Conocybe

CONOCYBE

A large number of names new to the British list appears under this genus, largely as a result of Kühner's work on the genus. Some of Kühner's names in his work are not valid according to the Rules, since they date after 1 Jan. 1935 and have no Latin diagnoses. I hope to deal with this problem later, should it still be necessary, and also to publish a key to the genus in the near future.

C. blattaria and C. togularis

In deciding which interpretation of these epithets to adopt, it is necessary to refer first to the original descriptions by Fries in Syst. Mycol. 1 (1821) in which (p. 24r) Agarius (Pholiota) togularis is described as having the stem '3 unc. longus, 3 lin. crassus, subaequalis, fragilis, pallidus, annulo albo' and the cap 'mox planus, 3 unc., pallescens' and 'sub-argillaceo'; A. (P.) blattarius (p. 246) is stated to have the stem '2 unc. longus, 1 lin. crassus, aequalis, sericeus, albus' and the cap 'planiusculus, ½–1 unc. latus, disco subumbonato obscuriore laevi, margine striato' and 'ferrugineo expallente'. The ring of A. togularis is 'reflexo' (in Epicrisis (1838) also 'integro distante') but 'distans, laevis, albus' in A. blattarius, which is described as 'parvus' and later 'pusillus'. In later works Fries modified and augmented these descriptions; in Monographia (1851) he replaced the name togularis temporarily by arrhenii and described three forms A, B and C, of which A corresponds most closely to his original description and to J. Lange's interpretation and C suggests filaris. In Hymenomycetes Europaei (1874) Fries stresses cap 'extrio' for togularis (arrhenii is abandoned) and 'margine striato' for blattarius. In Icones Selectae (1884) he illustrates a slender agaric (Pl. 104) as 'togularis' but in the text describes this as var. filaris, for which he quotes this illustration, so
that this is irrelevant to the question of *togularis*, but an agaric corresponding to this variety is included in the ‘List’ as *C. filaris* following J. Lange (illustrated as *togularis* by Bresadola and has probably been named thus in the past by others). From the descriptions there can be no doubt that Ricken (die Bl., p. 199) has reversed the sense of these epithets, using *blattaria* for the thicker-stemmed agaric with relatively small spores and *togularis* for a more slender one with larger spores, this reversal being adopted by Kühner (1935). Ricken, however, does not state whether the basidia of his *Pholiota togularis* are 2- or 4-spored, but judging by the spore size given (10–12/5–6 µ) and the fact that he does not specify a striate cap and shows a strongly striate ring in his figure, I think *togularis* s. Ricken is most likely the fungus I have described as *C. vexans*. Konrad & Maublanc (c. Sel. 69), *blattaria* I also believe to be *C. vexans* for similar reasons. Kühner (Gallera, p. 161) gives separate descriptions for a ‘forme tétrasporique’ and a ‘forme bisporique’ under *C. togularis*; the spore size (10)10–7–13(14.5)/5–5–7.2 µ, well-marked striate ring and the remark that the cap is usually non-striate given for ‘forme tétrasporique’ suggests that this too is *C. vexans*. I have retained the epithet *blattaria* for *C. togularis* forme bisporique Kühn. (= *Pholiota tenereoides* J. Lange) since this is stated to have a striate cap in the description of R. Maire, given by Kühner and by J. Lange, and a less distinctly striate ring, these features agreeing with the original Fries (1821) description of *Agaricus blattarius* ‘pileus ferrugineus expallente... margine striato’ and ‘annulus laevis, albus’. I think the 4-spored fungus well worth separating as a species on account of the above-mentioned characters of cap and ring and have therefore described it as a new species, *C. vexans*. It is not possible to establish the identity of *togularis* and *blattaria* as described by older British authors in the absence of microscopic details. *C. togularis* was described as *Agaricus* (Pholiota) *mesodactylus* by Berk. & Broome. Since Rea gives small spores (7–8/3–4 µ for *togularis* and 8–10/4–5 µ for *blattaria*) accompanied by details of cystidia from Ricken, his descriptions must be regarded as mixtures. Since Ricken’s descriptions do not agree with the originals I prefer to follow J. Lange, Boudier and some older authors in using the epithet *togularis* for the thicker-stemmed, duller coloured agaric described as *blattaria* by Ricken and Bresadola and *blattaria* for the smaller, darker coloured agaric described as *Pholiota tenereoides* by J. Lange and *C. togularis* f. bisporique by Kühner. In my field experience *C. togularis* s. Fries is seen most frequently with a non-striate cap and *C. blattaria* s. Fries striate when moist. It will be noted that the question of whether the ring is striate or not is not stressed since Fries does not mention this character for *togularis*.

I have found these small ringed agarics particularly puzzling for some time now and have ventured to describe below two new species and include here a key to those species with a distinct membranous ring, all growing on the ground (*percincta* was also found on old rotten straw).
Key to Conocybe

(species with distinct membranous ring)

1. Spores 6–10/4–5 μ; basidia 4-spored
2. Slender (cap 4–15 mm., stem 0·7–1·5 mm. diam.); stem white, soon discolouring yellowish or brownish (deeper at base); marginal cystidia lageniform sometimes slightly capitate or with flexuose neck, 24–46(52)/7–10 μ, apex 2–4(6) μ diam., neck 8–14 μ long; autumnal

3. Cap and stem tawny-honey or rusty; cap striae when moist, often remaining convex or conico-convex for a long time, 7–20(28) mm.; stem not conspicuously floccose-scaly below at first; ring sometimes rather small or only striae where it joins stem; spores 11–14/5–6 μ; basidia 2-spored; marginal cystidia variable, clavate, utriform or lageniform

4. Basidia 2-spored or 2–3(–4) spored on same gill; spores 10–12/5–6 μ (Fig. 245); marginal cystidia cylindrical-clavate or utriform or irregular fusiform-lageniform, 26–44/7–20 μ, apex (4)6–12 when utriform or lageniform; ring large (6–10 mm. diam.), pale yellowish; stem below ring yellowish floccose-scaly; cap 12–38 mm., yellowish with deeper ochrace-yellow, honey or date-brown centre when moist; stem 24–82/1 ½–5 mm.; on old rotten straw or on soil by road in wood

Conocybe dunensis T. J. Wallace in litt. sp.nov. (Figs. 3–4, 244, 398)

Pileus 10–30 mm., conico-convexo conico-expansus, rariore convexo-umbonatus, sordide luteolo-brunneus, umbrius vel fulvo-fuscus, jove sicco pallido-ochraceus, jove pluvio ad marginem indistincte striatus. Lamellae adnatae, ex alblido pallido-mellinae dein ferrugineo-mellinae, subconferatae, L 18–30 l 1–3, ad aciem subtlliter flocculose. Stipes 40–100/2–4½ mm., sursum attenuatus vel subaequalis, albidus vel pallido-ochraceus, sursum obscuriori ochracro decolorans, pruinoso-striatus, saepe fibrosocanaliculatus, aliqulium fragilis, decorsum pallidiori coloratus vel albus et in arena radicatus. Caro tenuis, concolorata. Odor nullus. Sporae ellipsoidae leviter amygdaliformes poro germinativo (10)12–14(15)/7–8(9) μ (Fig. 244). Basidia 4-sporigera. Cystidia aciei lamellatum lecithiniformia 16–28/7–12 μ capitulo 5–5 μ (Fig. 398); cystidiae stipitis similes. Cellulare cuticulae pilei pyriformes vel spherocedunculatae 12–25 μ diam.

In sabulis maritis, Dawlish Warren, Devon, 17 Nov. 1951 (typus in Herb. Kew.), legit T. J. Wallace. C. tenera a coloribus clarioribus, pileo jove pluvio distincte striato, habitacione, C. semiglobata a coloribus et habitacione differunt.

Cap 10–30 mm., conico-convex, less commonly convex-umbonate then conico-expanded, pallid buff, date-brown, tawny-buff or dark liver colour (generally dull-coloured), drying pale buff or ochraceous often with tawny tinge at centre, not or indistinctly striate when moist. Gills adnate, some-
times narrowly so, ± ventricose, whitish, soon pale honey then rusty-honey or rusty-buff, fairly crowded, L 18–30 l 1–3, edge minutely flocculose when fresh. Stem 40–100/2–4½ mm., attenuated upwards or subequall, whitish or pale ochraceous then darker ochraceous or dirty brownish from base up, exposed part pruinose-striate and often fibrous-grooved, rather fragile, narrowly hollow, lower part buried in sand and paler or white. Flesh thin, concolorous, drying whitish in centre of cap. Smell none. Spores ellipsoid or slightly amygdaliform with germ pore, (10)12–14(15)/7–9(8) μ (Fig. 244). Basidia 4-spored. Marginal cystidia lecythiform, 16–28/7–12 μ, head 3–5 μ, neck 2–3½ μ long (Fig. 398). Cells of cap cuticle pyriform or spheropedunculate 12–25 μ diam. Cystidia on stem in tufts similar to those on gill-edge.

In sand on sand-dunes. Dawlish Warren, 1 Oct. 1951, 17 Nov. 1951 (types in Herb. Kew), 22 Sept. 1952 et seq. legit T. J. Wallace; 19 Nov. 1955. C. tenera differs in brighter colours, moist cap distinctly striate, and habitat in fields or on soil; C. semiglobata differs in colours and habitat in fields. This common sand-dune fungus seems sufficiently constant in its characters to be described as a separate species within the aggregate of C. tenera.

Conocybe magnicapitata sp. nov. (Fig. 399)

Pileus 5–14 mm., convexus vel conico-convexus vix expansus, fulvo vel ochraceo-mellinus, siccitate pallide sordide luteolo-brunneus vel argilloaceo-ochraceus, jovem pluvio striatus sed mox exstriato siccans. Lamellae adnatae vulgo ventricose, pallide ochraceae vel mellinae, subdistantes, L 12–17 l 9(7), ad aciem juventute leviter flocculose. Stipes 20–72/0·5–1·2 mm., subaequalis, vulgo bulbillosus (< 2·5 mm. crassus), supra albidohyalinus vel pallide mellinus, infra ochraceotinctus mox ferrugineo-fulvus, senectute vulgo totus fulvo-mellinus, pruinose-striatus. Caro tenuis, concolorata. Odor nullus. Sporae ellipsoideae vel leviter amygdaliformes poro germinativo, 9–11(12)/5–6(7½) μ, vulgo aliquantum crassotunicatae. Basidia 4-sporigera. Cystidia aciei lamellarum lecythiformia, 16–24/10–14 μ capitulo (4)5–7(8) μ lato (Fig. 399). Cystidia stipitis similia.


Cap 5–14 mm., convex or conico-convex hardly expanding, tawny-honey or ochraceous-honey drying pale dirty buff or clay-ochraceous, striate when moist but soon drying matt and most frequently seen non-striate. Gills adnate, usually ventricose, ochraceous or pale honey then rusty-honey, subdistant, L 12–17 l 3(7), edge slightly flocculose when fresh. Stem 20–72/0·5–1·2 mm., subequal, often bulbillose (< 2·5 mm. diam.) or swollen at base, hyaline whitish or pale honey above, tinged ochraceous, soon rusty-tawny below, often entirely tawny-honey when old, pruinose-striate. Flesh thin, concolorous. Smell none. Spores ellipsoid or slightly amygdaliform with germ pore, 9–11(12)/5–6(7½) μ, often rather thick-walled. Basidia 4-spored. Marginal cystidia lecythiformia, 18–24/10–14 μ, head (4)5–7(8) μ diam. (Fig. 399). Similar large-headed cystidia on stem.

On soil by path. Gwydyr Forest, Llanwrst, 16 May 1958 (type in Herb. Kew). Differs from C. rickeniana, which also has large-headed cystidia, in
larger spores and less markedly striate and less readily expanding cap. This is *C. spicula f. macrospora* Kühner said by Kühner to grow in woods and in grass.

**Conocybe percincta** sp.nov. (Figs. 5–8, 245, 400)


**Cap** 12–38 mm., convex or conico-convex then expanded-convex often slightly broadly umbonate, pale yellowish (deeper ochre-yellow at centre) then honey or tinged date-brown, drying paler, not striate when moist, sometimes rugulose at centre when mature, margin occasionally with appendiculate fragments of ring. Gills adnate, ± ventricose, whitish or clay-whitish then clay-honey or clay-buff, finally dull ochraceous-honey or rusty clay-buff, crowded L 34–40 l 3–7, edge conspicuously white or whitish flocculose denticulate. Stem 24–45/1–5 mm., subequal or slightly thickened at base, pale yellowish or flushed date-brown or sepia below, whitish or pale yellowish flocculose-scaly below ring, apex slightly flocculose-scaly and pale yellowish silky striate, in larger specimens strongly striate from the base of the gills, studded then narrowly hollow, base whitish tomentose; ring large, 6–10 mm. diam., later movable and often slipping down stem, sometimes breaking up and adhering to cap margin in fragments, pale yellowish, flocculose and striate-plicate above, flocculose-smooth below, edge often inrolled. Flesh concolorous in cap, date-brown-honey or rusty-tawny in stem to almost vandyke in stem base. Smell none or slightly acidulous. Spores ellipsoid or slightly amygdaliform with germ pore, 10–12/5–6 μ (Fig. 245). Basidia 2-spored, ca. 24–26/7–8 μ. Marginal cystidia obtuse, cylindric-clavata, utriforim or irregular fusiform, 26–40/7–12(16) μ (Fig. 400). Cells of cap cuticle pyriform or spheropedunculate 9–28 μ. diam.

Conocybe rickeniana sp. nov.


Cap 7–22 mm., convex vel convexo-umbonate soon expanded-umbonate, more rarely expanded-conical, bright tawny-ochre or rusty-honey often darker at centre, drying ochraceous or pallid-buff, striate to centre when moist, matt and opaque when dry, often remaining brighter coloured at margin when drying. Gill's adnate, ± ventricose, pale ochaceous then rather bright ochre finally rusty-ochre or rusty-honey, fairly crowded, L 16–20 I 1–3, edge whitish flocculose when fresh. Stem 25–98/4–2 mm., ± equal with bulbillo or slightly swollen base (< 3 mm. diam.), pale honey above, darker honey or ochraceous-honey below, often becoming tawny-honey or rusty from base, entirely pruinose-striate when fresh. Flesh concolorous, drying whitish in centre of cap and stem. Smell none. Spores ellipsoid or slightly amygdaliform with germ pore 7–9½(10)/4–5 μ, rather thin-walled. Basidia 4-spored, ca. 20–26/8–9 μ. Marginal cystidia lecythiforma, 24–32/11–15(18) μ, head 5–7½(8) μ diam. Similar large-headed cystidia on stem. Cells of cap cuticle 10–26 μ in diam.

In woods or more frequently in grass on lawns, etc., Mickleham, Surrey, in Norbury Park, 29 Oct. 1950 and Juniper Hill, 24 Oct. 1952; Dowlands Landslip, Rousdon, 17 Dec. 1958 (type in Herb. Kew.). Recognized by large-headed cystidia, moist cap strongly striate, rather small spores and habitat frequently in grass. This is Conocybe spicula var. typica Kühner (1935), Galera spicula (Lasch) Kummer s. Ricken non al., G. sporae (Fr.) Kummer s. Wakefield & Dennis (1950) non al. and G. teneroides (Peck) Sacc. at least s. J. Lange, but not Conocybe teneroides (J. Lange) Kühn. (1935). It was renamed C. rickeniana by Singer (Lilloa, 22 (1951), 484) but without a Latin diagnosis.

Conocybe subpubescens sp. nov.

Pileus 10–24(44) mm., e convexo vel convexo-convesso haud expansus, interdum umbonatus, fulvo-ochraceus vel fulvo-mellinus, siccitate ochraceo-, mellino- vel sordido-luteolbruneus, jove pluvio striatus, juventute totus minute pubescens. Lamellae adnatae, linearae vel ventricose, ex albido-ochraceo mellino-luteolbruneae vel
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ferrugineo-mellinae, subconfertae, L 20–26(32) 1 (1)3(7), ad aciem juventute pallidiore minute flocculosa. Stipes 30–90/0–5–2 5 mm., aequalis, ad basim leviter incrassatus vel bulbillosus (< 5(5) mm. diam.), primo albidio-ochraceus mox infra ferrugineo-
mellinus (vulgo bicoloratus videtur), juventute conspicue pruinoso-strytius et pubescens. Caro tenus, colorata. Odor nullus. Sporae ellipsoidae poro geminativo (10) 11–
13(14)/6–8 μ. Basidia 4-sporiqera. Cystidia aciei lamellærum lecythiformia 18–26/7–10 μ
capitula (2)3–4(6)/μ lata. Stipes et cellulis similibus capitatis vel non-capitatis et pilis
angustibus longis 1–2 μ latis obtructa.

In locis humidis (fossis, etc.), Epsom Common, Surrey, 3 Oct. 1955 (typus in Herb. Kew.). C. pubescens a sporis majoribus habitatone fimicola dedit; C. pseudopilosella a sporis majoribus, statuta gracilior et habitatone graminicola dedit.

Cap 10–24 (specimen on straw heap 44) mm., convex or conico-convex hardly expanding, sometimes umbonate, tawny-ochre, or -honey, drying ochraceous-, honey- or pallid-buff, striate when moist, entirely minutely pubescent when fresh. Gills adnate, ventricose or linear, whitish ochraceous then honey-buff or rusty-honey, fairly crowded L 20–26(32) 1 (1)3(7), edge paler and minutely flocculose when fresh. Stem 30–90/5–2 5 mm., equal with bulbillose or slightly swollen base (< 3(5) mm. diam.), whitish ochraceous at first like gills then soon rusty-honey or reddish amber in lower part, sometimes entirely so when old but often bicoloured, con-
spicuously pruinose-striate and pubescent when fresh. Flesh thin, colorata. Smell none. Spores ellipsoid with germ pore, (10) 11–13(14)/6–8 μ. Basidia 4-spored. Marginal cystidia lecythiform, 18–26/7–10 μ, head (2)3–4(6)/μ diam. The stem has similar capitata or non-capitata cystidia as well as long narrow hairs 1–2 μ diam.

In wet woods or damp places. Epsom Common, 3 Oct. 1955 (in rotting leaves in ditch, type in Herb. Kew); Ivybridge, Devon, 31 Aug. 1956 (on very old dung in wet wood); Wretham Meres, Wretham, Norfolk, 2 Oct. 1958 (on old rotten straw). C. pubescens has larger spores and is found on dung, C. pseudopilosella also has larger spores, but is more slender and grows in grass. This is C. pubescens (Gillett) Kühner s. Kühner, 1935, non Gillett, Kühner, 1949; it was renamed C. subpubescens by Kühner (Botaniste, 34 (1949), 275), but without a Latin diagnosis.

Conocybe utriformis sp.nov. (Figs. 377, 401)

Pileus 13–20 mm., convexo expanso-convexus, pallido-mellinus vel sortende fulvo-


Cap 13–20 mm., convex soon expanded-convex, slightly obtusely um-
bonate, dull tawny-buff or ochraceous-honey, slightly paler towards margin, drying whitish ochraceous, striate to centre when moist. Gills adnate, ± ventricose, pale then darker ochraceous-honey finally rusty-honey, sub-
distant, L 16–20 l (1)3(7), edge whitish flocculose. Stem 40–80/1–2 mm. (1½–4 at base), attenuated upwards with slightly bulbous base, white then whitish, entirely white pruinose, base white tomentose. Flesh very thin, concolorous in cap, white in stem. No smell noticed. Spores ellipsoid or slightly amygdaliform with small germ pore, 8–11/4/3–5½ μ (Fig. 371). Basidia 4-spored, ca. 20–24/9–10 μ. Marginal cystidia mostly + utriform, some clavate, apex always obtuse, 32–50/8–12 μ, apex 6–12 μ diam. (Fig. 401). Similar cystidia on stem. Cells of cap cuticle pyriform or spheropedunculate, 8–26 μ diam.

In soil in tuft of Carex remota, Wheatfen Carr, Surlingham, 18 July 1936 (type in Herb. Kew). Recognized by white stem, utriform cystidia and spore size.

Conocybe vexans sp.nov. (Figs. 9–10, 246, 402)

Pileus 8–17 mm., e convexo vel conico-convexo expanse-umbonatus, ochraceo-mellinus vel flavido-ochraceus, jove siccio pallide flavido-ochraceus opacus vel subtiliter radialiter rugulosus, jove pluvio extirius vel solum ad marginem paululo striatus. Lamellae adnatae, ex albido-argillaceae argillaceo-ochraceae vel -mellinae postremo ferrugineo-mellinae, subconflentes, L 20–22 l 9–7, ad aciem pallidiores flocculosae. Stipes 35–64/1½–3 mm. (a compressu 5), acqualis vel sursum leviter attenuatus vel deorum incrassatus, vulgo floccosus, albido-cremeus, pallido-flavus vel argillaceo-mellinus max sursum umbrenus vel obscure fuscus, primo totus albido-vel flavido-floccosus dein sericeostriatus, al apicem persistenter floccosus, farcus vel anguste cavus; annulus apicalis, albidos vel pallidos-flavidos, supra floccosato-striatus, infra subglaber, ad marginem flocculosata laceratus. Caro pilei concolorata, stipitis deorum obscure fuscus. Odor nullus vel leviter acidulosus. Sporeae ellipsoidae vel leviter amygdaliformes poro germatino 10–12/6–6½ μ (Fig. 246). Basidia 4-sporia, 28–32/8–9 μ. Cystidia aciei lamellarum fere lageniformae cervice longa sepe curvata vel flexua, 22–5½–7–12 μ ad apicem 2–4 μ cervice 12–28 μ longa, rariore clavata, 8–10 μ diam. (Fig. 402). Cellulac cuticulae pilei pyriformes vel spheropedunculatae 12–32 μ diam.


Cap 8–17 mm., convex or conico-convex then expanded umbonate, ochre-honey or yellowish ochraceous, drying pale yellowish ochraceous, not or slightly striate at margin only when moist, matt or finely radially rugulose when dry. Gill adnate, ventricose or not, clay-whitish then pale clay-ochraceous to dirty honey finally rusty-honey, subcrowded, L 20–22 l 3–7, edge white or paler flocculose-denticate. Stem 35–64/1½–3 mm. (5 when compressed), equal or slightly attenuated at apex or thickened at base, often flexuose, whitish cream to pale dirty yellowish or clay-honey, soon discoloured sepia or date-brown from base, at first entirely whitish or pale yellowish flocculose-pruinose, persistently so at apex but becoming silky striate below ring, stuffed or narrowly hollow; ring apical or in upper half, whitish or pale dirty yellowish, flocculose-striate above, smooth or slightly silky below, edge flocculose-lacerate. Flesh concolorous, drying pale in cap, sepia or date-brown in lower stem, sometimes brown-borny over gills and in cortex of stem apex. Smell none or slightly acidulous; taste slightly rancid-oily. Spores ellipsoid or slightly amygdaliform with germ pore, 10–12/6–6½ μ. (Fig. 246). Basidia 4-spored, 28–32/8–9 μ. Marginal cystidia Urtica-hair shaped or lageniform with rather long sometimes curved or flexuose neck 22–54/7–12 μ, apex 2–4 μ, with a few shorter clavate ones.
8–10 μ diam. (Fig. 402). Cells of cap cuticle pyriform or spheropedunculate 12–32 μ diam.

On soil under deciduous trees by roadside (beech). Guisachan Forest, Tomich, 1 Sept. 1957 (type in Herb. Kew), 19 Sept. 1958; on bare soil by path, Dougalston Woods, Dumbartonsh., 10 Sept. 1959 (legit D. A. Reid). Differs from other ringed species of Conocybe in non- or scarcely striate moist cap, relatively large spores from 4-spored basidia and rather pointed marginal cystidia. This is C. togularis 'forme tétrasporique' Kühner, 1935, and almost certainly Pholiota togularis s. Ricken·non Fr. etc.