

Entomofauna

ZEITSCHRIFT FÜR ENTOMOLOGIE

Band 8, Heft 24 ISSN 0250-4413 Linz, 10. September 1987

The description of the hitherto unknown female of
Hylaeus (Spatulariella) decipiens Förster, 1871
(Hymenoptera, Apidae, Hyalinae)

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Abstract

Hylaeus decipiens FÖRSTER, 1871, is a species quite different from the related *Hylaeus hyalinatus* SMITH.

Zusammenfassung

Hylaeus decipiens FÖRSTER, 1871, ist deutlich von der nahe verwandten *Hylaeus hyalinatus* SMITH getrennt.

Three years ago I received a collection of bees from Bulgaria. They were captured along the coast of the Black Sea by Mr. L. NORÉN. Among the *Hylaeus* FABRICIUS, 1793, there was a male that I had never set eyes on earlier. At first it seems to be *Hylaeus hyalinatus* SMITH, but the shape of the scape and the facial spots indicated that it was another species. The investigation of the genital capsula and the two last sternites conformed

my suspicion that it is another species (Fig. 3 a-c). In DATHE (1980) there is no European species to *Hylaeus* agreeing with this specimen. However, DATHE (1980:93-94) described a species *Hylaeus (Spatulariella) iranicus* which is closely related to *hyalinatus*. The male from Bulgaria belongs neither to *hyalinatus* nor to *iranicus*. WARNCKE (1981:165-168) has described three subspecies of *hyalinatus* but unfortunately without accompanying drawings of the genitalia only the 8th sternite.

FÖRSTER (1871) described a number of species to *Hylaeus*. One of these is *Hylaeus decipiens* but he has only examined two males (captured by J.GIRAUD in Gotting, Bavaria, W.-Germany). FÖRSTER (l.c.) pointed out the differences between *decipiens* and the two closely related species *hyalinatus* and *Hylaeus subquadratus* FÖRSTER, 1871, (= *punctatus* BRULLE, 1832). ALFKEN (1904) directed a sharp critique against FÖRSTER's paper. In this connection it is a suitable opportunity to mention that ALFKEN's descriptions are only based on external features.

ALFKEN (l.c.:115) writes concerning *decipiens*: "Die Type befindet sich in der Sammlung GIRAUDS im Museum Paris und läßt sich ohne Zweifel als eine *P. hyalinata* SM. mit etwas verdicktem, unten gelb gefärbtem Fühlerschaft erkennen". Since than most authors have regarded similar specimens (males) as being *hyalinatus* and consequently *decipiens* as a synonym (DALLA-TORRE et FRIESE 1898, MEAD-WALDO 1923, LECLERQUE 1964, WARNCKE 1972, DATHE 1980). However there are some other authors who have observed specimens (males) differing from *hyalinatus* (FREY-GESSNER 1899, DE BEAUMONT 1959). They supposed that these males belong to *decipiens*. PITTIONI (1950, 1952) has made extensive investigations of *Spatulariella* POPOV from southern Europe but in the keys he seems to have mixed taxonomic characters from both *decipiens* and *hyalinatus*, probably as he had access to collections from different countries.

Several taxonomists have been unsure of the distribution of *hyalinatus*. PITTIONI (1952:189) has established the fact that: "Die genaue Verbreitung des *hyalinatus* SM. kann heute noch nicht mit Sicherheit festgestellt werden, da die Literaturangaben - insbesondere was den Süden und

Osten des Verbreitungsgebietes anbetriift - unzuverläßig sind, wurden doch einige der in Südeuropa und Vorderasien auftretende Arten fälschlich zu *hyalinatus* gezogen". DATHE (1980:281) gives the following distribution of *hyalinatus*: N- und C-Europa westlich von den Pyrenäen bis zum Kaukasus, Litauen, Moskau; S-Grenze unsicher, mir auch aus Griechenland vorliegend, in den Alpen bis 1800 m". WARNCKE (1982:282) considers that "*Prosopis hyalinatus* von den Inseln im Mittelmeer nordwärts bis 62° n.Br. Fehlt offenbar in Osteuropa". I have only seen a few specimens of *hyalinatus* from eastern Europe. DATHE (1980:280) has also conformed characters from *decipiens* and *hyalinatus*. He writes among other things: "Scapus kreiselförmig verdickt schwarz oder gelb gezeichnet".

There are some papers from south-east Europe dealing with *Hylaeus* viz. Hungary (MÖSZÁR 1960), Ukraine (OSICHNYUK 1970), Romane (CONSTANTINESCU 1974), and MÖCZÁR (1961) has also a list of the Hungarian *Hylaeus* with localities and visiting of flowers. MÖCZÁR's (1960) description of *hyalinatus* is not valid for specimens from northern and western Europe as it is a description of *decipiens*. CONSTANTINESCU's (1974:205, fig.6) drawing of the genital capsula belongs to *decipiens*. OSICHNYUK's (1974:205, fig.2-3) drawings of the facial spots and the shape of the scape are all from *decipiens*.

In order to solve the constellation *decipiens-hyalinatus* I have had the previlage to borrow one of FÖRSTER's types of *decipiens* from Museum National d'Histoire Naturelle Paris. Remaining specimens are from other museums and private collections. Thanks to Mr.M.SCHWARZ, of whom I have received 4 males and 4 females from the same locality, so it was possible to identify the females.

Hylaeus (Spatulariella) decipiens FÖRSTER, 1871

Holotype: ♂ W-Germany, Bavaria, Gotting, leg.J.GIRAUD. (Museum National d'Histoire Naturelle Paris).

Allotype: ♀ Italy, Interneppo, Friaul 5.VII.1969, leg. M.SCHWARZ (coll.SCHWARZ).

Paratypes: Austria: Kaltenleutgeben 16.VI.1935, 1♂, leg.J.KLOIBER. - Linz, Donau 22.VII.1931, 1♀, leg.J.KLOIBER. - Linz Umgebung, 1.VII.1950, 1♂, leg.HAMANN. -

- Wien, Hort. Bot. 24.VII.1948, 1♂; Wien, Stammersdorf 12. V.1946, 4♂♂; 19.V.46, 1♀ 4♂♂ (*Reseda lutea*); 2.VI.46, 1♀ 1♂ (*Reseda lutea*); 16.VI.46, 1♀ 1♂; 24.VI.46, 1♀ 1♂; all leg. B. PITTIONI. - Ebelsberg, Schiltenberg 6.VIII.1951 1♀, leg. HAMANN. - Urfahr Umgebung 19.VII.1951, 1♀, leg. F. KELLER. - Urfahr, Luftenburg 11.VII.1931, 1♂, leg. KLOIBER. - Haid bei Hörsching 8.VI.1961, 1♂, leg. J. GUSENLEITNER. - Enns, Autobahn-Durchstich 2.VII.?, 1♀, leg. F. KOLLER. - Linz-St. Martin 30.V.1981, 1♂; 3.VII.1982, 1♂, leg. F. GUSENLEITNER. - Steyrermühle 1♂.
- Bulgaria: Zladni-Pjasuep 25.V.1983, 1♂. leg. L. NORÉN.
- France: S-Alpes, Digne 1903, 2♀♀, leg. J. de GAULE. - Alp.-Mar., St. Martin Vésubie 19.VI.1921, 1♀. - Mont-Ferrat 14.VII.1934, 1♂, coll. R. BENOIST. - Haute-Savoie, Le Pas de l'Echelle 24.VII.1976, 1♀ (*Daucus carota*), leg. S. ERLANDSSON. - Mont Salève 1000m.alt., 3.VII.1976, 1♀, leg. S. ERLANDSSON.
- Hungary: Szólloske 5.VIII.1884, 1♂; - Zengy VII., 1♀; - Szadelar vgy Abgar-Torna 17.VII.1939, 1♂; - Pöse 1918, 1♀; - Koszog Ohria 3.V.1936, 1♀; all leg. L. MÉHELY. - Köszegi hegyek 21.-28.VI.1937, 1♂. - Nadap 19.-24.VI.1952, 1♂, leg. KASZAB. - Zempler-Kishuta Gilevar 22.VII.1955, 1♀, leg. BAFARI. - Üssög Lószfal 24.VI.1955, 1♂, leg. L. MÓSZÁR. - Meseck hgs Kőbanya 15.VI.1958, 1♂; leg. SÓLYMOSSNO. - Beólen 3♂♂, leg. KISS. - Koszeg, Kendig 9.VI. 1936, 1♂. - Budapest 1♀, leg. UHL.
- Italy: S.Tirol, Waidbruck 18.V.1960, 1♀ 1♂, leg. H. PRIESNER. - Alpi Coziri, Val Pellice Torza 600m.alt., 24.VIII. 1948, 1♀ 1♂, leg. COMBA. - Interneppo, Friaul 5.VII.1960, 3♀♀ 4♂♂, leg. M. SCHWARZ. - Garda slope of Monte Baldo about 1100m.alt., 27.VI.1971, 1♀, leg. S. ERLANDSSON.
- Switzerland: Genève, Veyrier 13.VII.1976, 1♀; 29.VII., 1♀ (*Antigonum leptopus*); leg. S. ERLANDSSON.
- Yugoslavia: Pranj Mts. Crno Polje 1300-1700m.alt. 15.VII. 1936, 2♀♀ 1♂ (coll. B.M.). - Crikvenica 15.VII.1961, 1♀, leg. S. ERLANDSSON.

Description

Male (holotype): Head black, ocellar region and head capsula coarsely, densely punctured. Clypeus, lower part of supraclypeal area and facial spots yellow. Clypeus

greatly longer than broad. Facial spots reaching long over antennal socket and at the top two distinct bends and a long narrow apex. Labrum black furrowed, mandibles black. Malar space long, coarsely punctured. Antenna: scape beneath with a big yellow-red spot, 1st joint black, 2nd more or less black and the following joints beneath yellow-red. Vertex, mandibles and scapes hairy. Thorax black with long, white hairs. Pronotal collar black, humeral tuberculae black and in the front of this a distinct crista. Tegulae black and in the front pale yellow. Legs: femur black, tibiae I in the front pale yellow, tibiae II black, at the apex yellow, at the base a yellow spot, tibiae III black, upper part yellow, Tarsae: 1st joint yellow, the other joints yellow-red, 1st joint and the claws brownish. Wing hyaline, veins dark brown. Abdomen black, 1st and 2nd tergites shiny, densely, fairly and strongly punctured, 1st tergite on each side with a very narrow apical hair-band. The following tergites scribbled and very finely punctured. Sternites black, shiny with microscopical lineo-reticulation and coarsely punctation. Genital capsula, sternites 7 and 8 as in fig. 3 a-c. Length: 5 mm.

Female: head black, dull, ocellar region and head capsula finely, densely punctured. Facial fovea at the apex somewhat divergent from the ocelli. Clypeus much longer than broad, longitudinally reticulated, coarsely punctured. Supraclypeal area black with longitudinally ridges and intermedia punctation. Facial spots small, yellow, quite close to the compoundeyes. Malar space short, the length about half as broad. Labrum black in the middle with a horseshoe-shaped cavity. Antenna: scape black, long, 1st joint black, the following joints black, beneath yellow-red, 3rd joint about two third of the second one, scapes and mandibles hairy. Thorax black with white, short hairs. Pronotal collar black on each side with a short, yellow line. Humeral tuberculae yellow and in the front of this a downward sharp crista. Tegulae pitch-brown, in the front yellow. Mesonotum finely, densely punctured. Medial area clearly defined, at the top with pit-reticula-

tion. Medial groove short. Terminal area dull, with microscopical reticulation and hairs. Tegulae pitch-brown, in the front with a yellow dot. Legs: femurs I-III black, tibiae I-II black with an apical yellow spot, tibiae III black, about a third of the apex yellow. Tarsae black, claws pitch-brown. Wings hyaline, stigma and veins pitch-brown. Abdomen: tergites black, shiny, 1st tergite at the sides finely punctured, on each side with a short white apical hair-band. The other tergites shiny very densely, finely punctured. Sternites black, shiny, finely punctured. Length: 6 mm.

Key to the species

Female:

Facial spots white, triangular and lateral. Labrum black, creased at the top shiny. Medial area with some irregular reticulation..... *hyalinatus*

Facial spots black with only a little lateral yellow spot. Labrum black, reticulated, in the middle with a horseshoe-shaped cavity. Medial area with deep reticulation..... *decipiens*

Male:

Face with long, white erected hairs. Facial spots white, reaching only a little over the antennal socket. Scape of the antenna short, black, slightly thickened.....
..... *hyalinatus*

Face almost smooth or only with very short white hairs. Facial spots yellow with a long narrow apex reaching greatly over the antennal socket. Scape of the antenna black, almost rectangular, beneath with a yellow spot.
..... *decipiens*

I have had the opportunity to examine a great number of females and males. I have found that the colour of the facial spots is not constant yellow. The colour is varying between yellow and ivory white. Investigations of the males with different colour of the facial spots have the same appearance of the genital capsula and the two last sternites.

I am most grateful to Mme. J. CASEWITZ WEULERESSE (Museum National d'Histoire Naturelle Paris) for lending FÖRSTER's type of *Hylaeus decipiens*. Thanks are due to the following: viz. Mr. George ELSE (British Museum Nat. Hist. London), Mag. F. GUSENLEITNER (Oberösterreichisches Landesmuseum Linz), Mr. R. NEUFELD (Stockholm), Mr. L. NORÉN (Stockholm), Dr. J. PAPP (Musée Hungarois d'Histoire Naturelle Budapest), Mr. M. SCHWARZ (Ansfielden near Linz), and Dr. L.-Å. JANZON (Stockholm).

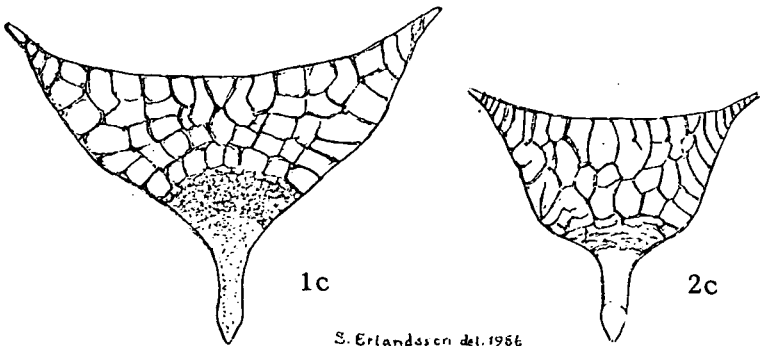
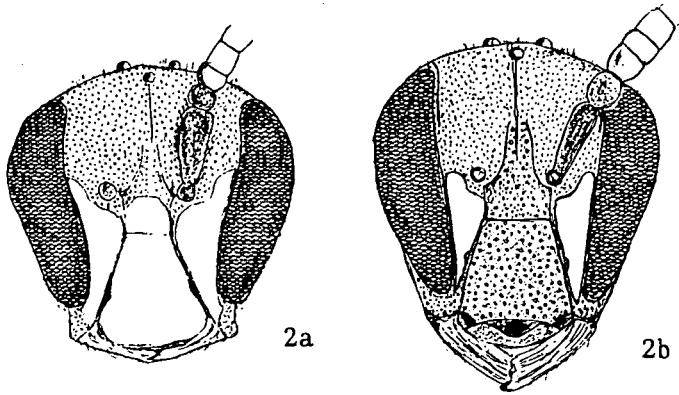
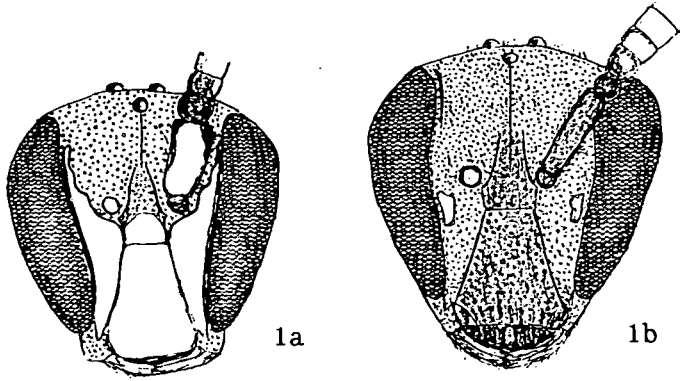
Figures 1 - 4 (p. 348 - 349):

Fig.1: Face of *Hylaeus decipiens* FÖRSTER, 1871. a) male (holotype); b) female (allotype); c) medial area (female).

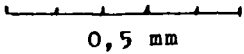
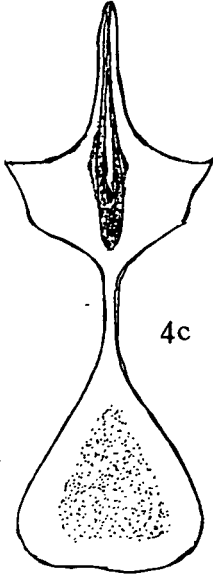
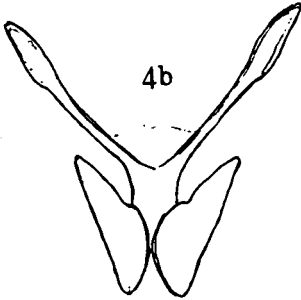
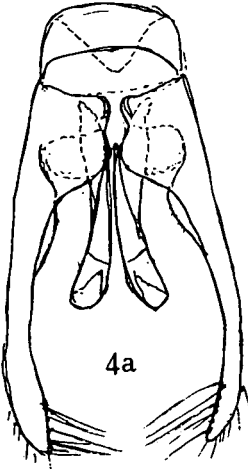
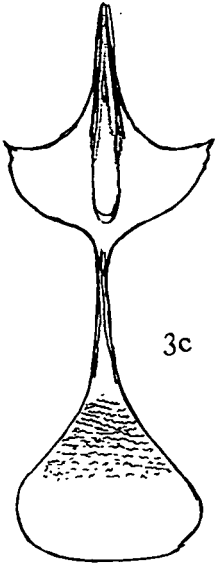
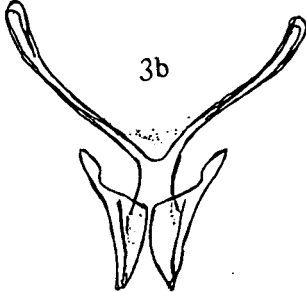
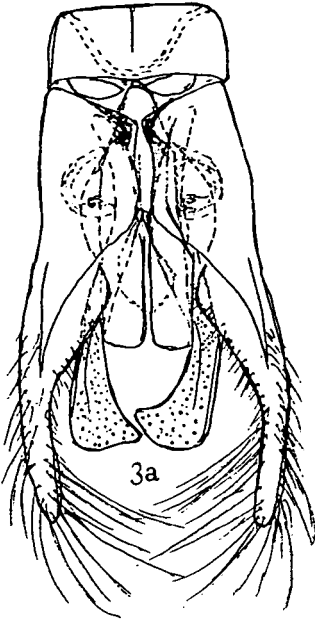
Fig.2: Face of *Hylaeus hyalinatus* SMITH, 1842. a) male; b) female; c) medial area (female).

Fig.3: Genital capsula, sternites 7 and 8 of *Hylaeus decipiens* FÖRSTER, 1871. a) gen. caps.; b) sternite 7; c) sternite 8 (dorsal view).

Fig.4: Genital capsula, sternites 7 and 8 of *Hylaeus hyalinatus* SMITH, 1842. a) gen. caps.; b) sternite 7; c) sternite 8 (dorsal view).



S. Erlandsen del. 1956



S. Erlandsson del. 1986

Literature

- ALFKEN, J.D. - 1904. Die Förstersche Monographie der Gattung *Hylaeus* F. (Latr.) = *Prosopis* F. und die *Prosopis*-Sammlung Försters. - Abh.naturw.Ver.Bremen, 18: 108-124.
- BRULLÉ, A. - 1832. Expedition Scientifique de Moreé, Zoologie, 3(2):64-315.
- CONSTANTINESCU, A. - 1973. Contribution à l'étude de l'armature génitale du male chez les espèces de *Prosopis* F. (Hym. Apoidea). - I.Trav.Mus.Hist.nat."Gr. Antipa", 13:253-263.
- CONSTANTINESCU, A. - 1974. Ibidm. - II. 14:195-207.
- DATHE, H.H. - 1980. Die Arten der Gattung *Hylaeus* F. in Europa. - Mitt.Zool.Mus.Berlin, 56:207-294.
- DATHE, H.H. - 1980a. Die *Hylaeus*-Arten einer apidologischen Sammelreise in den Iran (Hymenoptera: Apoidea). - Ent.Abh.Staatl.Mus.Tierk.Dresden, 43:77-97.
- FABRICIUS, J.C. - 1793. Entom. Syst., 2:1-519.
- FÖRSTER, A. - 1871. Monographie der Gattung *Hylaeus* F. (Latr.). - Verh.zool.-bot.Ges.Wien, 21:873-1084.
- MOCZAR, M. - 1960. Colletidae - Melittidae. - Fauna Hungariae: Hymenoptera III, 51:1-64.
- MOCZAR, M. - 1961. Revision, Faunakatalog und ethologische Angaben über die Arten der Gattung *Prosopis*. - Folia Ent.Hungar., 14:143-162.
- OSICHNYUK, G.Z. - 1970. (Apidae, Colletidae) *Prosopis* p.148-149. Fauna Ukrainy 12:5-158.
- SMITH, F. - 1842. Notes on the habits of various species of British Ants. - Trans.ent.Soc.London, 3:151-154.
- WARNCKE, K. - 1970. Beitrag zur Systematik und Verbreitung der Bienengattung *Prosopis* F. in der Westpaläarktis (Hymenoptera, Apoidea, Colletidae). - Bull. Rech.agron.Gembloux, 5:746-768.
- WARNCKE, K. - 1981. Beitrag zur Bienenfauna des Iran 12. Die Gattung *Prosopis* F. mit Bemerkungen zu weiteren bekannten und unbekanntem Paläarktischen Arten. - Boll. Mus.civ.Stor.Nat.Venez., 31:145-195.

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Literaturbesprechung

Mikkola, K., Jalas, I., Peltonen, O., Nenye, S.: Suomen Perhoset, Mittarit 1 (Geometroidea Finnlands 1).

250 Seiten, 13 Farbtafeln. ISBN 951-99620-7-7 (1. osa)n und ISBN 951-99621-0-7 (koko teos). Erschienen 1985: Suomen Perhostutki jain Seura, Tampere. Zu beziehen: Herr Henry HOLMBERG, Vainiopolku 7, SF-00700 Helsinki, Finland.

In diesem Buch wird die erste Hälfte der in Finnland vorkommenden Geometroidea behandelt: *Drepanidae*, *Thyatiridae*, *Geometridae* (*Archiearinae*, *Oenochrominae*, *Geometrinae*, *Scopulinae*, *Larentiinae*). Jeweils wird an Hand einer Verbreitungskarte die Verbreitung in Finnland demonstriert, im Text werden Flugzeit, Habitat, Futterpflanzen und Verhaltensweise der jeweiligen Art abgehandelt. Strichzeichnungen von Flügelmustern und Genitalien liefern bei schwierig zu unterscheidenden Arten eine brauchbare Bestimmungshilfe.

Obwohl das Buch in finnischer Sprache abgefaßt ist, erlaubt die Einführung in englischer Sprache und die schematische Abhandlung jeder Art auch dem Lepidopterologen, der diese Sprache nicht beherrscht, sich die wichtigsten Angaben herauszuziehen.

Besonders hervorzuheben ist, daß bei den Abbildungen jeweils die Variationsbreite der einzelnen Arten berücksichtigt wurde. Auch soll die das Buch beschließende Aufstellung, in welchen Provinzen Finnlands, Schwedens und Dänemarks die Arten jeweils nachgewiesen worden sind, lobend erwähnt werden.

Das Buch sei all den Lepidopterologen empfohlen, die sich mit der Variation der behandelten Lepidopteren Gruppen in Fennoskandien und Lappland eingehender beschäftigen wollen.

Thomas WITT

Müller, Franz: Phytopharmakologie.

228 Seiten mit 96 Abbildungen und 7 Tabellen. ISBN 3-8001-3069-6. Format 15 x 23 cm. Erschienen 1986. Zu beziehen: Verlag Eugen Ulmer, Wollgrasweg 41,

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Zeitschrift/Journal: [Entomofauna](#)

Jahr/Year: 1987

Band/Volume: [0008](#)

Autor(en)/Author(s): Erlandsson Stellan

Artikel/Article: [The description of the hitherto unknown female of *Hylaeus \(Spatulariella\) decipiens* Förster, 1871 \(Hymenoptera, Apidae, Hylaeinae\). 341-351](#)