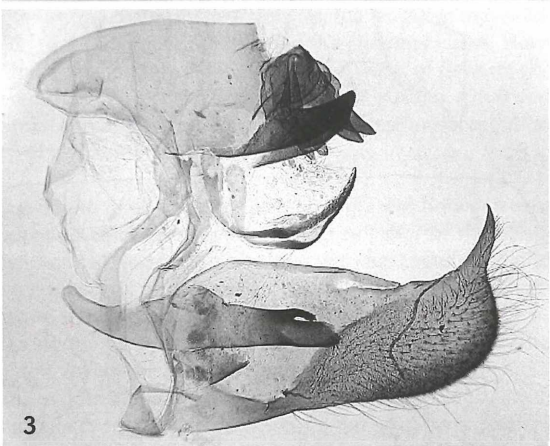

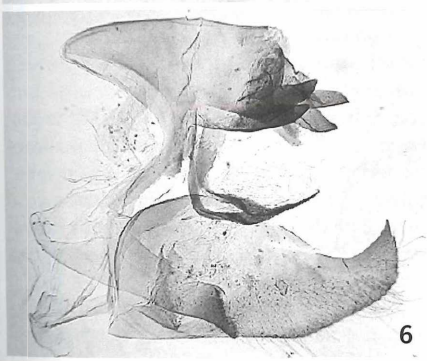

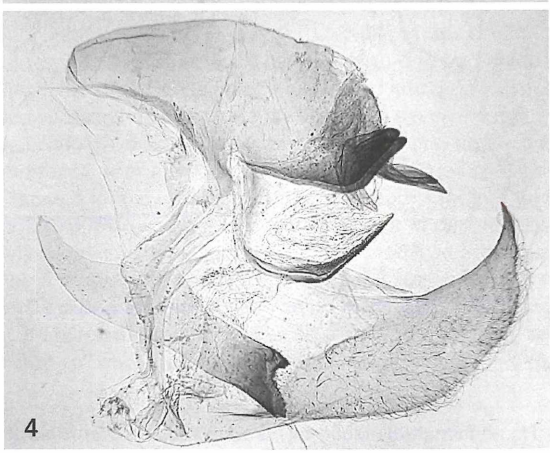

Fig. 1: Male genitalia of *Pseudocoladenia dan fabia* (Hekou, S. Yunnann, specimen illustrated) consisting of genital capsule in lateral view with left clasp removed. Fig. 2: Male genitalia of *Pseudocoladenia dea dea* (Qingchengshan, Sichuan, specimen illustrated) consisting of genital capsule in lateral view with left clasp removed. Fig. 3: Male genitalia of *Pseudocoladenia dea decora* (Jiuhuashan, Anhui, specimen illustrated) consisting of genital capsule in lateral view with left clasp removed. Fig. 4: Male genitalia of *Pseudocoladenia festa* (Gongshan, Yunnan, specimen illustrated) consisting of genital capsule in lateral view with left clasp removed. Fig. 5: Male genitalia of *Pseudocoladenia fatua* (Metok, SE. Tibet, specimen illustrated) consisting of genital capsule in lateral view with left clasp removed. Fig. 6: Male genitalia of *Pseudocoladenia fatua* (Metok, SE. Tibet, specimen illustrated) consisting of genital capsule in lateral view with left clasp removed.

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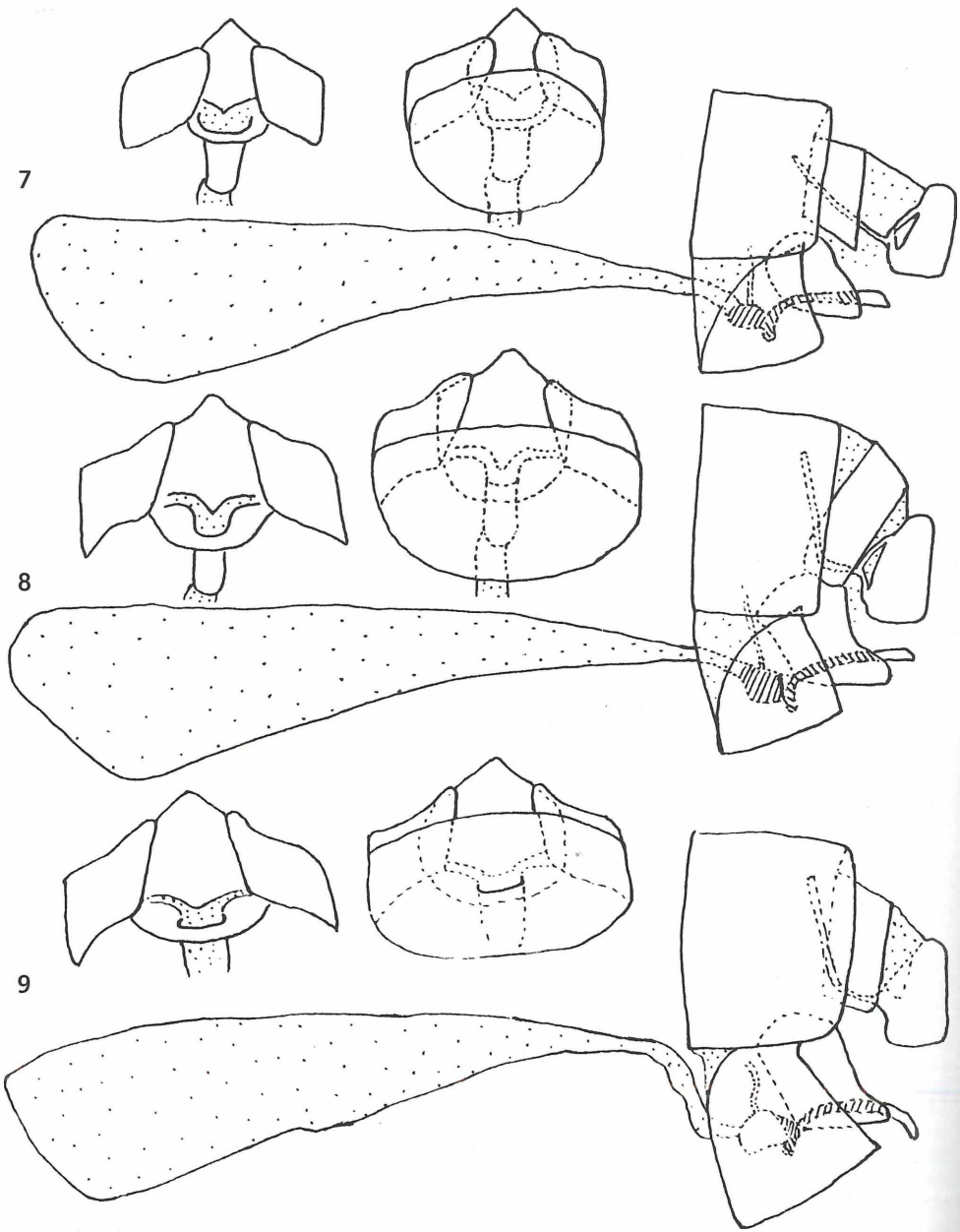

Fig. 7: Female genitalia of *Pseudocoladenia dan fabia* (Hekou, S. Yunnan, specimen illustrated on col. pl. XIII, fig. 8) consisting of complete genitalia in lateral view (at bottom of figure, composed of 7th tergum, 8th tergum, papilla analis, 7th sternum (lodix), 8th sternum (specialized into genital plates including a ventral plate and a pair of free lateral plates), ductus bursae, ductus seminalis and corpus bursae), of circum-ostium region in ventral view (at top left of figure, composed of genital plates, antrum and ostium), and of circum-ostium region covered by lodix in ventral view (at top center of figure).

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(more apparent in *fabia*), black above and more or less with yellowish below; 2nd segment and 3rd segment different in length between taxa as shown in the table below. Thorax densely clad with ochreous brown hairs above and below in *fatua* and *festa*, with more greenish hairs in *decora* and *dea*, but with more reddish brown hairs in *fabia*. Abdomen shorter than dorsum of hindwing in all taxa, clad with hairs like in thorax. In all taxa, fore-tibia with a tibial epiphysis as usual, mid-tibia with one pair of spurs as usual, hind-tibia with two pairs of spurs as usual, all tarsi with three rows of reddish spines as usual, fore-femur clad with black and yellow scales on its outer side, densely clad with yellowish hairs mixed with some black on its inner side, fore-tibia very densely clad with yellowish hairs on its inner lateral side, with all hairs somewhat uniform in length, not longer than half the length of femur or tibia, mid-femur clad with black and yellow scales on its outer side and sparsely with yellow short hairs on its inner side, mid-tibia clad with black and yellow scales on its outer side and sparsely with black and yellow short hairs on its inner lateral side, hind-femur and hind-tibia clad with black and yellow scales on their outer side, more with yellow scales on their inner side, hind-femur densely clad with black and yellow hairs on its inner side, with hairs not beyond the end of femur, hind-tibia clad with yellowish hairs on its outer side and with a recumbent hair tuft near base on its inner lateral side, with the hair tuft longer than tibia, all tarsi mostly clad with yellow scales, irregularly mixed with grayish scales. There is no conspicuous difference between all taxa in the shape of fore-tibial epiphysis, the length of mid-tibial spurs and hind-tibial spurs, the size of spines on fore-tarsi and mid-tarsi and the shape of claws. However there is remarkable difference between these taxa mainly in length and thickness of femora, tibiae and tarsi as shown in the table below. The recumbent hair tuft is more brownish in *fabia, fatua* and *festa* than in *dea* and *decora*. Spines on hind-tarsi are apparently smaller and shorter in *decora* than in *dea, festa* and *fabia*, but variable in *fatua*. All legs tending to be more yellowish in *decora* than in *festa, fatua, dea* and *fabia*.

All inner ciliae on both sides of wings fuliginous-brown in all taxa. Outer ciliae different between taxa as shown in the table below. Wing venation identical in all taxa, with forewing cell shorter than forewing dorsum, forewing vein 12 ending over end of cell, forewing upperside without costal fold, and hindwing vein 5 straight. Wing shape: forewing apparently broader with dorsum comparatively longer and apex less pointed in *dea* than in *festa, fatua, decora* and *fabia*, hindwing dorsum tending to be longer than costa in *festa, fatua* and *fabia*, but nearly as long as costa in *dea* and *decora*, hindwing tornus a little more produced in *festa* than in *dea, fatua, decora* and *fabia*. Upperside ground colour reddish brown in *dea, fatua, festa* and *fabia*, but yellowish brown in *decora*, extensively powdered with brown scales on a blackish ground. Forewing upperside: all taxa with a discal series of more or less yellowish sub-hyaline spots (two dots in space 1b except for *fatua*, a large spot in 2, a smaller spot in 3, two large spots conjoined at end of cell, usually united into one large spot, a smaller streak or dot in space 11) and with three subapical dots in spaces 6–8; such spots very large in *festa* and *dea*, a little smaller but still large in *decora* and *fatua*, small in *fabia*; cell spots completely united into a single spot in *dea, fatua* and *festa*, conjoined but a little separated at outer side in *fabia* and *decora*; spots in spaces 2 with its inner margin well before the origin of vein 3 for a distance in *fatua, dea* and *festa*, just at origin of vein 3 or near it in *decora* and *fabia*; spot in space 3 completely conjoined with cell spot and spot in 2 and reaching the base of space 3 in *dea* and *festa*, contacting both spot in 2 and cell spot in *fatua*, narrowly contacting spot in 2 and always separated from cell spot in *decora*, narrowly contacting spot in 2 and usually narrowly connected with (sometimes separated from) cell spot in *fabia*; a subbasal black spot present at basal ⅓ of space 1b in all taxa, such spot large and very distinct in *dea*, small but rather distinct in *fabia, fatua* and *decora*, very obscure in *festa*. Hindwing upperside: all taxa with a discal series of obscure blackish spots in spaces 1c–7 and an antediscal series of obscure blackish spots in space 1c, end of cell and space 7, such spots rather distinct in *dea,*

Fig. 8: Female genitalia of *Pseudocoladenia dea decora* (Jiuhuashan, Anhui, specimen illustrated on col. pl. XIII, fig. 10) consisting of complete genitalia in lateral view (bottom), of circum-ostium region in ventral view (top left), and of circum-ostium region covered by lodix in ventral view (top center).

Fig. 9: Female genitalia of *Pseudocoladenia dea dea* (Omeishan, Sichuan, specimen illustrated on col. pl. XIII, fig. 9) consisting of complete genitalia in lateral view (bottom), of circum-ostium region in ventral view (top left), and of circum-ostium region covered by lodix in ventral view (top center).

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fatua, fabia and *decora*, but very faint in *festa*. Underside ground colour dark brown in all taxa. Forewing underside: all markings similar to those on upperside in all taxa, the position of upperside subbasal black spot in space 1b bearing a pale spot, which is large and distinct in *dea*, small and distinct in *fabia, fatua* and *decora*, rather obscure in *festa*. Hindwing underside: all taxa with upperside discal and antediscal blackish spots repeated and have central area more or less clad with yellowish scales around these spots, such yellowish areas very clear yellow in *decora*, dull and somewhat brownish in *dea, fatua* and *fabia*, very dull and nearly indistinguishable from the marginal dark area in *festa*. Male genitalia. In all taxa, tegumen strongly projecting anteriorly, bearing a large flap-like process at its posterior margin and one pair of brachium-like lateral processes at its postero-lateral corners, the lateral processes thick, bent a little upwards and protecting the uncal processes like shields, uncus deeply bifurcate laterally, forming a pair of uncal processes, which are slender, tapering and afterwards diverging apically, with its upper branch longer than its lower branch and beyond the tip of lateral processes of tegumen; such the lateral processes of tegumen larger in *dea* and *festa* than in *decora, fatua* and *fabia*, nearly straight and only gently curved upward a little in *dea, decora, fatua* and *fabia*, but abruptly bent upwards very much in *festa*; such upper branch of uncal process apparently longer in *festa* than in all other taxa. In all taxa, the clasp simple, with cuiller pointed at apex and only a style of harpe present, without structures of footstalk and antistyle; such cuiller somewhat oblong in shape with posterior angle present and apex elongated to a spine in both *decora* and *dea*, but oblique and gently curved upwards to a sharply pointed apex without a posterior angle in *festa, fatua* and *fabia*; apical process of cuiller longer in *dea* and *decora*, still long in *festa*, remarkably shorter in *fatua*, nearly obsolescent as a point in *fabia*. Aedeagus with its dorsal wall extended a little beyond its lateral walls at tip in *fabia*, more beyond in *festa*, bears a rather long dorsal serrate process in *decora* and *dea*, not beyond lateral walls in *fatua*.

The main differences in external features of males and male genitalia (figs. 1–6) between these five taxa are shown in the following table.

name	*dan fabia*	*dea decora*	*dea dea*	*fatua*	*festa*
length of forewing	17.5–18 mm	18.5–19 mm	20–21 mm	15–18 mm	21 mm
Nudum	12–13, brownish	12, brownish	13, blackish	12–13, black or brownish	12, brownish
Size of eye	smaller	smaller	larger	smaller	larger
2nd segment of palpus	shorter	longer	longer	shorter	longer
3rd segment of palpus	shorter	longer	longer	shorter	longer
Color of hairs on thorax above	more reddish	more greenish	more greenish	ochreous brown	ochreous brown
Length of fore-femur	shorter	shorter	longer	variable	longer
Length of fore-tibia	shorter	shorter	longer	shorter or medium	longer
Length of fore-tarsi	shorter	longer	longer	shorter or medium	longer
Length of mid-femur	medium	medium	medium or shorter	medium or shorter	longer
Length of mid-tibia	medium	medium	medium or shorter	medium or shorter	longer
Length of mid-tarsi	shorter	longer	medium	shorter or medium	longer
Length of hind-femur	shorter	shorter	longer	shorter or medium	longer
Length of hind-tibia	shorter	shorter	longer	shorter or medium	longer

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name	*dan fabia*	*dea decora*	*dea dea*	*fatua*	*festa*
Length of hind-tarsi	shorter	medium	longer	shorter or medium	longer
Spines on hind-tarsi	larger	smaller	larger	variable	larger
Thickness of foreleg	thinner	thicker	thinner	thinner	thicker
Thickness of midleg	thinner	thinner	thinner	thinner	thicker
Upperside ground colour	reddish brown	yellow-brown	reddish brown	reddish brown	reddish brown
Outer ciliae on both sides of forewing	obscurely chequered	clearly chequered	obscurely chequered	obscurely chequered	obscurely chequered
Outer ciliae on both sides of hindwing	obscurely chequered	clearly chequered	obscurely chequered	obscurely chequered	clearly chequered
Central spots on forewing	separated	separated	conjoined completely	connected	conjoined completely
Costal spot of forewing in space 11	shorter	longer	longer	shorter	longer
Definition of blackish spots on the ground	faint	very clear	clear	clear or faint	very faint
Lateral processes of tegumen	smaller, gently curved upwards	larger, gently curved upwards	larger, gently curved upwards	smaller, gently curved upwards	larger, abruptly bent upwards
Upper branch of uncal process	medium	shorter	medium	shorter	longer
Shape of clasp	oblique, without posterior angle	oblong, with posterior angle	oblong, with posterior angle	oblique, without posterior angle	oblique, without posterior angle
Apical process of cuiller	shortest	longest	longest	shorter	longer
Tip of dorsal wall of aedeagus	a little beyond lateral walls	with a long process	with a long process	not beyond lateral walls	more beyond lateral walls

Field observations

There is no recorded information concerning adult behavior and early stages of any species within this genus. The habitat of *P. festa* in Nujiang valley is the overhanging cliff along the river within the semi-evergreen broad-leaf forest at an altitude of 1500–1600 m. It likes to stop and drink on the bare rocky wall, skipping from one place to another, but its alertness made it a difficult butterfly to catch. After being disturbed, it flew away, but came back again after some minutes. The adults of *P. dan fabia, P. dea dea* and *P. dea decora* are often found to perch on shrubs with wings spread at the roadside of forests.

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Colour plate XIII

HUANG, H. & XUE, Y.-P.: The Chinese *Pseudocoladenia* skippers (Lepidoptera, Hesperiidae). – Neue Entomologische Nachrichten **57**: 161–170.

Fig. 1: *Pseudocoladenia dan fabia* ♂ (LF 18 mm), Jiuhuashan, Anhui, August 2001. upperside (left half) and underside (right half).
Fig. 2: *Pseudocoladenia dan fabia* ♂ (LF 17.5 mm), Hekou, S.Yunnan, August 1992. upperside (left half) and underside (right half).
Fig. 3: *Pseudocoladenia dea dea* ♂ (LF 20 mm), Qingchengshan, Sichuan, July 1991. upperside (left half) and underside (right half).
Fig. 4: *Pseudocoladenia dea decora* ♂ (LF 19 mm), Jiuhuashan, Anhui, August 2001. upperside (left half) and underside (right half).
Fig. 5: *Pseudocoladenia fatua* ♂ (LF 18 mm), Metok, SE. Tibet, May 1983 (IZAS). upperside (left half) and underside (right half).
Fig. 6: *Pseudocoladenia fatua* ♂ (LF 15 mm), Metok, SE. Tibet, April 1983 (IZAS). upperside (left half) and underside (right half).
Fig. 7: *Pseudocoladenia festa* ♂ (LF 21 mm), Gongshan, Nujiang, June 2002. upperside (left half) and underside (right half).
Fig. 8: *Pseudocoladenia dan fabia* ♀ (LF 16.5 mm), Hekou, S. Yunnan, August 1992. upperside (left half) and underside (right half).
Fig. 9: *Pseudocoladenia dea dea* ♀ (LF 20 mm), Omeishan, Sichuan, July 1957 (IZAS). upperside (left half) and underside (right half).
Fig. 10: *Pseudocoladenia dea decora* ♀ (LF 20 mm), Jiuhuashan, Anhui, August 2001. upperside (left half) and underside (right half).
Fig. 11: *Pseudocoladenia festa* ♂ Holotype, Kirbari, E. 6000 [feet?] 10.12 TYTLER Coll. B.M. 1939–614 BMNH# 229445. upperside (left half) and underside (right half).
Fig. 12: Label of *Pseudocoladenia festa* ♂ Holotype, with enlarged figure of male clasp at right top.
Fig. 13: *Pseudocoladenia fatua* ♂ Holotype, Sikkim Guntok R. OBERTHÜR Coll. Brit. Mus. 1931–136. upperside (left half) and underside (right half).
Fig. 14: Label of *Pseudocoladenia fatua* ♂ Holotype, with enlarged figure of male clasp at left top.

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	12	14

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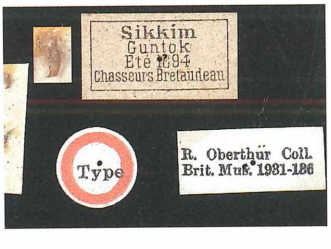

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